# U A U C U



Student Research Exchange *Collected Papers 2019*

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# UAUCU
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### *Collected Papers 2019*

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## Introduction to the fifth edition of the UAUCU
## Student Research Exchange Collected Papers

This volume presents academic papers and personal reflections written by the participants of the UAUCU student research exchange project 2019. These texts reflect the diversity of academic disciplines and approaches, as well as the diversity in cultural background, of this year's participants. The program, which offers students from the University of Aruba (UA) and University College Utrecht (UCU) the opportunity to conduct research in a multidisciplinary international student team, has already proven a successful formula: work presented in the 2015, 2016, 2017 and 2018 volumes led to international publications, and thesis awards for several program alumni. We anticipate similar achievements for contributors to the 2019 edition.

During the introductory week in January 2019, the student group defined their guiding principles and goals for the project. These principles and goals illustrate the collective dedication of the participants to contributing to the project in ways that would be meaningful for others and for themselves personally.

The academic works included here treat topics like identity, culture, social and mental wellbeing, the social crisis plan, economics, and environmental conservation. The nature of the research is equally far-ranging, including pilot projects, theoretical explorations verified with respondent data, in depth environmental studies, and sociocultural studies that explore fundamental issues confronting society. The diverse papers are linked by a common interest in sustainable societies, reflecting a strong sense of community awareness, and providing research findings that have meaning for Aruban society. The papers further demonstrate how the student researchers' collaboration in a multidisciplinary team has influenced their approach to their work. The papers here are products of peer-to-peer learning: the student authors provided each other with feedback on content, method, style, language and structure. In general, the papers appear as submitted by the authors -- including perhaps the odd raw opinion or hasty generalization. Some of the student-researchers are still working on the interpretation and presentation of their findings, and will later finalize project papers, or bachelor or master theses, based on results of fieldwork presented.

The participants have all also contributed personal pieces reflecting on their experiences. The cultural and ethnic diversity within the group contributed to an extraordinarily rich social environment, and their reflective texts show the strength of the collaboration and mutual support within this diverse group. The texts reveal much about the power of this project: it is about the realization that we can achieve more in the world when we take multiple perspectives in approaching problems, and when we work together to build on each other's complementary strengths.

This fifth year of the project has involved many people crucial to its success, and as in previous years, it is impossible to name them all. A special thank you goes to Jenny Lozano-Cosme and Carlos Rodriguez-Iglesias, both of the University of Aruba, who took their time to proofread all the papers. But to all others who have taken part as (guest) lecturer, supervisor, manager, initiator, facilitator, student, interviewee, respondent, guide, coach or mentor: thank you very much for your contribution to powering this year's project.

Eric Mijts & Jocelyn Ballantyne
Project coordinators UAUCU

**A tree begins with a seed.**

**Guiding principles 2019**

Always be open minded

Respect

Challenge ourselves

Collaborate

Give back to society

Be aware of our responsibility

Help each other in research

Support each other holistically

Strive for sustainable impact

Appreciate each other's journey

Be accountable

Be flexible

Have fun!

**Goals 2019**

Create value for others (not only for ourselves)

Be involved in the community

Actively contribute

Create something we are proud of

Learn about ourselves and the community

Increase intercultural competence and awareness

Finish our thesis research

Grow, evolve, and allow change

Have fun!

Linde van de Graaf, University College Utrecht

Apparently I'll always look like a tourist, no matter what I wear. At least, according to Harlee and my research assistant, Juan-David. They made fun of how I blended right in with the crowd, as we were walking around the Palm Beach area. We were on our way to see if we could do some interviews, and were simultaneously analyzing the area for Harlee's paper. To me, the huge manicured hotels, the seemingly endless eateries, souvenir shops and the enormous amount of people on the beach made the place very surreal. Luckily our interviews gave us a totally different feeling, as we were warmly welcomed and treated by our respondents.

I have so many memories like these. Because of my research topic, I was often lucky enough to spend time in Aruba's beautiful nature; going on walks or kayaking, who knew that was all part of the job! Additionally, I got a peak into some Arubans' daily lives, spending time in living rooms and offices, interviewing, listening, and making new friends. In retrospect it feels like I just went adventuring a bunch of times, often accompanied by my dear fellow-researchers. We were investigating a wide variety of topics, but at the same time there were so many similarities between our projects.

Along with ending up in a variety of interesting places, I also deeply enjoyed the conversations these adventures sparked. If I actually were to write down everything I learned through this project, my thesis would amount to just being my diary: new lessons every day. Therefore, like all the other people in this book, I am left feeling incredibly grateful, and would like to use this intro to express some of that gratitude.

To the girls, my fellow researchers. For all the support, the kindness, the fun, for being my DJ, my mom, my fiance, and my friends. For teaching me how to plan (a tiny bit more) and how to moisturize my hair (a tiiiny bit more).
To the people that made this program possible. For more than I can list here.
To Juan-David, my sidekick.
To Tobia, for putting up with us for so long.
To all my respondents, for giving me your time and your thoughts. You've taught me so much!
To my parents and friends, always.
To my supervisor, for giving feedback, freedom and support in precisely the right amounts.
To all the people that discussed my research with me. You've shown me that research is never done alone.
To the Aruban air, for blowing my thoughts away when I needed it.
And to peanuts, for the energy it took to write this.

Thank you!

If you wish to contact me about the research, please email to lindevandegraaf@gmail.com

# Of People and Mangroves: illustrations of a social-ecological system.

## Linde van de Graaf

## Introduction

During a symposium in 'Introduction to Earth and Environment', a class taught at the University of Aruba, a student expressed how wonderfully calm he had found the mangrove forest they visited on their field trip. Another student jokingly mentioned that that had only been possible because he had a cold, and hadn't smelled the place. After the banter the students proceeded to explain the ecological importance of the area. For many of them it had been the first time they directly got into contact with the mangroves. This is one of many examples of interactions that built up this research.

As the students explained in their presentation, mangroves are ecosystems of high ecological and socio-economic value. Yet mangrove forests worldwide also face negative consequences of human actions. Aruba's booming population density and tourism industry suggests that these consequences are especially felt here. These consequences are not isolated events, because the mangrove forest is not an isolated system.

As a member of the Aruban national park mentioned: 'Nature does not end at the borders of the park'. Nature is often perceived as a separate entity from humanity, whilst in reality humans are part of nature within the immensely complex system that is the world. Humans constantly influence and interact with nature around them, and vice-versa. Daniel et al. (2012) emphasize that natural or semi-

natural features of the environment are often associated with the identity of an individual or a community. They identify two reasons. First, experiences arising from the natural environment are shared across generations. Second, natural features provide "settings for communal interactions important to cultural ties" (Daniel et al., 2012, p. 8814).

These interactions yield situations that are sometimes sustainable, sometimes unsustainable, and often a mix of the two. Improving the sustainability of our actions is not only important, but it is something we owe to the next generations. However, in order to make our interactions with the rest of nature sustainable, we have to clearly understand those interactions.

This paper is part of a larger research project which aims to shed light on the interactions within a small social ecological system (SES) on Aruba: the mangrove forests. The final research product aims to illustrate the workings of this system through looking at a variety of factors, both social and ecological, in order to finally answer the following research question:

*What stimulates people on Aruba to, and what withholds them from interacting with mangroves in a sustainable way?*

The importance of the research lies in its contribution to the understanding and creation of more sustainable interactions.

The paper published in this book is a preliminary version of the final product. Within this paper a literature review, the theoretical framework, method and the setting will be presented. Additionally, a small section on preliminary analysis and conclusions will be offered. As the analysis of the data is not complete yet, there will be a large emphasis on the more theoretical part of the study. The preliminary analysis and conclusions will be based on impressions and anecdotes obtained from fieldwork experience rather than proper and thorough analysis of the data.

In order to effectively create an overview of the interactions that are illustrated within this research, Elinor Ostrom's (2009) framework for organizing social-ecological systems (SES) will be used. Using this model, interactions will be divided into four sub-systems: resource system, resource unit, governance system and users. Each subsystem encompasses several variables, ten of which will be illustrated with corresponding interactions in the final research, along with a piece connecting these interactions. In this paper, three variables will be preliminarily illustrated.

The research was conducted with a community-based research approach. This entailed careful consideration of the meaningfulness of the research by various stakeholders, as well as active involvement of those stakeholders throughout the research process. The research aims to reflect local dynamics through Aruban voices, in such a way that it is relevant and meaningful towards the island and its mangrove forests. The paper published in this book will not be able to fully do justice to this concept, as the data has yet to be analyzed. However, this paper aims to illustrate the tip of the iceberg of some observed interactions, which will be elaborated on in the final version of the research. On a bigger scale, this research aims to be a step, however small, forward in the attainment of the Sustainable Development Goals. It could specifically contribute to Goal 14: Life Below Water, 15: Life Above Ground, and 17: Partnerships for the Goals (UN, 2015).

## 1. Literature review

In this part, a general theoretical background to the paper will be offered, by means of reviewing prior literature. The first part provides information on ecosystem services, specifically nursery grounds and coastal protection. The second part goes into a variety of potential disturbances to mangroves. The third part explains the idea of the 'Tragedy of the Commons', as well as a reassessment of it.

### 1.1 Ecosystem services

Mangroves can be described as a common resource, because the ecosystem services they provide are not directed at anyone in particular. For mangroves in general, these include being a nursery for a variety of coral reef species during early life stages, capturing outflowing sediment from the mainland (thereby protecting coral reefs), providing coastal protection, as well as wood, thatch, dye and (shell)fish, and storing carbon (Dekker et al., 2016). Two of these ecosystem services relevant to this paper are expanded on below.

### 1.1.1 Nursery grounds

Firstly, mangroves act as nursery grounds for juvenile fish and invertebrates, which is linked to catches of fish for consumption. Their nursery function is mainly due to three factors: the high abundance of food, the low abundance of predators and the complex physical structure of the trees (Lee et al., 2014, p. 729). Globally, more than two-thirds of fish and shellfish harvests have been directly linked to estuarine nurseries (Lee et al., 2014, p. 729) and as much as 75% of tropical commercial fish species spend part of their lifecycle in mangroves (Dekker, 2016, p. 3).

### 1.1.2 Coastal protection

Coastal protection is the second ecosystem service to be highlighted. This not only includes protection of the geophysical shape of the island, but also protection from damages to buildings and infrastructure. Multiple studies highlight the protective role of mangroves during storms (Braatz et al., 2007, p.5; Zhang et al., 2014, p. 11). A fully

grown mangrove forest can reduce wave energy by 20% per 100m (Lee et al., 2014, p. 730). Aruba is on the southern fringes of the hurricane belt, and tropical cyclones cause considerable destruction roughly once every 100 years (Meteorological Department Curacao, 2016, p.17). Substantial damage was caused in Aruba by Hurricane Ivan in 2004, when a developing spiral band of the hurricane resulted in heavy rain on the island, causing a total of two million florins of material damage (Meteorological Department Curacao, 2016, p.18).

### 1.2 Disturbances

Although mangroves provide benefits, mangrove forests also experience pressure from a variety of factors. Ellison and Farnsworth (1996, p. 552) identify four classes of anthropogenic disturbance with respect to mangroves: extraction, pollution, reclamation and the effects of global climate change. These disturbances have decreased, or have the potential to decrease the size of the resource system. Due to the small island setting, single occurrences of anthropogenic disturbances can lead to fragmentation of mangrove patches, and increased vulnerability through the edge effect, which is one of the main causes for ecological degradation on Aruba (Dekker et al., 2016, p.5; Van der Perk, 2002).

### 1.2.1 Extraction

Due to the relative scarcity of mangroves on Aruba, there is currently no commercial extraction of mangrove trees themselves. However, respondents pointed out that, before the introduction of plastic on the island, red mangrove wood (*Rhizophora mangle*) was used for presenting caught fish, and red mangrove propagules were used for strengthening fishing lines. Several respondents also indicated small-scale fishing and harvesting of shellfish for private consumption. Extraction of mangrove-related resources such as fish has the potential to disrupt mangrove-associated food webs. Similarly, a reduction of mangrove forest means a reduction in habitat for juvenile fish, influencing fish yields.

### 1.2.2 Pollution

In the Caribbean more generally, petroleum is indicated as the prime pollutant of mangrove forests, with oil spills being the main cause (Ellison and Farnsworth, 1996, p. 553). Just in the 1980s 24-31 oil spills were recorded near Caribbean coastlines. Oil persists for decades in mangrove sediments, and studies have also found that the continuous release of toxic hydrocarbon from the sediment back into the water will result in long lasting lethal and sub-lethal effects on marine flora and fauna (Burns et al. 1994, p. 397).

However, in the case of Aruba, pollution of mangroves is most likely to originate from the presence of an open land fill and waste-producing activities on the leeward side of the island. Plastic waste can diminish oxygen intake and growth when it covers mangrove roots (Debrot et al., 2013, p. 38), which in turn can influence the soil quality and the nitrogen cycle (Dekker et al., 2016, p.5). Leachate from landfills can potentially decrease soil pH (Twilley et al., 1998, p. 37) and the frequent fires on the landfill may further contribute to pollution of soil, air and vegetation (Dekker et al., 2016, p.5). Although the presence and potential impact of these activities can be considered as indicators of anthropogenic pressure, the exact impact upon the size and livelihood of mangrove forests on the island is yet to be measured.

### 1.2.3 Reclamation

Reclamation is most often used as a term indicating the restructuring of lands for habitation or cultivation (Ellison & Farnsworth, 1996, p. 555). Respondents have mentioned replacement of mangrove forests on the island by tourist accommodation, recreation, roads, the airport and the landfill. Many mention the tourism industry as the main cause of mangrove reclamation. Ellison and Farnsworth indicate how mangrove clear-cutting on scales as small as single hectares can result in soil sulfide accumulation and subsequent soil acidification (1996, p. 553).

### 1.2.4 Climate change

Climate change encompasses a wide array of processes, some of which will be briefly noted here to illustrate potential pressures on mangrove forests. Higher atmospheric temperatures will be associated with subsequent higher soil temperatures, changing weather patterns, rise in sea levels, and ocean acidification. The size of mangrove forests may be dependent upon their resilience to change in water level and soil temperatures, as well as their recovery speed after destructive storms (Ellison and Farnsworth, 1996, p. 558).

### 1.3 Tragedy of the Commons

Common resources that face threats -like mangroves- have often been analyzed through the model of the 'Tragedy of the Commons' (Ostrom, 2009). This idea was first posed by Garett Hardin. In this idea Hardin proposes a hypothetical village with a common resource: grazing fields open to all herdsmen. Hardin argues that the common nature of this resource inevitably leads to unsustainable use of it. Namely, each herdsman will act from an individually rational perspective: the private benefits of adding more animals exceed the private costs. Additionally, if one herdsman decides not to increase his number of animals, he will not be able to compete with the others. In this way each "is locked into a system that compels him to increase his herd without limit" (Hardin, 1968, p. 1244). Because all herdsmen continuously add animals, the pasture is overexploited. In the end, the pasture will be so degraded that it cannot support any herdsman at all: common resources lead to tragedies. Hardin proposes two solutions to evade the tragedy: privatization of the resource, or imposed governmental control of it (Hardin, 1968).

### 1.4 Reassessing the Tragedy of the Commons

The idea that resources held in common are prone to unsustainable use and overexploitation has been described as a truism (Berkes et al., 1989, p. 355), and is therefore widely present in discussions on sustainability. However,

some problems have been observed with the wide application of this model. Criticisms involve the notion that Hardin fails to take into account the self-regulating capacities of users, as well as their ability to work towards their common interests. Furthermore, Hardin is said to confuse common resources with the absence of property rights. There are many types of property rights that are not based upon governmental control or privatization. Elinor Ostrom (Ostrom et al., 1999), whose work is used in this research, distinguishes four types of property rights, which are shown in Figure 1. The Tragedy of the Commons model is said to undermine the role that these very diverse regulations and institutions have in managing resources, and the two solutions it provides are said to be insufficient to fit the model to a variety of contingent local circumstances (Berkes et al., 2005; Dietz, Ostrom and Stern, 2000; Ostrom et al., 1999).

Ostrom (2009, p. 419) addresses how this model has led to recommendations, policies and solutions that are not embedded within their social ecological setting. If resources are large, highly valuable, unpredictable, mobile and open-access, with a large group of diverse users that does not communicate amongst themselves, has little leadership or knowledge, does not find the resource important and fails to develop rules and norms for management, a tragedy of the commons is generally likely to exist (Ostrom, 2009). However, if these variables are different, users are likely to manage their resources sustainably enough to avoid a tragedy, as research has repeatedly shown (Berkes et al., 1989; Dietz, Ostrom and Stern, 2000; Ostrom et al., 1999). The variables Ostrom mentions here will be reflected within the theoretical framework used for this research.

| Property rights | Characteristics |
|---|---|
| Open access | Absence of enforced property rights |
| Group property | Resource rights held by a group of users who can exclude others |
| Individual property | Resource rights held by individuals (or firms) who can exclude others |
| Government property | Resource rights held by a government that can regulate or subsidize use |

Figure 1. Types of property-rights systems used to regulate common-pool resources (Adapted from Ostrom et al., 1999, p. 279)

## 2. Theoretical Framework

A theoretical framework suitable to investigate the social-ecological mangrove system must conform to several conditions. These conditions will be described below, and will subsequently be used to argue the applicability of Elinor Ostrom's core subsystems developed in a framework for organizing social-ecological systems (SES) (2009) as a suitable framework for this study. Next, the framework will be further explained, and finally connected to the eight design principles as defined by Ostrom (McGinnis and Ostrom, 1992, p.9).

### 2.1 Conditions for a Theoretical Framework

Firstly, it should conform to an interdisciplinary or multi level approach. Investigating the mangrove forest system is essentially looking at the interactions between components that can broadly be categorized in an ecological and a social system. A suitable framework for this study should focus on social aspects while taking into account the ecological, economic and political setting of the case in order to attain a holistic analysis of the situation.

Secondly, the framework should be flexible enough to conform to the specific setting of the research. Ostrom (2009, p.419) warns against the one-size-fits-all theoretical models that oversimplify resource issues because these have often led to deficient policies and practices. The framework should be flexible enough to accommodate conditions on a small island state (SIS) such as Aruba. Small island states have distinct dynamics and challenges, including amongst others a limited number of stakeholders, relatively close social ties and ecological and economic vulnerability (Polman et al., 2016, p. 270).

Thirdly, the framework should push the research in a direction meaningful to Aruban society and beneficial for the mangrove ecosystem. In order to be community based, the research should be embedded in Aruban society in such a way that Arubans are part of the research. The emerging themes the research portrays should voice Aruban voices, rather than make them conform to a predetermined theory.

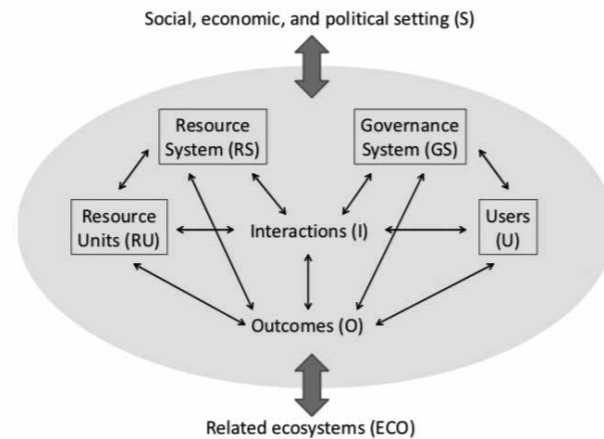### 2.2 A Framework that Organizes Social-Ecological Systems

Figure 2 The core subsystems in a framework for organizing social-economic systems (Adapted from Ostrom, 2009)

The core subsystems developed in a framework for organizing social-ecological systems (SES) by Elinor Ostrom (2009) conforms to these conditions. It is tailored to bring ecological and sociological variables together in one model, which makes it adaptable to interdisciplinary research. The framework has also been used to analyze small island states (SIS) before, in a study by Polman et al. (2016). Polman et al. stress that small island settings "are a good example of SES because small islands are very dependent on their unique natural resources/ecosystem for their subsistence and livelihood" (Polman et al., 2016, p. 266). The framework also aims at investigating sustainability, a timely topic for Aruba, where sustainability has been strongly present on the political and social agenda for over a decade.

Ostrom (2009) identifies four core subsystems within a SES (Figure 2). Important to notice is that every aspect of Figure 2 is in interaction with the other parts, and that the entire system is embedded and in contact with the particular setting of the research.

The four subsystems can be explained in the following way (Polman et al., 2016, p. 268-269):

- Resource system (RS) concerns areas harboring important natural resources (mangrove forests, coastal areas, etc.).
- Resource unit (RU) refers to ecosystem services located there, including direct resources such as water or fish, but also indirect services such as carbon sequestration.
- Governance system (GS) includes a range of managerial bodies (governmental, private, or non-governmental) which control the management of the resource systems, for example through rules of usage.
- Users (U) are those who influence and are influenced by the ecosystem services delivered by the resource unit. This includes for instance general health, food provision, safety, recreation and commercial activity.

Figure 3 displays ten variables that correspond to the subsystems. These variables are used for this research. They were selected for two reasons. Firstly, Ostrom (2009) stated that these variables are highly likely to affect the probability of users' self-organization efforts aimed at sustainability'. Secondly, these variables were used in Polman et al's research (2016) on St. Eustatius, which is also a SIS. Therefore, it is highly likely that these variables will also resonate with Aruba.

| Resource System (RS) | Governance System (GS) |
|---|---|
| RS3 = Size of resource system | GS6 = collective-choice rules |
| RS5 = Productivity of system | |
| RS7 = Predictability of system dynamics | |
| **Resource Units (RU)** | **Users (U)** |
| RU1 = Resource unit mobility | U1 = Number of users |
| | U5 = Leadership/entrepreneurs |
| | U6 = Norms/social capital |
| | U7 = knowledge of SES/mental models |
| | U8 = Importance of resource |

Figure 3. Ten variables corresponding to the subsystems. (Based on Ostrom, 2009)

*2.3 Design Principles*

Drawing on prior research as to why certain common resources are managed sustainably, Ostrom defined eight design principles. A design principle is not to be interpreted as a rule, since it is extremely difficult to find an effective set of rules that is accepted by every community as legitimate and fair, and also matches the wide variety of existing resource systems, as well as their internal complexity and dynamic nature. A design principle is rather 'an essential element or condition that helps to account for the success of these institutions in sustaining the common pool resources and gaining the compliance of generation after generation of participants to the rules-in-use.' (McGinnis and Ostrom, p.9). In short, design principles are underlying principles that have characterized a wide variety of sustainably managed SES. The previously identified variables, thus, influence the extent to which the principles are present within a SES. The design principles are the following:

1.  Clearly Defined Boundaries. The boundaries of the ecological system (in this case the mangrove forest), as well as the social system (the persons participating in the ecological system, the participants) must be clearly defined.
2.  Congruence between Appropriation and Provision Rules and Congruence Between Provision Rules and Local Conditions. The rules that regulate the use (time of use, place, technology, and/or quantity) of the resource pool -the mangroves- are related to local circumstances and supply of labor, materials, and/or money.
3.  Collective-Choice Arrangements. Most participants affected by the implemented rules can participate in shaping and reshaping those rules.
4.  Monitoring. Monitors, who actively audit the resource pool and its condition, as well as the participants' behavior, are accountable to the participants or are the participants.
5.  Graduated Sanctions. Participants who violate rules face sanctions that are assessed and graduated (depending on the seriousness and context of the offense). These

sanctions are enacted by other participants, by officials accountable to these participants, or by both.

6.  Conflict Resolution Mechanisms. Participants and their officials have rapid access to low-cost, local arenas to resolve conflict among participants or between participants and officials.
7.  Minimal Recognition of Rights to Organize. The rights of participants to devise their own institutions are not challenged by external governmental authorities.
8.  Nested Enterprises. Appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of interconnected enterprises or organizational layers. (McGinnis and Ostrom, 1992, p.9)

# 3. Method

### 3.1 Design

In order to utilize Ostrom's framework for organizing social-ecological systems (SES), opinions and experiences that illustrate the variables related to self-organization on Aruba were collected.

Ostrom's (2009) framework caters to a phenomenological approach through the combination of literature review and in-depth interviews. The qualitative nature of this research design makes it possible to acquire an encompassing view, as it provides rich and diverse data to work with. Dispositions may differ from respondent to respondent and may be misinterpreted if not looked at in depth.

The final research is divided into six parts, corresponding to the four identified subsystems within Ostrom's framework (2009), together with a literature review and a description of the setting in which the research takes place. The setting will be discussed before the variables, briefly illustrating some relevant social, economic and political dynamics on the island with the aim of embedding this particular SES within its context.

Second, each identified variable within the four subsystems will be illustrated with a particular interaction or a set of interactions. These interactions are identified by means of in-depth analysis of the research data. In total, ten different variables will be illustrated in this way (of which three are preliminarily illustrated in this paper), categorized into four parts that correspond to the subsystems.

The conclusion of the research will consist of an evaluation of the sustainability of the perceived interactions within the SES. In order to effectively evaluate the sustainability of these interactions, Ostrom's eight guiding principles (McGinnis and Ostrom, 1992, p.9) will be used as indicators of best practice.

Data for these interactions was gathered by means of conducting interviews with relevant stakeholders with the help of topic guides customized for each respondent. These respondents included people connected to government and nature management (3 respondents), non-governmental nature organizations (3 respondents), an enterprise that depends on the mangrove forests, fishermen (3 respondents), residents that live close to mangrove forests (3 respondents) and education (4 respondents).

In total, 16 semi-structured face-to-face interviews were carried out on Aruba addressing issues related to the island's natural environment and mangroves in particular. Of the interviews 11 were conducted in English and 5 in Dutch. One repeat interview was conducted, with the aim of capturing the experience of an event discussed in the first interview. Examples of discussed themes include perceived influences to and of the mangrove forests, threats, solutions, collaborations, conflicts, concerns, management, knowledge and values. Interviews were usually about an hour long, with some exceptions (of both shorter and longer interviews) dependent on the contingent circumstances. Data from the interviews was enriched by careful observation, participant observation during three mangrove-related events and personal communication.

Prior to the interview stage, measures were taken to ensure the community based nature of the research. The research, its aims and its methodology were carefully considered together with four different stakeholders during separate face-to-face meetings. Additionally, a Skype meeting was organized with Linde van Bets, co-writer of the earlier mentioned article "Governance of ecosystem services on small islands: three contrasting cases for St. Eustatius in the Dutch Caribbean" (Polman et al., 2016). The aim of this meeting was to discuss the above-mentioned parts of the thesis, as well as to gain insights into best practices from similar research. Two pilot interviews were also conducted before the offset of the interview stage.

### 3.2 Sample

Sampling was based on non-probability purposive sampling. The single criterion for the sample was for the respondents to be stakeholders with regards to the mangrove forests. All genders, ethnicities, ages and social statuses were applicable to be part of the sample, although not purposefully searched for. Aruba as an island defined the physical boundaries of the SES.

A snowball sampling method was employed, with the aim of getting complementary interviews with managers and the very diverse group of users. The number of respondents was fitted to the time limit of the research.

### 3.3 Ethical considerations

Consent, confidentiality of data and privacy were observed during this study. Participation was entirely with informed consent, attained through the use of consent forms. An additional verbal explanation of the study and its aims was given along with the overt clarification that the interviewee can stop the interview or refuse to answer a question at any time. At the end of the interview, all respondents were debriefed by means of providing the interviewer's contact information. Furthermore, the respondents each received the transcripts of their interviews for them to evaluate. An active attempt was made to remove elements from the research records that indicated the subjects' ID.

## 4. Setting: Aruba

This section describes the tip of the iceberg of the setting in which this research has taken place. It includes a sweeping tour of the natural landscape, the various industries of the island, population dynamics, sustainability practices and postcolonial ties. These themes are highlighted to indicate the importance of taking the specific natural, social, economic and political setting into account when looking at a SES (Ostrom, 2009, p. 420).

### 4.1 Natural Landscape

Aruba, being a tropical island within the Caribbean, has a tropical steppe, semiarid hot climate, with wind blowing 95% of the time from the north- and southeast (Ridderstraat et al., 2014, p. 247). Due to the wind the northeast side of the island is constantly subject to wave action, causing that part of the island to be composed of cliffs. The cliffs are alternated with inlets created by 'rooien' (riverbeds) connecting to the ocean (Polaszek et al., 2018, p. 34). Towards the inland the vegetation is dominated by wood- and scrublands, commonly called the 'cunucu'. On the leeward side of the island, where the ocean is a lot calmer, temporarily or permanently flooded salt marshes or saliñas can be found, as well as the island's only inland lagoon. Aruba's so often advertised white beaches are here, from which one can view a number of barrier islands (Polaszek et al., 2018, p. 35). In total, Van der Perk (2002) identified ten different ecosystems on Aruba (figure 4), one of which are mangrove forests. Mangroves grow on the various barrier islands, along the lagoon and near the saliñas (figure 4). The brightly green and lush canopy of the mangrove trees stands out in the otherwise arid and greyish vegetation (Polaszek et al., 2018, p. 34; figure 5).
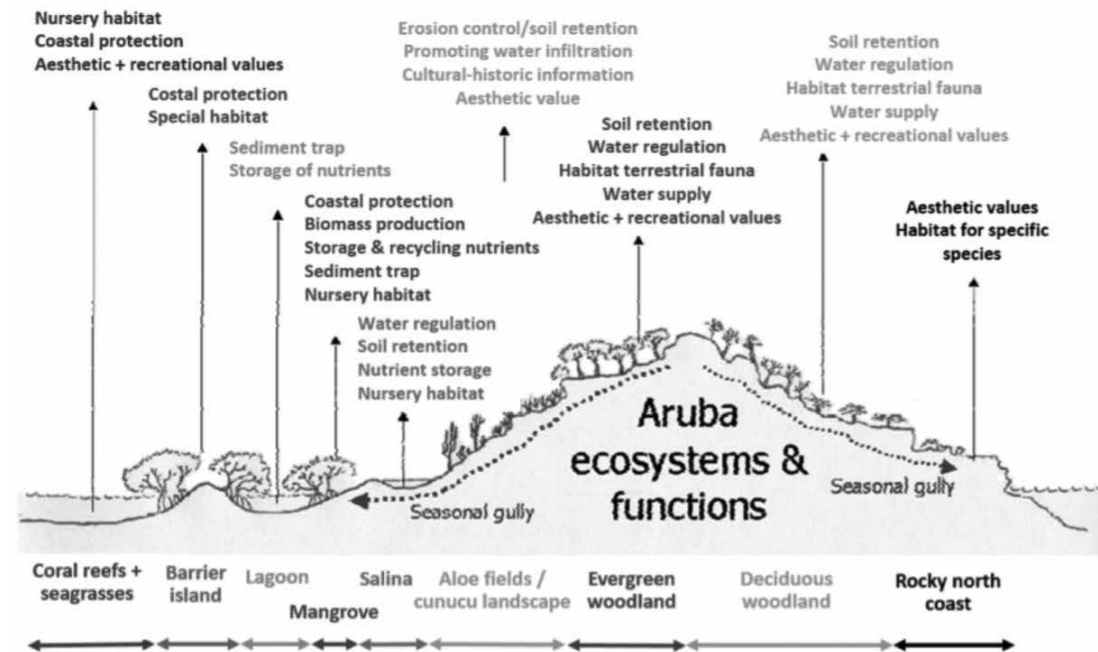


Figure 4. Schematic cross-section of Aruba's main ecosystems and its functions (Adapted from Van der Perk, 2002)



Figure 5. The brightly green and lush canopy of the mangrove trees stands out in the otherwise arid and greyish vegetation (Adapted from a respondent's private collection). Photo taken by Villegas Anibal Luis.

### 4.2 Industries

This landscape has contributed to the various industries that have made their mark on Aruban history. It provided gold and phosphate, as well as earth that can grow aloe and beaches that attract tourists (Bongers, 2018; Derix, 2016). Two industries that have made a considerable impact on the island within the last century are the oil and tourism industries. The biggest of two refineries on the island (Bongers, 2018, p. 131), the Lago oil refinery was inaugurated on January 29, 1929 (Ridderstraat, 2008, p. 237). The Lago refinery caused substantial immigration, with 21 languages being represented in 1929 (Ridderstraat, 2008, p. 40). The Lago refinery closed in 1985 (Ridderstraat, 2008, p. 255), and although the refinery has been reopened and closed a number of times since then, the main economic focus of the island shifted to tourism (CBS Aruba, 2016, p.7). In 2016, the total contribution of the travel and tourism industry accounted for 88.1% of Aruba's GDP (Van Zanten et al. 2018, p. 10), and 89.3% of total employment (Van Zanten et al. 2018, p. 7). Currently the tourism industry is Aruba's main industry, making it an important contributor to many interactions on the island.

### 4.3 Population

One way in which these industries have influenced the island is through their impact on population size (figure 6). Settlement started being reported in 1920, nine years before the refinery opened (CBS Aruba, 2018, p. 1). As a result of the booming tourism and subsequent construction industry, many migrants came to the island over the past 20 to 30 years. In 2010 the foreign-born population on Aruba accounted for no less than 34.5% of the total population, with a total of 133 nationalities living on Aruba (CBS Aruba, 2018, p. 1). In 2015, the population of Aruba was about a 110 thousand people, or 612 inhabitants per square kilometer (CBS, 2017, p.13). On top of that, more than 1.6 million tourists visit the island every year (Van Zanten et al. 2018, p. 7), making Aruba a densely populated island.



Figure 6 Immigration to Aruba (Adapted from CBS Aruba, 2018, p.1)

### 4.4 Sustainability

As a reaction to -amongst other things- the expanding population size, a focus on sustainability began to emerge on the island. An early example of this was the establishment of the Nos Aruba 2025 Project in 2008. The goal of the project was to bring stakeholders together to discuss and act upon sustainable development. This project determined twelve sustainable development priorities within Aruba's four sustainability themes: economic, political, social and environmental (Nos Aruba, 2008). Aruba's sustainability aspirations were recently reflected in the establishment of the Center of Excellence for Sustainable Development of Small Island States (SIDS) in 2016 (UNDP, 2018). The UN Sustainable Development Goals are widely used in projects and research on the island, for example within this research project.

### 4.5 Postcolonial ties

Not only do international organizations like the UN leave their mark on Aruba, there is also still a considerable influence from the Netherlands. Aruba was the first to leave the Netherlands Antilles in 1886 and become a constituent state within the Kingdom of the Netherlands (currently the other constituent states are Curacao, Sint Maarten and The Netherlands). The strong ties Aruba maintains with the Netherlands continue to influence the social, political, economic and educational make-up of the country. For example, a large proportion of the books used in the educational system are written and published in the Netherlands (Herrera, 2003). This form of overseas knowledge creation is of major influence for the Aruban society and also ties back into sustainability challenges, as Sustainable Development Goal 4 (SDG 4) is to 'Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all' (UN, 2015).

## 5. Preliminary Analysis

This part provides some preliminary illustrations to three variables within Ostrom's (2009) framework, namely: RS3 Size of the Resource System, RS5 Productivity of the Resource System and U1 Number of Users. As mentioned above, the preliminary analysis will be based on impressions and anecdotes gathered from fieldwork experience rather than proper and thorough analysis of the data. Additionally, a focus on the theoretical part of the study will be reflected within the illustrations. This is especially true for the first variable, since it merely describes where the boundaries for the resource system were set.

### 5.1 RS3: Size of the Resource System

Mangroves, even without taking the social system into account, are linked to other ecosystems on various levels. SIS are sometimes referred to as large ocean states (Jumeau, 2013, p. 2), indicating the key role oceans play for SIS. Mangrove forests are situated on the borderline between ocean and land, and therefore form a connecting factor between the island's ecosystems and the ocean surrounding it, for example through ecosystem services such as being nursery grounds for fish and crustaceans (Lee et al., 2014, p. 729). Mangroves also provide habitat to a large number of birds on Aruba (Polaszek et al., 2018, p. 36). The mobility of these birds further connects the ecosystem to other terrestrial ecosystems.

Although it is important to take into account that the mangrove resource system is closely connected to the both marine and terrestrial resource systems around it, it is also imperative to maintain a sense of focus. The fact that Aruba is a SIS, and therefore to an extent an isolated system, makes the boundaries of that system relatively clear. Therefore, this research considers the physical borders of the resource system to be at the edges of the mangrove forests on Aruba.

Mangrove forests cover a total of 171 hectares on the island (0.96% of the island's total area) (Polaszek et al., 2018, p.122) and are located along the Spanish Lagoon, along the southwest coast and on the rifnan (small reef islands) (Polaszek et al., 2018, p.36; figure 7). The Spanish Lagoon accounts for the largest area of mangroves as it covers approximately 70 hectares. It is the country's only inland lagoon system with mangroves around it. It is also the only Ramsar designated site (Ramsar, 1980). The Ramsar convention, or Convention on Wetlands, is the intergovernmental treaty that provides the framework for the conservation and wise use of wetlands and their resources. The lagoon is located on the southwestern part of the coastline and is made up of both mangroves and tidal mudflats. It also has a narrow coastal inlet about 2 kilometers long and 200-500 meters wide (Polaszek et al., 2018, p.36). This area became an extension to the Aruban National Park in February 2017 (Parke Nacional Arikok, 2017, p.3), and is therefore the largest governmental property of mangroves on Aruba.



Figure 7. Distribution of mangrove forests on Aruba (Adapted from Polaszek et al., 2018, p. 33, modified to specifically show mangrove distribution)

### 5.2 RS5: Productivity of Resource System

Ostrom argues that when a resource system's current productivity is extremely high or extremely low, users of that system are unlikely to undertake action. 'Users need to observe some scarcity before they invest in self-organization' (2009, p.420).

This section will first elaborate on the productivity of mangrove forests and the ways in which Arubans benefit from mangrove forests. It proceeds to illustrate how respondents perceive the Tragedy of the Commons on the island. It concludes that, regardless of the extent to which a tragedy of the commons is present within this SES, the idea of it has an influence on the system. Specifically, it influences the perception of scarcity of the resource system.

The productivity of mangroves on Aruba is, as seen in the literature review, hardly to be found in directly extractible products. Therefore, when asked about the ways in which mangroves influence people on Aruba, ecosystem services are most frequently discussed. Mangroves provide a number of ecosystem services that link back into people's livelihoods. Two examples of these were given in the literature review, namely the nursery grounds and the coastal protection that mangroves provide.

Besides being directly influenced by these ecosystem services, many Arubans also benefit indirectly through their involvement in the tourism industry. Currently Aruba experiences more than 1.6 million tourists visiting the island per year (Van Zanten et al., 2018, p. 7), and the total contribution of the travel and tourism industry accounted for 88.1% of Aruba's GDP (Van Zanten et al., 2018, p. 10), and 89.3% of total employment in 2016 (Van Zanten et al., 2018, p. 7). At the moment the net value of ecosystems for Aruba's tourism industry is calculated at US$ 268,824,272 (Van Zanten et al., 2018, p. 25). Fish consumed within the tourism industry that developed within mangrove forests, and damage to buildings that could be avoided due to mangrove coastal protection are two examples of ecosystem services that are important to Aruba's tourism industry.

It is often pointed out how consumers within this same tourism industry provide pressure on the mangrove forests. One respondent noted:

*Because personally I want to oppose a lot of touristy entertainment things that they're offering and developing on the island. The large hotels do that especially. With palm island is kinda the same thing, they're making use of a reef basically which consisted of mangroves. Took away some of that to create entertainment. So it feels kind of, not good. (laughs) really making use of it in that way. At the same time you can just walk a few miles away, a few meters away from that section, you can just enter what was originally the full island, the full reef. So it feels kinda weird to see that this is what it was.*

During the interviews several examples of coastal construction plans that affect mangrove areas were mentioned. For instance, a plan to develop a resort called Zoetry in the Pos Chikito mangrove area called 'Isla Di Oro' was halted in 2016; a privately owned mangrove area next to the Spanish Lagoon has been cleared for development purposes; and stories were told about the mangrove forests that used to grow in the area where the Ritz hotel is now constructed. On the relationship between development and nature, the following was stated:

*You have this particular terrain which has some environmental value or it has some financial value to a developer, I would say 99/100 times he [indicating the Minister of Spatial Development, Infrastructure and the Environment] would go for the latter and would take the financial interest over the environmental interest. I think you can see - it is demonstrated the best - you can see we have a plan of ruimtelijke ordering which is set by law [indicating the Spatial Development Plan] - it clearly defines what areas serve what purpose and those boundaries are constantly threatened by new development where there is hardly any regard - especially for those that are regarded as highly important nature areas.*

These examples illustrate the statement that economic gain has recurrently had the potential to be valued over the conservation of mangroves. A partial explanation given for this is that people perceive a direct dependence on the tourism industry for their livelihood, but don't perceive this direct dependence for ecosystem services. One respondent called that "*the catch-22 that we have.*"

For instance, a direct dependence of fishermen on fish is not greatly emphasized. When asked about the way in which mangroves influenced them or people on the island, none of the fishermen mentioned the nursery function of fish. This is not to imply that they didn't know about it. It merely illustrates how it wasn't at the top of their minds.

In contrast to that, many respondents mentioned clearly that mangroves provide coastal protection. One respondent stated:

*Dan mag je blij zijn dat ze [indicating mangroves] er zijn hoor. Want ze houden een heleboel tegen. Want we hebben, nou in al die jaren hebben we drie keer, hebben we storm gehad. De eerste keer toen we het huis aan het bouwen waren, en die andere, nog twee keer. Maar dan vliegt de zee -vliegt de keuken in he?*

*Then you're happy they're there [indicating mangroves]. Because they block a whole lot. In all those years we've had three storms. The first one when we were building the house, and the other one, two other ones. But the sea flies into the kitchen, you see?*

However, it was highly questioned whether perceived dependence on coastal protection outweighs dependence on the economy. In the case of the previously mentioned construction plans, several respondents expressed that they didn't think developers cared. Others stated that they thought construction would take place in an ethical way, and indicated plans that would diminish the effect upon the mangroves. These included building above the mangrove roots for the Zoetry resort and leaving some of the mangroves intact for the Ritz hotel.

The way respondents analyze the SES greatly resembles the idea of the Tragedy of the Commons (Hardin, 1968). Hardin's work was only explicitly referred to once during an interview, but comments like the ones mentioned above show how Hardin's model was implicitly present in many conversations. Respondents talked about the concept without talking about the theory. Many respondents concluded that people act from an individually rational perspective, which leads to overexploitation of the mangrove forest.

It is important not to jump forward to conclusions and boldly proclaim that the SES of mangroves on Aruba mirrors the Tragedy of the Commons. Instead, I'd like to stress that the idea of the Tragedy of the Commons is clearly present on Aruba. Therefore, the idea itself influences and creates interactions within the SES.

One of the interactions it creates is linked to the productivity of this resource system. If people express pressures on mangroves are very low, they generally think that mangroves are also abundant. However, if people are aware of the pressures on mangroves, they generally accentuate the decline of mangroves by providing an explanation emphasizing the valuing of personal and economic gain over conservation of mangrove forest. Therefore, the extent to which people refer to the Tragedy of the Commons dynamics is connected to the extent to which they perceive scarcity.

### 5.3 U1: Number of Users

In order to say anything useful about the number of users, we first need to define who qualifies as a user within this study. Therefore, this section will start by discussing this topic. After defining the number of users, the diversity of this group will be highlighted, as well as its implications for perceptions of who uses the mangroves ethically and who doesn't.

As mentioned in variable RS3, it is important to acknowledge that SES are always linked to other SES on various levels.

Ecosystem services provided by Aruban mangroves are often global services. For instance, mangroves sequester carbon (Dekker, 2016, p. 4), which mitigates climate change. In this sense, the entire world population can classify as a user. However, it is also -again- imperative to maintain a sense of focus. Just as the boundaries of the resource system were determined to be at the edge of the mangrove forest itself, the number of users will be limited to the people on the island (temporary visitors included). Of this population, the research has focused on users that are closely connected to the mangrove forest (specifics can be found in the method section).

Aruba is a small island, which suggests the number users would also be small. Yet large or small is always a matter of comparison. Compared to bigger countries or even the world population, there is a very limited number of users of this resource system. However, due to the high population density and the subsequent social dynamics mentioned in RS5, most respondents agreed that the number of users of this SES is (too) high. Take for instance the following comment:

> The impact that we're having as a society is far greater than when your grandparents were living here and the society was, maybe not even 20% of what it is now. But we're living in different times now. And what your grandparents were doing is not something you can still be doing because it's not possible, there is just too many people.

With the high immigration rates of the past decades, and 133 nationalities represented on the island, Aruba indeed knows a wide variety of inhabitants (CBS Aruba, 2018, p. 1). This diversity of users present has implications for the dynamics within the SES.

Ethical use of mangroves was frequently connected to a distinct (often ethnic) group on the island. In many interviews a divide was made between groups that were environmentally aware, and groups that were

not. Reoccurring groups included: tourists (sometimes especially American tourists), locals, immigrants from various countries, young and older people. Which of these were and were not environmentally aware was, interestingly, not unanimously agreed upon.

The following paragraphs illustrate what was mentioned above. Firstly, several organizers of nature-related events mentioned that their participants usually originated from the Dutch community. These events included organized walks, as well as more activist events such as protests.

Consequentially it was noted that the Dutch community on Aruba was the community that cared most about nature. Examples from two interviews are given below:

> Maar zij [indicating American immigrants during the time of the Lago refinery] gaven om de natuur en de Nederlander geeft om de natuur, maar de doorsnee Arubaan niet. Hebben ze nooit gedaan.

> But they [indicating American immigrants during the time of the Lago refinery] cared about nature and the Dutchman cares about Nature, but the average Aruban doesn't. They never have.

> In Nederland is verder met natuurbehoud en bewustwording van maatschappij - een maatschappij […] die de belangen ziet van natuur en dieren. Wij zijn nog - we hebben mensen die ervoor vechten - maar we staan nog steeds in babyschoentjes.

> The Netherlands is ahead with nature conservation and awareness within society -a society […] that sees the interests of nature and animals - but we're still taking babysteps.

However, this notion was nuanced during other interviews in two ways. Firstly, it was mentioned how traditional

ways of using nature were disregarded. For instance, when talking about the catching of various currently protected marine species, one fisherman noted:

> […] all that is now protected [indicating marine species]. But it's the outside influence, on the whole island, it's affecting our island and our culture, that's what I think. And honest, they came to our island and most of the people that do that they're not locals, and they enforce it. […]. I grow up doing that, you want me to eat a sandwich with the cheese of peanut… 'pindakaas' [peanut butter], or butter. But no, we eat fish and we eat food. It's against what I do.

Additionally, several forms of knowledge and care for mangroves came up during interviews with people who indicated that they did not attend nature-related events. Consider the following quote:

> So, I would like to [participate in nature events] since it's a nice result. But in a way it's also very hot outside and most of them. Or not most of them, but at a certain time it gets too hot, and then I don't really like want be there anymore. Cause then it's just flame and I don't have any zin to do it [do not feel like doing it].

This respondent is one of those that, despite not attending nature-related events, did portray knowledge of ecosystem services such as coastal protection and the various types of habitat mangroves provide. Furthermore, the knowledge was present that mangroves grow very slowly and that there would be severe (ecological as well as legal) consequences to cutting them.

To conclude, there is a multitude of ways in which people use, know and care about the Aruban mangrove forests. Some actively participate in events, some adhere to more traditional forms of use, and some passively know and care. Yet not everyone agreed on who interacted with nature in an ethical way, and who didn't. This begs the question

in which ways and to what extent these identified groups communicate with each other. Perhaps communication could open up unexploited ways to combine efforts towards sustainability. For instance, increased communication could accentuate how users that don't attend nature events still contribute to sustainability, or how they could do so even more.

A similar multitude of practices seem to be reflected on the management level, which will be dealt with more specifically in the final version of this project. Still, it is important to highlight the connection between the interactions on the user level and the management level. This connection is partly due to the small island setting of this SES, where user groups can be closely connected to different parts of management. Therefore, it is highly possible that different entities concerned with mangrove management adhere to different perceptions of who uses them ethically. The presence of these perceptions could have implications for communication and the nature of relationships between participants (on both governance and user levels) of the SES.

### 6. Preliminary Conclusions

As mentioned in the introduction, the conclusions presented here will be based on impressions and anecdotes obtained from fieldwork experience rather than proper and thorough analysis of the data. Therefore, all conclusions are preliminary and cautiously formulated. The final version of this research project aims to be able to make a statement on the extent to which there is or isn't a tragedy of the commons at work on the island, but this will be put aside for now.

Through the preliminary analysis, some interactions have been illustrated that might influence the sustainability of the SES. In this preliminary conclusion, the interactions that potentially hinder sustainability will be explained

first, after which the interactions that potentially help the sustainability of the SES are discussed. Finally, these interactions will be related to two of Ostrom's guiding principles (McGinnis & Ostrom, 1992, p.9).

### 6.1 Interactions that Hinder

Firstly, the smallness of the resource system could potentially hinder its sustainability. Ostrom (2009, *p*. 420) notes how 'very small territories do not generate substantial flows of valuable products'. Besides comments on the previous use of mangroves and propagules for making wooden hoes, presenting fish and strengthening fishing lines, and some small-scale fishing and harvesting of shellfish for private consumption, the mangrove forest does not seem to generate large flows of valuable products. However, it seems that many respondents would also qualify ecosystem services as 'valuable products'. Still, the low generation of tangible products by the resource system might lead to a low valuation of the system. Therefore, participants could be less likely to organize themselves in efforts towards the system's sustainability.

This ties into the second interaction: the seemingly present idea that participants are unlikely to organize themselves in efforts towards the system's sustainability. Many respondents concluded that people act from an individually rational perspective, which leads to overexploitation of the mangrove forest, thereby echoing the idea of the Tragedy of the Commons. The presence of this idea could undermine efforts towards sustainability, as participants might not believe they will succeed in those efforts. Additionally, the idea that another participant is likely to overexploit the resource might influence one's willingness to collaborate in a negative way.

One way to potentially overcome these hindrances is through increased communication and understanding of participants' different viewpoints. However, the third potential hindrance relates to communication and understanding. It appears like these could be improved between the participants of the SES. There is an apparent discrepancy in valuing of active participation in nature events versus traditional uses of mangrove forests, passive forms of knowledge and care. This discrepancy might hinder organizing efforts toward sustainability collectively.

### 6.2 Interactions that Help

On the brighter side, the smallness and location of the resource system also suggests remarkable advantages. The boundaries of the mangrove forest are relatively easily defined, which ameliorates the costs of monitoring them and gaining ecological knowledge (Ostrom, 2009, p. 420). Additionally, a large part of the mangroves is situated within one area, namely the Spaans Lagoon. Use of this area can be restricted, since it is government property. Therefore, the smallness and location of the mangroves are likely to benefit the sustainability of the system.

Furthermore, the presence of the idea of the Tragedy of the Commons could also have beneficial effects in terms of sustainability. The notion that mangroves are being overexploited could have an alarming effect on the participants, therefore inspiring them to organize more sustainable actions.

Lastly, in terms of communication, the small island setting of the SES could offer opportunities. In a small island like Aruba, participants tend to be closely connected. This implies that reaching out to other participants in efforts towards greater sustainability might be relatively easy.

### 6.3 The Guiding Principles

Two of Ostrom's (2009) design principles seem to be at work within these interactions. Since her design principles have characterized a wide variety of sustainably managed SES, this is a good sign for the mangrove system on Aruba. Design principles 1 and 8 are reflected in the following way:

1. Clearly Defined Boundaries. As mentioned above, the smallness and location of the mangrove forests could make it relatively easy to define the boundaries of the system.

8. Nested Enterprises. This principle indicates that appropriation, provision, monitoring, enforcement, conflict resolution, and governance activities are organized in multiple layers of interconnected enterprises or organizational layers. The small island setting of the SES implies that the participants (both on the user and management levels) are closely interconnected. As mentioned before, communication likely increases the extent to which this interconnectedness is utilized. Therefore, there will be a greater emphasis on communication (both strengths and weaknesses) within the SES in the final research product.

The final research project will aim to provide a more thorough set of illustrations of the SES. Through these illustrations, it will look at the presence or absence of a Tragedy of the Commons, and analyze how the illustrations relate to the sustainability of the system. Therefore, if you're interested in the final version, feel free to contact the author at lindevandegraaf@gmail.com.

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*Here comes the sun, and I say "it's all right"*

If you would have asked me at the start of my bachelor's thesis whether I would've successfully completed an independent research project on Aruba, I probably would have laughed at you. I did not think myself capable of this, and honestly there were moments throughout entire process where I considered quitting. As you're reading this right now, I didn't, and I'm so very glad I didn't. Instead I asked for help, pushed through, gave up a little, and learnt some valuable lessons along the way.

The thing people tell you about research in advance, is that it's going to end up changing in practice, and your expectations are going to be changed. That's a fundamental part of the difference between theory and practice, and I think that a lesson I learnt both from the iterative learning process of doing an independent research project for my bachelor thesis, but also majorly from living the island life on Aruba for almost three months.

The preparatory course, and over 300 articles of literature I read in preparation for this did not at all prepare me for arriving on Aruba, but I suppose that's also an inherent component of doing community based research that didn't actually click with me until I was actually here. As the researcher, you're not the expert, you're a person with a passion for answering a question, and this project allowed me to do so with the collaboration and support of a whole book full of brilliant minds.

I'd like to thank every single person I shared even a couple of minutes of conversation with, from the people on the bus to San Nicholas, the locals and tourists alike hiking through Parke Arikok, the students at UA sharing their tablespace with me. I'd specifically like to mention Duan and Olinda from StimAruba for inviting me on hikes and walking tours to see Aruba, and sharing their wonderful knowledge of the vegetation. I'd like to thank Giancarlo Nunes from Parke Arikok for collaborating with me on this project, joining me in the field, and sharing his knowledge. I'd like to thank Maarten Eppinga for approving my initial proposal and introducing me to my supervisor, Angeles Garcia-Mayor, who has been a lifesaver and a fountain of passion and knowledge. Thanks to Tobia for inviting me along on the AFY fieldtrips and getting my first hand-on experiences with research on the island. I'd like to thank Annemieke, Tatiana, and Marretje for listening to my rants and rambles about experimental design, and lending a helpful perspective. I'd like to thank my family and friends back home who gave me buckets of support in making this decision. I'd like to thank the rest of the UAUCU girls for their continued support, laughter, banter, singing and studying sessions. Last but not least, I'd like to thank Eric Mijts and Jocelyn Ballantyne for their continued support from the start of the preparatory class, and for making this programme a possibility.

I had an amazing time, watching sunrises and sunsets on all the coasts and beaches of the island. Getting sunburnt at each and every single one of them. Exploring all of the small food places, supermarket, fruiterias and batido stands. I probably have some hearing damage from blasting the radio and vast collection of playlists that we've accumulated over our time here. I've got an entire collection full of photographs that I'm going to spend weeks editing and cleaning up when I get back home, sending them around with funny captions and memories. That, and writing up the more extensive and final version of my thesis, because that also needs to be done.

# Off-road driving and the ecosystem: An analysis of the impacts on landscape functionality.

Mirre Stevens

## 1. Introduction

Historically, Aruba's terrestrial arid ecosystems have been perceived as barren and useless, so much so as to earn Aruba one of its first labels: "isla inútil"(Industries, n.d.). Nothing could be less true, arid ecosystems have a wide range of ecosystem services: they provide – erosion control and soil retention, water regulation, habitat for terrestrial fauna, recreational value, economic value as touristic attraction among others (Polaszek et al., 2018; Schilstra et al., 2003; Wolfs et al., 2017). However, all of these services are under threat due to ecosystem degradation and biodiversity loss (Oosterhuis, 2016). Climate change and other anthropogenic stressors – among which deforestation, grazing and off-road driving – are influencing vegetation cover and ecosystem degradation (Asner et al. 2004; Bilotta et al., 2007; Buckley, 2004).

Globally, the pressure of off-road driving on the ecosystem has increased drastically as the activity has gained popularity as a recreational activity (Goossens & Buck, 2014). With the Aruban landscape fitting the stereotypical outback and the island receiving over 1.6 million tourists annually (CBS, n.d.), off-roading has become one of the main tourist attractions (Vogel, 2017). With an increase in the pressure, there is an urgent need to understand the effects of off-road driving on the vegetation, and to work towards managing and limiting these detrimental effect in a sustainable manner.

Therefore, this research aims to look into the impacts of off-road driving on landscape functionality of the Aruban xeric shrubland vegetation, through asking the following main research question:

**What are the impacts of off-road vehicle traffic on landscape functionality of the Aruban xeric shrubland ecosystem?**

This will be accomplished by answering the following sub-questions:

1. *What is the extent of off-road vehicle usage and traffic on Aruba?*
2. *Is there a statistically significant difference in LFA (Landscape Function Analysis) values between areas exposed to off-road traffic and control areas?*
3. *How big is the difference in landscape functionality between roadside and non-roadside locations?*
4. *How do the soil quality, water infiltration, nutrient cycling LFA index values compare between research conditions?*
5. *How does the vegetation cover compare between research conditions?*
6. *Do the LFA index values differ within patch types between research conditions?*

This paper will first provide a literature review. Second, it will outline further details on the study area. Then, it will explain the material and methods and, finally, it will present the preliminary data and analysis thereof.

This research project was conducted with a community-based approach, which means stakeholders were involved with the gathering of relevant data, decision-making on main research objectives and research areas, and will be involved with further analysis and conclusions.

## 2. Theoretical Background/Literature Review

First, this literature review examines the basics of arid ecosystems by looking at the definitions and terminology involved, and describing the patch formations and dynamics. Second, ecosystem degradation and anthropogenic factors influencing this are discussed with a particular focus on grazing and off-road driving. Then, the Aruban context is described.

### 2.1 Arid Ecosystems and Patch Dynamics

Arid ecosystems are ecosystems that are characterised by their low moisture levels. Globally, arid ecosystems vary greatly in terms of the amount of rainfall they receive, but through evaporation exceeding this rainfall they are generally moisture deficient (WWF, n.d.). The characterized vegetation of these ecosystems is woody-stemmed shrubs. Although there is a diverse spread of flora and fauna species, most of which are adapted to this low water availability and often have remarkable evolutionary adaptations to minimize water loss (EPG, n.d.-a). Two examples of arid ecosystems are xeric shrublands (EPG, n.d.-a; WWF, n.d.) and tropical dry forests (EPG, n.d.-b; Fajardo et al., 2012; WWF, n.d.). Their global distributions are shown in Figure 1 and Figure 2, respectively.



Figure 1: Distribution of xeric shrubland on the earth (source Ecology Pocket Guide &TEOW)

Figure 2: Distribution of tropical dry boreal forests on the earth (Source pocket ecology & TEOW).

According to the WWF (WWF, n.d.) xeric shrubland are categorised with the desert biome type, due to their similar arid and moisture deficient conditions but xeric shrublands also have similarities with the tropical dry forest ecosystems, a semi-arid ecosystem with rainfall periods but long dry seasons, resulting in overall moisture deficiency(WWF, n.d.). Due to these differences in water availability (through retention capacity or rainfall), tropical dry forests are able to support larger flora but both remain less productive compared to rainforests and wetter ecosystems (Fajardo et al., 2012)

In these low production ecosystems many species track seasonally variable and patchy resources, and therefore, require larger natural landscapes to persist (WWF, n.d.). The water sources for the system, as well as the riparian habitats, in particular, are critical for the survival of many species(World Wildlife Fund, n.d.).

### 2.1.1 Patch Mosaic Distribution

In ecosystems that are strongly water-limited, plant cover is usually less than 60% and not continuous (Aguiar & Sala, 1999). Instead, the vegetation in a lot of arid ecosystems is distributed heterogeneously but semi-ordered in a pattern of highly vegetated areas and low plant cover areas, called the two-phase mosaic (Aguiar et al., 1996). The areas with high plant cover are called vegetated patches, and the low cover areas are often called the low-cover matrix. Examples of these non-continuous spatial distributions are shown in Figure 3. This two-phase mosaic arrangement affects several of the ecosystem processes, from abiotic processes like water dynamics and nutrient cycling, to biotic interactions like competition and seed dispersal (Aguiar & Sala, 1999).

The two-phase patch mosaic distribution essentially causes a concentration of resources into these high-cover patches

and a scarcity of resources in the low-cover matrix. This heterogeneous spread of resources has implications for the productivity and diversity of an arid ecosystem (Noy-Meir, 1973, 1981).

An empirical study (Sala et al., 1988) indicated a linear relation between annual precipitation and production. This relation indicates that there is a precipitation threshold below which there should be no production. This "ineffective precipitation" would, in the case of homogeneously distributed vegetation, lead to no production. However, the heterogeneous distribution allows a shifting of the effectiveness of the scarce precipitation, i.e. water levels that would not lead to production in homogenous distribution do lead to production in heterogeneous, due to patching. This is because water redistribution in patch ecosystems determines new resource statuses in which the low-cover matrix area is a source of water for the high-cover sink patches (Aguiar & Sala, 1999). It leads to the matrix being much drier and poorer in nutrients and resources than average, whereas the vegetated patched become richer with higher concentrations of nutrients, water and other resources. This increased concentration in the sink patch then becomes above the resource threshold needed for production, and the source patches, which were already below the threshold, do go further below the threshold but production remains zero still.

### 2.1.2 The Patch Formation Process

There are multiple patch patterns, though two of the more frequent and recognizable pattern distributions are called the tiger and leopard patterns (Aguiar & Sala, 1999) after the similarity between the patch sketch pattern and the fur patterns of these creatures. The tiger pattern is banded patches of a more rectangular elongated shape (Figure 3a) with the leopard pattern being a more polka dot spotted pattern with irregular shapes (Figure 3b). There are two similar but different development mechanisms at play in the formation of these patches both illustrated in Figure 4.

In the tiger pattern formation process, illustrated by the Chihuahuan desert patch example in Figure 4a, there is an upslope vegetation growth movement combined countering the downslope water and run-off. The patch has vegetation in the building and growing phase on the upslope side and vegetation in the degenerative phase on downslope side. This leads to a general upslope vegetation movement (Aguiar & Sala, 1999). The building phase of new vegetation is on the upslope side of the patch as the downslope water direction and consequent resource transport means the nutrient concentration is highest there, which is an optimal condition for new growth. Whereas the downslope side is the most nutrient depleted, as "use for production" is higher than delivery from source inter patch. In this dynamic system the main vector of movement and transport is run-off and the water direction. The water direction is determined almost entirely by the slope gradient, as water is moved by gravitational pull. This means that this pattern and movement are mostly directed by the slope of the landscape.
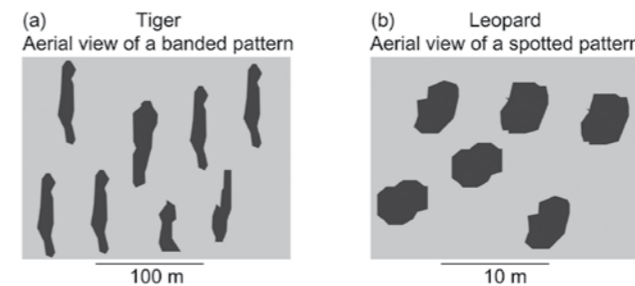


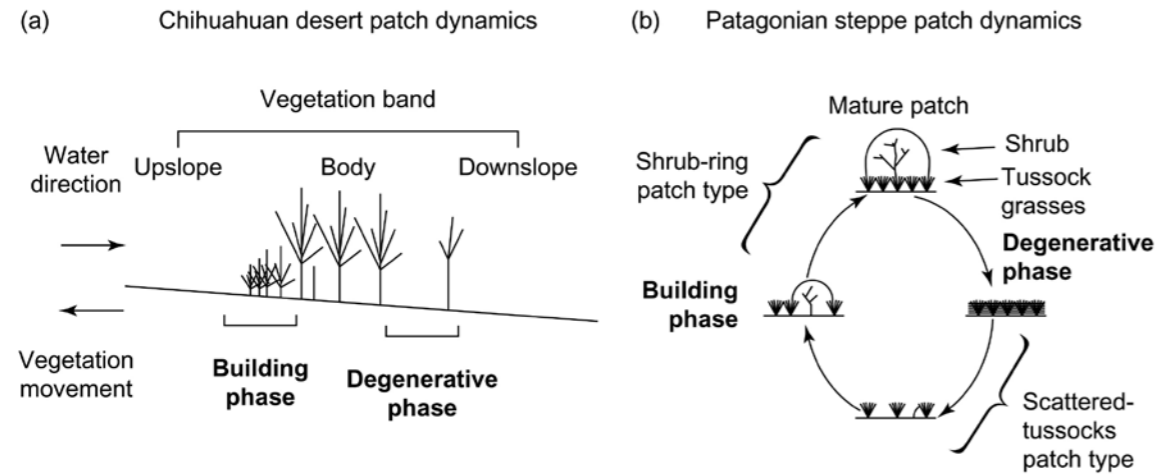Figure 3: Two types of pattern shapes (Aguiar & Sala, 1999)

Figure 4: Illustration of the two patch dynamics explained by (Aguiar & Sala, 1999)

The patch dynamics for spotted more irregular vegetation patches are illustrated by the Patagonian steppe example in Figure 4b. The main nutrient movement here is due to a different movement vector, namely, transportation by wind and animals (Aguiar & Sala, 1999). The transportation vectors for these methods of transport are not as unidirectional as the slope vector in the case where the main vehicle is water. Wind direction can have a main general vector of movement, but even then, there are fluctuations, and animal transport is multidirectional (Aguiar & Sala, 1999), as such resource movement more irregularly changes the patches. In this situation, the building phase occurs anywhere in the low-cover matrix, and once a singular shrub has been established the start of a sink is created as resources moved by the wind get "stuck" forming a neighborhood with higher resource concentrations as well as aerial protection that promotes subsequent seed accumulation and seedling establishment. A small patch can thereby grow into a mature patch, until the phase where the patches' internal competition for resources

outweighs the benefit of nutrient accumulation and the patch enters the degenerative phase. In the degenerative phase, the shrub dies due to the increasing competition, and this decrease in shrub presence decreases the sinking effect of the patch leading to an increase in grass mortality, which in turn leads to a further thinning and dying of vegetation in the patch. What remains are a scattering of individual shrubs within a larger inter patch matrix, allowing the process to begin again if there is enough nutrient accumulation (Aguiar & Sala, 1999).

## 2.2 Degradation and Anthropogenic Factors

Throughout recorded history major changes have occurred to arid ecosystems. Vegetative loss, increased soil erosion, reduced productivity, and loss of native species, to name a few (Glendening, 1952; Mabbutt & Floret, 1980). This ecosystem degradation is attributed to direct human activities and climate change, both of which are anthropogenic factors (Brown et al., 1997).

The largest stressor is climate change, through direct climate change and indirect influences over other stressors (J. H. Brown et al., 1997). Climate change leads to changes in precipitation levels and precipitation extremities, often resulting in either lower annual rainfall or more extreme annual rainfall. Water is the most limiting resource in arid ecosystem; as such changes in these precipitation patterns (small volume differences or differences in precipitation patterns) may be expected to have substantial effects on the ecosystem (J. H. Brown et al., 1997).

The schematic in Figure 5 shows the positive-feedback loop of some degradations and stressors relevant to vegetation cover, where vegetation loss results in changes in solar radiation (Albedo), surface roughness, moisture loss through evapotranspiration, dust levels in the atmosphere, which contributes to climate change and decreases in precipitation. These then further increase the loss of vegetation cover, strengthening the cycle (D'Odorico et al., 2013). In addition, the vegetation loss also increases soil erosion and loss of soil fertility, which increases the loss of vegetation cover.
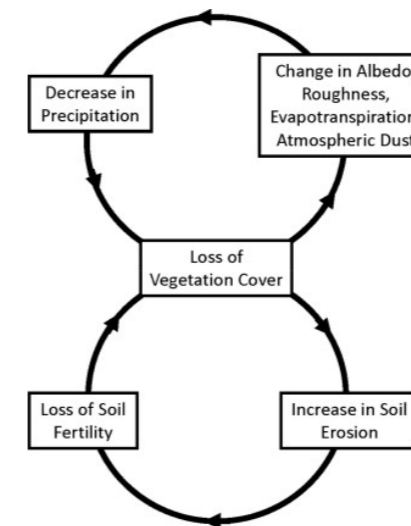


Figure 5: The cyclical positive-feedback loop of land degradation(D'Odorico et al., 2013)

Stressors occur at this global level through climate change, as well as at a more local level through local stressors. The management of stressors upon an ecosystem is a complex combination of building resistance to global stressors and directly managing more local ones (C. J. Brown et al., 2013).

Xeric shrublands are not only sensitive to global stressors like climate change but are also highly sensitive to local stressors like grazing, off-road driving, and other causes of soil disturbances and cover alterations (C. J. Brown et al., 2013; Buckley, 2004; Oosterhuis, 2016; WWF, n.d.).

### 2.2.1 Grazing

Grazing is cattle and livestock fully or partially living off the land, traditionally through pastures but also often through unregulated free roaming. This grazing pressure can be a stressor on the environment, especially when unregulated, as this often results in overexertion on the ecosystem – called overgrazing. Overgrazing results in desertification and deforestation with consequent changes in the vegetation structure, hydrology, biogeochemistry and bio-atmosphere exchanges of the grazed ecosystem (Asner et al., 2004).

These influences through grazing occur in two main ways, the direct grazing and trampling (Hiernaux et al., 1999).

Grazing is the consumption of plant matter and results in changes in vegetation cover through decreased regeneration of vegetation (Zhou et al., 2010), and composition through selective grazing on specific species, decreasing their numbers disproportionally (Denters, 1979; Zhou et al., 2010). In arid ecosystems, this often results in the development of brush type vegetation of the species not preferred by the grazer (Amiri et al., 2008; Denters, 1979).

Trampling – repeated compression of the dirt - results in compaction of the soil reducing water infiltration

(Mwendera & Saleem, 1997), soil moisture content, and water holding capacity (Stavi et al., 2008). These increases in bulk density and decreases in water infiltration can result in decreased vegetation cover and increased soil vulnerability (Bilotta et al., 2007; Coughenour, 1991).

For arid ecosystems, the consequences of these changes may be significant due to already sensitive environmental balances. Semi-arid regions most commonly receive grazing pressures from goats due to their ability to thrive in tough and arid conditions (Campbell & Donlan, 2005).

### 2.2.2 Off-road driving
Another anthropogenic stressor on xeric shrublands is off-road driving. This include the driving of motorized vehicles on unpaved roads, dust roads, dirt tracks and outside of pathways (Buckley, 2004). The impact of dirt road and off-road driving on the environment has been recognized for almost 85 years (Bates, 1935), and off-road driving is becoming more popular and widespread as a recreational activity on all continents (Goossens & Buck, 2014; Jones et al., 2016).

Off-road vehicle (ORV) activities cause a series of influences on the land. They increase soil erosion and compaction (Buckley, 2004), increase wind erosion (Goossens & Buck, 2009), cause direct damage to vegetation and soil life (Kutiel et al., 2002; Kutiel, et al., 1999; Lovich, 2002), and indirect damage to vegetation and soil life (Buckley, 2004; Forman & Alexander, 1998; Kutiel et al., 2002, 1999; Lovich, 2002; Vogel, 2017). Off-road vehicles cause dust and air pollution through dust emission (Buckley, 2004; Goossens & Buck, 2009; Vogel, 2017), which impacts soil life (Etyemezian et al., 2004; Kuhns et al., 2010; Nolet & M., 2009; Soukup et al., 2012) and the vegetation (Darley, 1966; Emberson et al., 2001; Farmer, 1993; Sarma, et al., 2017; Sukopp & Werner, 2011; Thakar & Mishra, 2010).

Dust emission is the non-natural wind erosion, often caused by vehicles, and although there are differences between dust emission and wind erosion, they share the three steps in the process. These steps are the detachment, transport, and deposition of the particles in question.

In the detachment step of the off-road vehicle dust emission, the force exerted by the tires upon the soil starts the detachment through loosening particles, either forcing them to become airborne or making them more prone to being detached by wind forces. The stability of the soil, as well as the speed of travel and the tire tread of the off-road vehicle, are determinant factors in the amount of detachment that occurs (Goossens, 2005; Goossens & Buck, 2009, 2014; Vogel, 2017). The more unstable soil being travelled on by rougher tires on vehicles travelling higher speeds result in more detachment.

There are three types of transportation; suspension, saltation and surface creep. Suspension occurs with the finest particles. As they are throwing into the air during detachment they can be carried high and transported over extremely long distances, even thousands of kilometres. It is often the transportation most visible to the naked eye. The most common form of transportation is saltation, where fine soil particles are thrown in the air and increase velocity as they are transported. Surface creep is the movement of heavier particles that cannot be suspended in the wind, that get rolled across the surface and as such creep forward.

Then, there is deposition of the particles. Deposition occurs in highest quantities close to the detachment location, and exponentially decreases as transport distance increases as shown in Figure 6. Within the closest distances the transportation types are suspension and saltation, and when the deposition evens out it is mostly particles falling out of suspension (Goossens & Buck, 2014; Vogel, 2017).
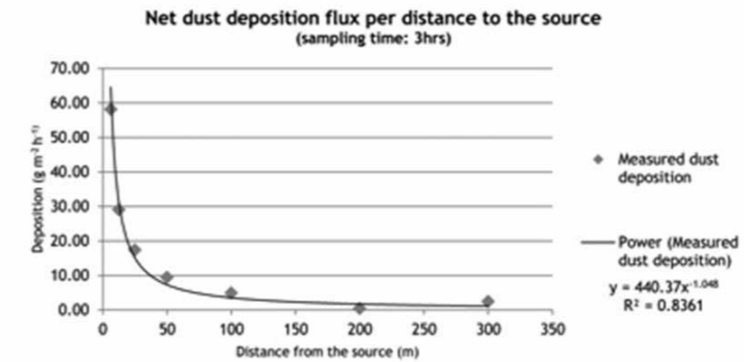


Figure 6: Dust deposition per distance to the source, showing the exponential decrease of dust deposition over transportation distance (Vogel, 2017)

The effects of suspension dust emission are not yet definitely known, but research is indicating that there are effects on human health (Goossens & Buck, 2014) as well as the vegetation. The effects of dust emission on vegetation is through effecting soil quality, which through degradation affects vegetation cover, as well as through several forms of direct damage to the plants (Emberson et al., 2001; Forman & Alexander, 1998; Matsuki et al., 2016; Sarma et al., 2017; Sukopp & Werner, 2011).

### 3. Aruban Context
#### 3.1 Climate
Aruba is located in the Southern Caribbean near the coast of South America. The small island is 30 kilometres off of the coast of Venezuela, just northwest of the Paraguaná Peninsula. Aruba lies within a semi-arid to arid zone that extends from the Orinoco deltas in eastern Venezuela to northern Columbia (Stoffers, 1956), with an average temperature of 27°C and a range of 24-32° and an average rainfall of 470mm between 1981 and 2010 (Departamento Meteorologico Aruba, 2010). The rainfall is seasonal, and concentrated in the rainy season from late September to February, with the heaviest rain in October and November

(Denters, 1979; Departamento Meteorologico Aruba, 2019). The potential evaporation for Aruba is 1600mm/year (N.V. & Sogreah, 1968), but more recent values for Curaçao 2400mm/year (County & Report, 2008) and Bonaire 2600mm/year (Oosterhuis, 2016) may suggest higher potential evaporation values for Aruba. With these specific conditions Aruba is classified as 'BSh' (hot-semi arid) in the Köppen Climate Classifications (Köppen, 1900; Peel, Finlayson, & McMahon, 2007; Rudolf Geiger, 1954).

#### 3.2 Geography
Aruba is located along the transverse fault of the Caribbean tectonic plate moving towards the South American plate, and was created due to volcanic activity along this fault line. The Aruba Lava Formation is the predominant geological rock present on the island, consisting of a basalt type called diabase, schists and volcanic tuffs (Westermann, 1931), with intrusions of tonalite batholith and over layer of reef and eolianite limestone stemming from the Cenozoic age(Oosterhuis, 2016). The limestone forms the characteristic terraces of much of the Aruban North Coast near Alto Vista and Vader Piet, and range from sloping plateaus like the Sero Domi and much flatter terraces.

The extreme north end of Parke Nacional and most of the southern half are limestone plateaus, with the central and northern areas of the park having Aruba Lava Formation at the surface.

### 3.3 Landscape, soils and hydrology

The geological description – called lithology – of Aruba largely determines the landscape and soils of Aruba. Surveys on the lithology of Aruba have resulted in detailed landscape-soil maps (N.V. & Sogreah, 1968). The three main landscape categories posited reflect the three main geological units, tonalite, Aruba Lava Formation, and limestone. The tonalite are easily weathered, with deep soils with high infiltration capacities, there are hills and shallow valleys with dry-river beds (rooien) and occasional large boulders. The landscape of the Aruba Lava Formation is recognisable by its high hills combined with deeper steep rooien, and the soils are characteristically shallow, with low infiltration capacity and regular rock exposures. The limestone terraces are flat, with rough surfaces with cracks through which the rainwater disappears; there are no rooien as the cracks are an alternative to surface runoff, which produces the valleys. The soils are alkaline and minimal, consisting of the eroded limestone particles, and are not dispersed evenly over the surface but are generally found in the surface cracks.

The ocean determines the Aruban coastline, the trade winds that are dominant from the east/northeast result in rough seas on the north and east coasts of the island, resulting in cliff sides with some beaches where the accumulation of run-off particulates from the rooien have developed sandy inlets. There are some sand dunes and some salty valleys with tidal or seasonal submersion. Examples of these are Boca Daimari, Dos Playa and Boca Prins (Oosterhuis, 2016).

### 3.4 Hydrology

The hydrologies of the Aruban lithological zones are different. The lava formation rocks have low water permeability and the soils are shallow, as opposed to the limestone where water infiltration can be preserved as groundwater for longer times. These aquifers are a water source for deep-rooted plants during the dry season and as such allows for species with higher water needs and more luxuriant evergreen vegetation to flourish in these areas (Oosterhuis, 2016; Stoffers & Mansour Elassaiss, 1965).

### 3.5 Vegetation

The vegetation of Aruba and the other leeward Dutch Antilles were first mapped in the early 1950s (Stoffers, 1956) – with the conclusion that at that time little of the original vegetation remained. Historically the Aruban vegetation was much denser tropical dry forest (van Nooren, 2008). The initial dry forests contained significant cover area of Brasilwood, giving Aruba it's early name as the "Brasilwood island", which was cut and exported for a multitude of purposes during the 19th and early 20th century (Alofs, 1997; Versteeg & Ruiz, 1995). In the mid-20th century, further deforestation occurred to make way for gold-mining and Aloe vera plantations (Industries, n.d.). The interest in maintaining the original vegetation of Aruba led to a vegetation survey in the late 1970s (Denters, n.d.), where it was found that a further decrease in vegetation cover, height and proportion of trees had occurred between the 1940's and the 1970's. This trend seems to have occurred in recent years (Oosterhuis, 2016; Willemsen, 2011). This reduction of plant cover has led to increased erosion and soil degradation (N.V. & Sogreah, 1968; Stoffers, 1956) in turn causing less regrowth.

The establishment of National Parke Arikok – covering 18% of Aruba – has safeguarded some Aruban vegetation from further degradation due to direct deforestation, but some anthropogenic pressures on the vegetation remain. The grazing pressure in Parke Arikok was found to be at 1400 goats with reasonably uniform pressure distribution due to the size of the area, and no regions being extremely difficult for goats to access (Veerbeek, 2016). The effects of grazing on the National Parke have been researched in the past (Veerbeek, 2016), and although much more could be done there, the upcoming extent and impact of off-road driving is still mostly unknown.

### 3.6 Off-road driving

Another anthropogenic pressure on Aruba is off-road driving. It has been gaining popularity within the Aruban tourism industry, as a considerable source of income through both off-road driving tours as well as individual vehicle rental (Oosterhuis, 2016; Vogel, 2017). Off-road vehicular activities are one of the main tourist attractions, as such high quantities of these vehicles can be seen around the island especially around the tourist high season from November to May (Oosterhuis, 2016). Through personal communications as part of my community-based research approach, concerns were raised about the drastic increase in tour operator and vehicle number quantities on Aruba. Several NGO's, including the Aruba Birdlife Conservation, post photos and queries on Facebook regarding the impacts of these vehicles on the Aruban vegetation and wildlife (Aruba Birdlife Conservation, n.d.) indicating a wider societal worry.

Vogel (2016) mapped the dust roads of Aruba (with the exception of the side-roads in Parke Arikok) as seen in Figure 7. The majority of off-road driving occurs along the North coast of Aruba, with hotspots being the area from California Lighthouse to Daimari, and Vader Piet to Seroe Colorado. However, there are also a lot of unpaved road spread throughout Aruba, in addition to the dust roads within Arikok (which are mapped partially in Figure 8). Also, it must be noted that off-road driving does not only occur on unpaved and dust roads, but also off of roads in vegetated or natural zones often in roadsides or near roads (Buckley, 2004).
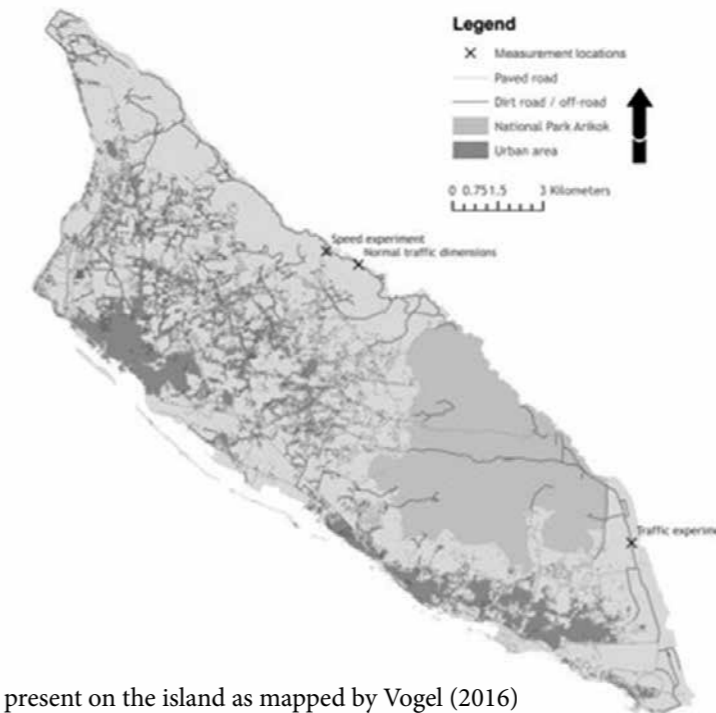


Figure 7: Dust roads present on the island as mapped by Vogel (2016)

The extent of the impacts of off-road driving on Aruba has partially been touched upon in earlier research projects on Aruba. A study was done on the dynamics of the dust emissions on Aruba, looking mostly at the dust transport dynamics in relation to Aruban soil types, vehicle speeds, and vehicle types (Vogel, 2017). This study found that the vehicles on Aruba were indeed producing dust pollution that exceeded natural background deposition rates, up to almost 60 g m-2 h-1 close to the road (Vogel, 2017).

Another study (Oosterhuis, 2016) was conducted to map the vegetation of Parke Arikok, in which the dust roads used at the time were marked out together with a theoretical risk map based on known effects of dust emissions, as can be seen in Figure 8. In this study, the impacts, specifically on the vegetation, were posed as a future research area.

Through personal communications with stakeholders the main dust road from the Shete National Park entrance to Conchi Natural Pool was explained to be one of the busiest and most trafficked roads, due to the attraction of swimming in the natural pool. In addition the management of Parke Arikok indicated an interest in knowing the impact of this road upon the vegetation. Due to this, and the necessity to select feasible scope for my research, this dust road was chosen as the main experimental study area.
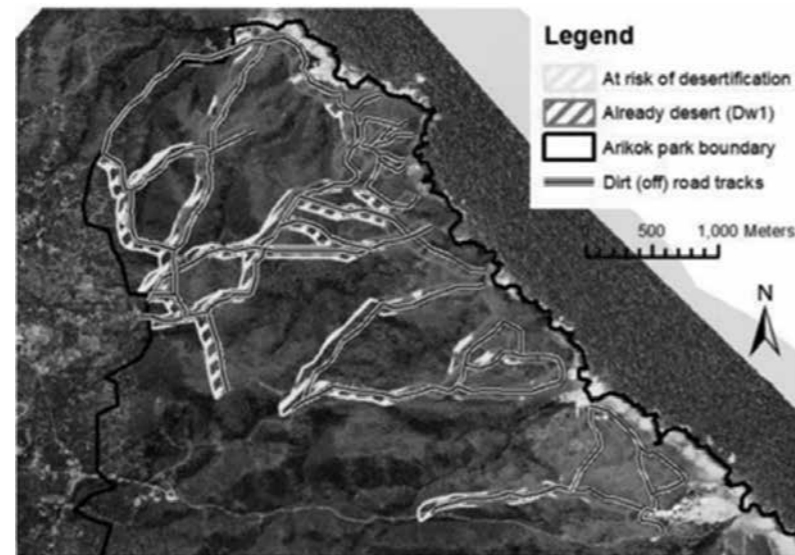


A theoretical map of vegetation at risk of degradation due to the effects of off-road driving, taken from (Oosterhuis, 2016)

### 3.7 Shete - Conchi Dust Road

To gain a better understanding of the extent of off-road driving occurring within the study area, informal counts of vehicle traffic was made along the Shete to Conchi dust road during LFA fieldwork days (Feb-March, 2019). Informal observations were being made on the quantity, type and driving pattern (behavior/speed/keeping to the roads) of any vehicles driving on the Shete-Conchi road. From personal observation tours with specific companies driving on an decently scheduled basis (with fluctuations to allow for traffic), this notion was also confirmed in personal communication with Park Officials regarding tour vehicle presence in the park.

Only vehicles travelling towards Conchi were counted, to minimize potential miscounting and double counting of returning vehicles. Due to counting locations being on the Shete-Conchi dust road, and the Shete entrance only officially opened at 9:00am, vehicles seen prior to 9:00am were counted as "before hour" vehicles, as well as those entering the park after 15:30 when the Shete entrance closed. The values may also be undercounted due to main attention being focused on LFA data collection. Human error in counting may have occurred as such values were rounded to the nearest 5.

The average observed quantity of tour vehicles during opening hours was around 200-350 tour vehicles and 80 individual cars, on several (three) early morning 30-70 pre-opening hour tour vehicles were counted. During several (four) afternoons (15:30-17:00) 50-85 tour and 20+ individual vehicles were counted and during two (two) later evenings (17:00-19:30) an additional 60-90 tour and 20+ individual vehicles were counted.

If daily schedule continuity is assumed, - as well as the consistency of "random visitors"- a daily average for the Shete to Conchi road is 510-715 vehicles, making a round-trip, resulting in 1020-1430 one-way journeys and dust emissions.

From personal observations almost all vehicles were travelling over the park's speed limit of 20km/h (unless waiting in a traffic jam due to large quantities of vehicles waiting to pass "one-lane" road segments). Furthermore, on several occasions individuals under the age of 18 were seen driving the vehicles, as well as multiple drivers whom were not confident in their off-road driving ability. Several observations were also made of vehicles driving outside of the dust-road boundaries.

## 4. Materials and Methods

### 4.1 Research Questions and Sub-Questions

1. What are the impacts of off-road vehicle traffic on landscape functionality of the Aruban xeric shrubland ecosystem?
   a. What is the extent of off-road vehicle usage and traffic on Aruba?
   b. Is there a statistically significant difference in LFA values between areas exposed to off-road traffic and control areas?
   c. How big is the difference in landscape functionality between roadside and non-roadside locations?
   d. How do the soil quality, water infiltration, nutrient cycling LFA index values compare between research conditions?
   e. How does the vegetation cover compare between research conditions?
   f. Do the LFA index values differ within patch types between research conditions?

### 4.2 Hypothesis

Based on literature about the effects of off-road vehicle traffic and dust deposition on vegetation the difference in land functionality between dust-road roadsides and non-roadside locations is expected to be statistically significant. As such, my main research hypothesis is that there is a difference in land functionality between roadside and non-roadside conditions.

### 4.3 Experimental Design

In order to assess the impact of off-road vehicle traffic on the landscape functionality of the Aruban xeric shrubland ecosystem, a pair-based experimental design was set up. A pair was made of two plots, one adjacent to the dust road (roadside) and one in a control zone (non-roadside). Land functionality indicators were measured in both to then run a paired t-test (see Methodology 4.6)

Due to desire to exclude the influence of other variables as impacting land functionality, a series of control conditions were set-up, and pair-based locations were selected so as to be homogenous within these. These control variables are elements that, according to literature, may influence vegetation growth, nutrient cycling, water infiltration and soil quality in arid ecosystems.

As such, the experimental conditions are 1) the roadside condition (R) – plots adjacent or starting within 10m downwind of the Shete – Conchi dust roads, and 2) the non-roadside condition (N) – plots not within 200m downwind of an active dust road.

The 200m distance was chosen due to literature (Vogel, 2017) suggesting that Aruban dust deposition stayed constant after this distance, and longer distances would greatly diminish the locations available for paired plot locations due to the extensive control variables.

#### 4.3.1 Control Variables

The control variables were:
- Distance from ocean (for salinity and direct wind purposes) (Denters, 1979)
  - o Within the same range (100–499m, 500-999m, 1000-1499m, 1500+)
- Slope direction (for wind purposes) (Denters, 1979; Tongway & Hindley, 2004b)
  - o Within 45° on transect compass bearings
- Slope angle & transect location on slope (for run-off

strength purposes) (Tongway & Hindley, 2004a)
  - o Within same category (slight, moderate, steep)
  - o Within same category (upper, mid, lower)
- Elevation (Denters, 1979)
  - o Within 50m from each other
- Lithography (hydrology) (Denters, 1979; Oosterhuis, 2016; Stoffers, 1956)
  - o Within same category (Aruba Lava Formation, Limestone, Tonalite)

#### 4.3.2 Sample Size

Statistical tests require minimum sample sizes to have enough power to be statistically viable. In order to determine the required sample size (number of pairs) for location selection, a power test was run using the expected mean and standard deviation of the LFA value difference scores. The expected mean difference was 10, with a standard deviation of five, meaning a minimum of five pairs (10 locations) was required for statistical validity.

A total of 14 locations (seven pairs) were completed and analysed for this collected paper, and additional locations will be done for the final thesis.

#### 4.4 Data Analysis

Paired t-tests will be run to analyse difference scores for the location LFA index values, vegetation cover percentages, patch type LFA index values between the experimental conditions.

As my main research hypothesis is that there is a difference in land functionality between roadside and non-roadside conditions, the null hypothesis (H0) -namely, there is no difference in land functionality between roadside and non-roadside conditions- was established for statistical testing.
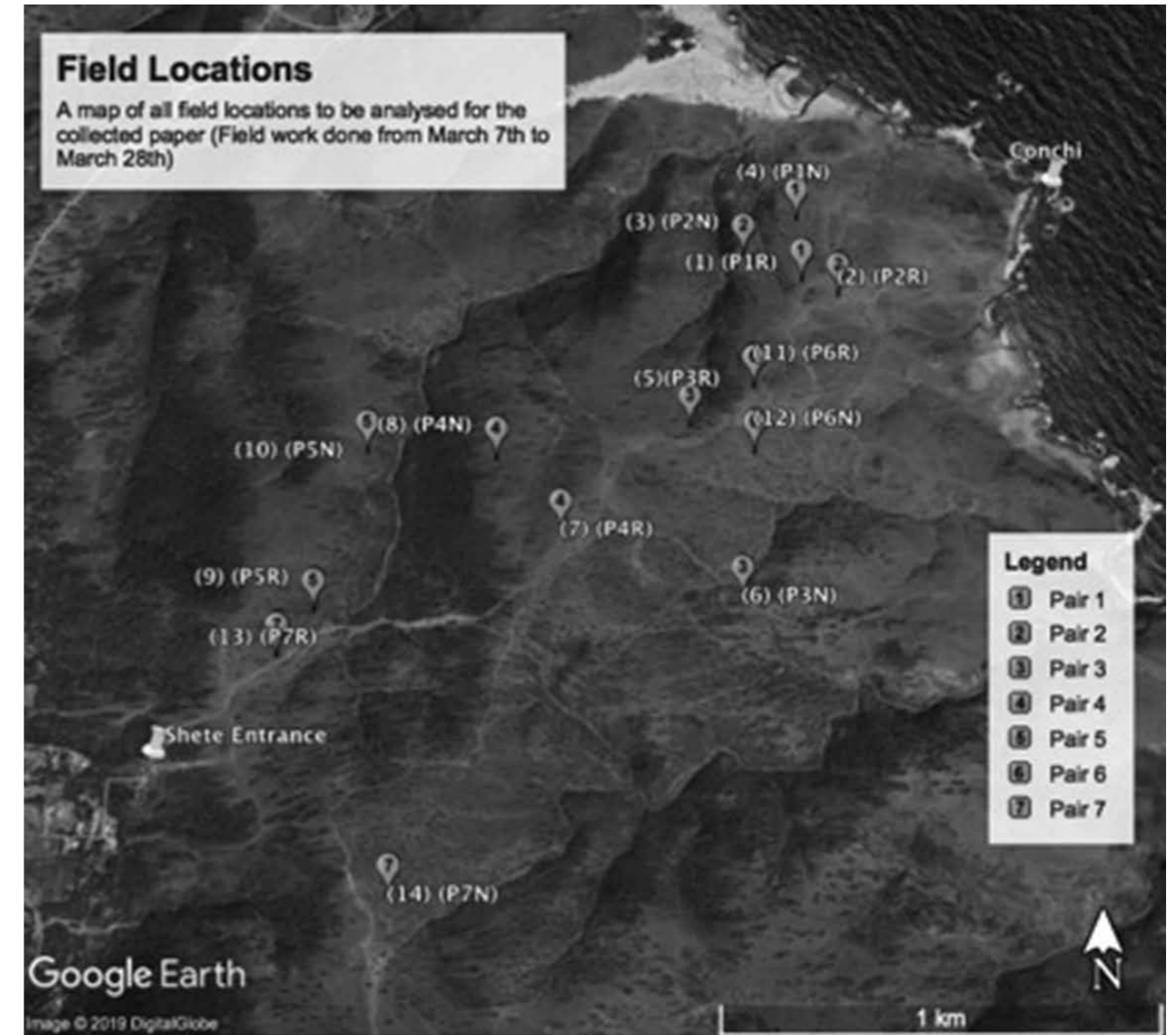
#### 4.5 Site Descriptions



Figure 9: Map of Field Locations

**Pair 1 – *Location 1 (P1R) & 4 (P1N)***
GPS Co-ordinates: 12° 31' 20" N 69°56'02" W & 12°31'25"
N 69°56'01 W
Distance from Ocean: 430m & 280 m
Transect Compass Bearings (Slope Direction): 288°W &
315°NW
Slope Angle: Slight & Slight
Elevation: 60m & 40m
Slope Topographical Location: Upper & Upper/Mid Slope
Lithography: Aruba Lava Formation & Aruba Lava Formation
General Comments: The roadside plot was adjacent to
one of the highest trafficked dust roads in the Shete-
Conchi "Delta". This close to the coast, vegetation was
patchy everywhere, with quite direct wind exposure.
The non-roadside plot was within 200m of a dust road
that had one vehicle on it during the entire field day,
but otherwise, was within similar conditions. Due
to difficulties finding an alternative pair location,
and the general "abandoned" dust road was deemed
insignificant enough to be negligible, this pair was
deemed acceptable.

**Pair 2 – *Location 2 (P2R) & 3 (P2N)***
GPS Co-ordinates: 12° 31' 21" N 69° 55' 59" W & 12°31'25"N
69°56'06" W
Distance from Ocean: 350m & 380m
Transect Compass Bearings (Slope Direction): 131° SE &
113° SEE
Slope Angle: Medium & Medium
Elevation: 60m & 50m
Slope Topographical Location: Upper & Upper
Lithography: Aruba Lava Formation & Aruba Lava Formation
General Comments: This roadside plot is a "rectangle"
of land in between a several dust roads in the dust road
"Delta" just prior to Conchi and is not sheltered from the
direct wind, and the non-roadside plot is not sheltered
from the wind, the lower slope is adjacent to the rooi and
quite steep but the upper hill has medium slope angles,
location chosen was outside of rooi influence area. As

such, all the characteristics matched up, and the pair was
deemed acceptable.

**Pair 3 – *Location 5 (P3R) & 6 (P3N)***
GPS Co-ordinates: 12°31'10" N 69 °56'11" W & 12°30'57"
N 69 °56'7" W
Distance from Ocean: 770m & 800m
Transect Compass Bearings (Slope Direction): 30° NE & 5°N
Slope Angle: Slight & Slight
Elevation: 100m & 90m
Slope Topographical Location: Upper & Upper
Lithography: Aruba Lava Formation & Aruba Lava Formation
General Comments: This conditions are very similar, the data
were collected on different days due to rainfall after completion
of location five, but the pair was deemed acceptable.

**Pair 4 – *Location 7 (P4R) & 8 (P4N)***
GPS Co-ordinates: 12°31'2" N 69 °56'21" W & 12°31'4" N
69 °56'26" W
Distance from Ocean: 1100m & 1200m
Transect Compass Bearings (Slope Direction): 122°SE & 103°E
Slope Angle: Very Slight & Very Slight
Elevation: 130m & 140m
Slope Topographical Location: Upper & Upper
Lithography: Aruba Lava Formation & Aruba Lava Formation
General Comments: The non-road plot is within eyesight of
a busy road, but outside of the established 200m downwind
from a busy road. As such, pair was deemed acceptable.

**Pair 5 – *Location 9 (P5R) & 10 (P5N)***
GPS Co-ordinates: 12°30'56" N 69 °56'40" W & 12°31'8" N
69 °56'36" W
Distance from Ocean: 1850m & 1500m
Transect Compass Bearings (Slope Direction): 96°E & 114°E
Slope Angle: Medium & Medium
Elevation: & 110m
Slope Topographical Location: Mid/Lower & Mid/Upper
Lithography: Aruba Lava Formation & Aruba Lava Formation
General Comments: Both these locations are part of the

same south-facing rooi hill slope (Rooi Fluit) but both
locations were selected mid slope so as to be outside of the
direct rooi influence. Both sites have equal wind protection
from higher hill slopes breaking direct wind, and as such,
the difference in distance from ocean is negligible. This pair
was deemed acceptable.

**Pair 6 – *Location 11 (P6R) & 12 (P6N)***
GPS Co-ordinates: 12°31'13" N 69 °56'6" W & 12°31'8" N
69 °56'9" W
Distance from Ocean: 580m & 630m
Transect Compass Bearings (Slope Direction): 44°N & 65°NE
Slope Angle: Medium & Medium
Elevation: 110m & 100m
Slope Topographical Location: Upper & Upper
Lithography: Aruba Lava Formation & Aruba Lava Formation
General Comments: These locations were spatially close to
each other, but on parallel hill slopes of different ridges. The
non-roadside plot was within eyesight of several dust roads,
but not within 200m downwind of any of them. As such,
this pair was deemed acceptable.

**Pair 7 – *Location 13 (P7R) & 14 (P7N)***
GPS Co-ordinates: 12°30'56" N 69 °56'31" W & 12°30'35"N
69° 56' 34"W
Distance from Ocean: 1800m & 1850m
Transect Compass Bearings (Slope Direction): 140°SE 164°S
Slope Angle: Medium & Medium
Elevation: 130m & 160
Slope Topographical Location: Midslope & Midslope
Lithography: Aruba Lava Formation & Aruba Lava Formation
General Comments: The locations are both very inland,
close to western park borders. The roadside location is on
the first hill slope just after the Shete entrance, in between
a dust road going up the hill and the main dust road to
Conchi heading east. The non-roadside location is within
200m upwind from the dust road from Sero Arikok to
Conchi, but as such, deemed outside the downwind dust
pollution zone. The pair was deemed acceptable.

*4.6 Methodology*
The Landscape Function Analysis (LFA) is a method that uses
rapid and simple field-observed surface indicators to assess
the functioning of an ecosystem at a hill slope scale (Tongway
& Hindley, 2004c). This method allows for 1) the analysis
of vegetation cover and types – through spatial analysis of
different vegetation patch types and bare-ground inter-patches
(the Landscape Organisation Assessment (LOA) component),
as well as 2) the assessment of their functional status through
the use of soil surface indicators relating to the functioning of
water infiltration, nutrient cycling and soil quality (the Soil
Surface Assessment (SSA) component).

From there, indices on the soil quality, water infiltration
and nutrient cycling are calculated.

The LFA consists of these three major components as well
as the calculations (data reduction and tabulation). These
major components are 1) describing the geographic setting
of the site, 2) characterizing landscape organisation and
spatial distribution of fertile patches and inter-patches and
3) the soil surface assessment (SSA) of each patch / inter-
patch types identified in step two.

*4.6.1. Step 1: Describing Geographic Setting of the Plot*
In this step, the objective is to identify the location of a
plot within its landscape and to gather data on its values
for the control variables to ensure field suitability for
planned location pairing. The details collected include
GPS location, elevation, transects' compass bearing (slope
direction), slope (slope angle), lithology, distance from
ocean, and soils.

In addition, the topographic location of the site within the
overall landform pattern is recorded to further correct for
this in locations pairings. The topographic identifications
shown in Figure 10 are possible, but in this study location
choices were limited to crests and upper, mid, and lower
slope locations.

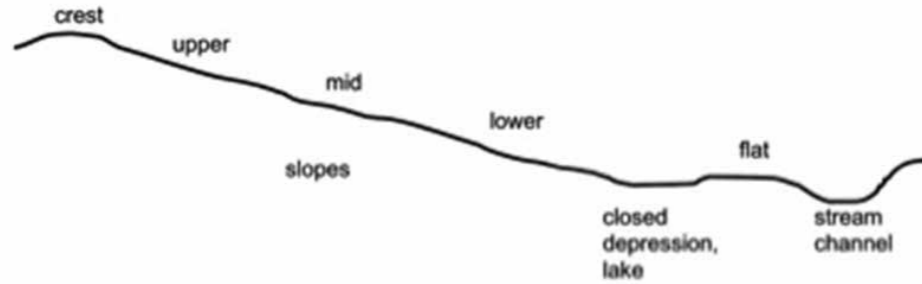*4.6.2 Step 2: Landscape Organisational Analysis (LOA)*



Figure 10: The identification of topographic position in the landscape adapted from Tongway & Hindley, 2004.



Figure 11: Diagrammatic illustration of obstruction width and patch length of a grass patch.

In this step, the spatial organisation and vegetation cover proportions are estimated using a combination of at three or four 4 20-30m transects (combining to a minimum of 100m) along which patches were identified and their spatial metrics (length and cross-section width) were measured. Transects were started upslope, and aligned with main slope and run-off directions. The first transect was set at the corner of the patch area, and consequent transects were set 15m apart in a semi-parallel orientation depending on slope direction variations. This was done to minimize transect selection for interesting patches. Both GPS location and transects' compass bearing were recorded.

Along a transect, the patches and inter-patches were identified, their spatial metrics recorded, and observations about other lithographic elements such as rills, canopy covers and major landmarks were noted. The patch identification categories established for this fieldwork were as follows: Tree (T), Acacia (A), Tall Cacti (Ct), Small Cacti (Cs), Shrub (S), Grass (G), Shrub Log Complex (L) and Bare ground (B) (see Table 1 for further details). Patches are separated by bare-ground, any singular patch with mixed category presence will be noted as such in the data sheets but will be treated as belonging to the patch type with majority cover presence (if <60%). Spatial metrics were recorded for the ground cover of a patch, this involved measuring the patch length along the transect line and the run-off obstruction width of a path as shown in Figure 11 – ground cover in this case was to mean the basal cover and any adjacent area covered by litter as explained in Table 1. This means that area covered by the canopy of the vegetation was not considered part of the patch unless there was evidence of shielding and build-up to indicate ground-level obstruction of run-off flow. Figure 12 shows additional examples of patch length and obstruction width measurement. Canopy measurements were recorded on the LOA as a "sub-category" of bare ground patch, alongside different extents of ground cover via other non-vegetation means and other factors, so as to enable selection of "representative" canopy covered bare-ground patches in the SSA selections.
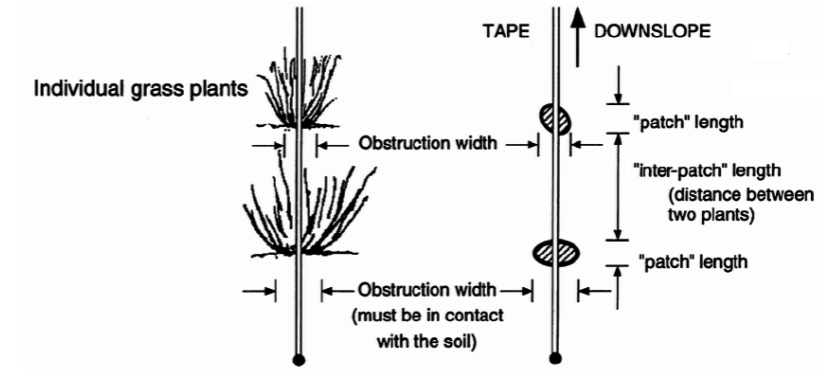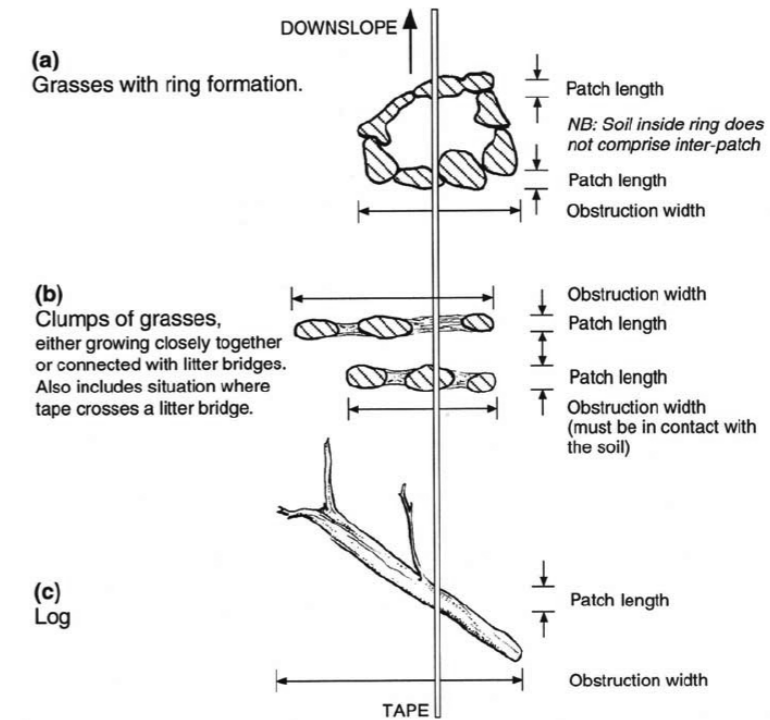


Figure 12: A diagrammatic illustration of how to measure obstruction width and patch lengths of complicated patches.

**Table 1: Patch Types with Description**

| Patch Type | General Description | Measuring Notes |
|---|---|---|
| Tree (T) | A patch with tree species – trees being classified as any non-Acacia woody plant above 1.5m | Obstruction width is the width of the trunk and any directly adjacent litter. Closely distributed trees are treated as one patch if there is overlap in litter cover. Approximate height of the tree is also noted. |
| Acacia (A) | Any patch with dominantly Hubada (*Acacia turtuosa*) tree's | Obstruction width is the width of the trunk plus adjacent litter, and canopy that is integrated into the ground enough to show visible resource obstruction, in case of low individuals. Approximate height is also noted. |
| Tall Cacti (Ct) | A patch of tall cacti species, and tall individuals of "medium" cactus species. | Obstruction width is width of cactus trunk plus directly adjacent litter, height of cacti is also noted. Closely distributed cacti are only treated as one patch if overlap in litter cover. |
| Small Cacti (Cs) | A patch of small cacti, all *Melocactus spec.* and *Opuntia* individuals below 1m | Obstruction width is the cactus basal cover, plus litter. If several cacti closely adjacent to each other but no bridging litter build-up, they are separate patches. |
| Shrub (S) | A patch with shrubs - any non-Acacia woody plant below 1.5m in height | Obstruction width is basal cover, hummocked soils and litter. Species type not noted, but leaf type noted for litter comparisons. |
| Grass (G) | Grass patches with considerable size to trap run-off (i.e. larger than 5cm in obstruction width) | Obstruction width is the width of the basal cover plus hummocked soil and litter build-up. In case of flattened grass with incorporation into the soil, main basal core was estimated. |
| Shrub Log Complex (L) | A complex of a fallen log (cacti or tree) with shrub and grass growing on & around it | Obstruction width is measured as portrayed in Figure 12, cross section of trunk + built-up litter intersecting the transect, and width is recorded as width perpendicular to the transect. |
| Bare ground (B) | Inter-patch zones with no significant vegetation (excluding grass patches smaller than 5cm) | Distance is measured if absence of basal cover (unless grass <5cm due to lack of obstruction), no width is measured. Level of rock cover and canopy cover are noted. |

Table 1: Patch Types with Description

#### 4.6.3 Step 3: Soil Surface Assessment
Once an organisational analysis of the landscape of a plot has been completed, soil surface assessments (SSA) were performed on each patch and inter-patch type. Per patch and inter-patch type it was aimed to do five SSA sub-plots, but in practice for most patch types there were less than five plots present for an SSA, so as many as were possible were done. The sub-plots aimed to be 1mx1m, but due to patch sizes in practice a varied sub-plot size proportional to the patch size selected for SSA was used.

If more than five patches were available of a specific patch type, then five random and representative patches were selected, through looking at proportion of patches with other identifiable features and selecting patches with a representative proportion of these identifiable features.

The soil surface assessment was done according to the LFA Methodology (Tongway & Hindley, 2004a) and involves simple visual indicators, rainsplash protection, perennial vegetation cover, litter (cover, origin, decomposition/ incorporation), cryptogram cover, crust brokenness, soil erosion type and severity, deposited materials, soil surface roughness, surface nature, slake test, and soil texture. (See Tongway & Hindley, 2004 for full protocol).

#### 4.6.4 Step 4: Landscape Functional Analysis/Indicator Calculation
Once the data is completed and the data has been gathered, it will be entered into the LFA spread sheets that come with the LFA field manual (Tongway & Hindley, 2004a). This will then be used to estimate the stability, water infiltration and nutrient cycling indices based on different combinations and weightings of the indicators. The relation of the different indicators to the landscape functionality indices is shown in Table 2.

Table 2: Relation of Soil Surface Indicators to Land Functionality Indices

| Indices | | | Indicator |
|---|---|---|---|
| Stability | Infiltration | Nutrient Cycling | |
| X | | | 1. Rainsplash Protection |
| | X | X | 2. Perennial Vegetation Cover |
| X | X | | 3a. Litter Cover |
| | | X | 3b. Litter cover, origin and degree of decomposition |
| X | | X | 4. Cryptogram cover |
| X | | | 5. Crust broken-ness |
| X | | | 6. Erosion type & severity |
| X | | | 7. Deposited materials |
| | X | X | 8. Soil surface roughness |
| X | X | | 9. Surface resistance to disturbance |
| X | X | | 10. Slake test |
| | X | | 11. Soil texture |

Table 2: Relation of Soil Surface Indicators to Land Functionality Indices

## 5. Data
#### 5.1 Landscape Functionality in Both Experimental Conditions
Figure 13 shows the spread of the LFA values per calculated index, with the orange boxes being those for the roadside plots and the yellow those for the non-roadside plots. The specific calculated data points and the results of the paired t-tests are shown in Table 3, Table 4, and Table 5.
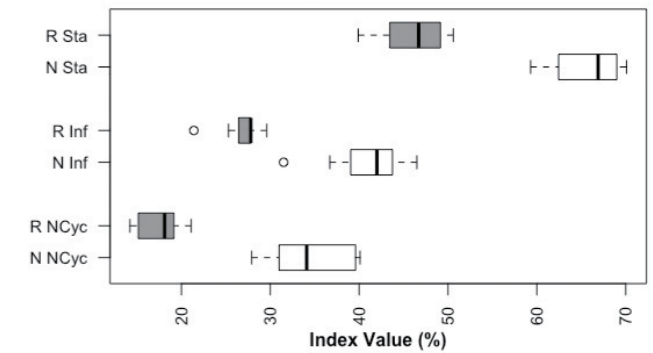


**LFA Indicator Boxplots**

Figure 13: Boxplot of LFA Values for Pair 1-7.

### 5.1.1 Stability Index

The stability index is calculated by combining surface indicators: rainsplash protection, litter cover, cryptogram cover, crust brokenness, erosion type and severity, deposited materials, surface resistance, and the slake test.

There was a statistically significant difference in the scores for roadside (M=46.06, SD=4.12) and non-roadside (M=65.60, SD=4.44) conditions; t (6)=10.61, p=<0.001.

Table 3: Stability Index

| Pair | | Road Plot | Non Road | Difference |
|---|---|---|---|---|
| | 1 | 48.93 | 59.32 | 10.40 |
| | 2 | 39.91 | 59.95 | 20.04 |
| | 3 | 46.75 | 64.95 | 18.20 |
| | 4 | 50.59 | 70.02 | 19.43 |
| | 5 | 45.73 | 66.89 | 21.16 |
| | 6 | 49.36 | 70.12 | 20.76 |
| | 7 | 41.24 | 68.04 | 26.80 |
| Mean | | 46.07 | 65.61 | 19.54 |

### 5.1.2 Water Infiltration Index

The water infiltration index is calculated by combining surface indicators: perennial vegetation cover, litter cover, soil surface roughness, surface resistance to disturbance, slake test and soil texture.

There was a statistically significant difference in the scores for roadside (M=26.75, SD=2.67) and non-roadside (M=40.80, SD=5.08) conditions; t (6)=10.11, p=<0.001.

Table 4: Water Infiltration Index

| Pair | | Road Plot | Non Road | Difference |
|---|---|---|---|---|
| | 1 | 27.65 | 36.68 | 9.04 |
| | 2 | 21.39 | 31.48 | 10.09 |
| | 3 | 25.28 | 41.99 | 16.71 |
| | 4 | 27.76 | 43.94 | 16.18 |
| | 5 | 27.76 | 43.62 | 15.86 |
| | 6 | 27.79 | 46.49 | 18.71 |
| | 7 | 29.63 | 41.40 | 11.77 |
| Mean | | 26.75 | 40.80 | 14.05 |

### 5.1.3 Nutrient Cycling Index

The nutrient cycling index is calculated by combining surface indicators: perennial vegetation cover, litter cover (including origin and degree of decomposition), cryptogram cover, and soil surface roughness.

There was a statistically significant difference in the scores for roadside (M=17.43, SD=2.63) and non-roadside (M=34.76, SD=5.11) conditions; t (6)=9.15, p=<0.001.

Table 5: Nutrient Cycling Index

| Pair | | Road Plot | Non Road | Difference |
|---|---|---|---|---|
| | 1 | 19.84 | 29.26 | 9.43 |
| | 2 | 14.22 | 27.93 | 13.70 |
| | 3 | 21.07 | 40.07 | 19.00 |
| | 4 | 18.50 | 39.64 | 21.14 |
| | 5 | 15.04 | 34.13 | 19.09 |
| | 6 | 15.26 | 39.60 | 24.34 |
| | 7 | 18.11 | 32.68 | 14.58 |
| Mean | | 17.43 | 34.76 | 17.33 |

### 5.2 Further Data Analysis

Further data analysis will still be conducted on the vegetation cover percentages and how those differ between the experimental conditions. Data analysis will also still be carried out for the LFA index values of the different patch types and how those may differ between the experimental conditions. Additionally, a breakdown will be done of the surface indicators and their relative contribution to the index values, to note which components are the biggest contributors to the differences in landscape functionality.

Trends in the spatial metrics of patches and inter-patches, of specific patch types and between experimental conditions will also be analysed.

In addition, satellite imagery analysis of the dust roads in Parke Arikok will be finalised to visualise the scope of potential impact by dust roads on the vegetation.

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points of the collaborative program really shone. The girls were incredibly supportive and took time out of their own research to work things through with me. Moments like these really made me realize that no man is an island, and that team work really makes the dream work! This showed me that no matter how busy you are you should always make time for others, because they not only learn from you, but you also grow in the process.

I also learned how to be patient, as island time truly is a force to reckon with. However, everything worked out the way it was meant to, and I was able to accomplish all I set out to and more. I also thoroughly enjoyed the stories my interviewees shared with me about their island life experience, and how tourism influenced them. It was good to hear about the experiences of other islanders and bond with them through that. In the final weeks, seeing my research come together was really fulfilling. The writing process has not been easy, but nothing beats the view of the white sandy beach and turquoise water over the drown-trodden faces of friends in Voltaire.

Overall, Aruba has been a wonderful experience. I've made new friends, gotten even closer with existing ones and experienced personal growth. I would never forget this research experience and most importantly my shining moments at Sand Bar with my ultimate dance partner and my roommate's peanut butter sandwich desserts.

When I first heard about the Aruba Field Research program in my first year at UCU, I knew it was the program for me. Growing up on the small island of St. Vincent and the Grenadines, the program offered me the opportunity to not only conduct research in a small island setting that I was used to, but also admittedly escape the horrors of the Dutch weather. When we first arrived on the island the heat was intense, however, that was soon forgotten when I remembered there were several beautiful beaches to cool down at. Truthfully, I anticipated that Aruba would be similar to my home country, however the differences could not be more evident. The Latin influence on the island made for interesting mix of fusion food, music and culture, which is not found in the English-speaking Caribbean.

The research process was challenging. At times, like any researcher does, I had many doubts about what I wanted to achieve and how I would achieve it. It is here one of the strong

# Is it for me or the money? Local Inclusion in Tourism Development in Aruba.

Harlee Jenelle Richards

## 1.0 Introduction:

Tourism is one of the world's largest and fastest growing sectors. The nature of the sector has enabled it to become a leader in international commerce as one of the prime driving forces influencing socio-economic development. According to the United Nations World Tourism Organization (UNWTO) (2018), the industry provides 1 out of 10 jobs globally, contributes to both cultural preservation and environmental protection, and constitutes 10% of the World's GDP. In 2017, there were a total of 1,326 million international tourist arrivals recorded, a 7 percent increase from the previous year (UNWTO, 2018), and there is no sign of the industry slowing down in the near future.

In addition to its importance globally, tourism has proven itself to be paramount to many Small Island States' development because it has taken center-stage in their economies (Bishop, 2010). Small Island States are vulnerable in many aspects. These vulnerabilities include but are not limited to their relatively small land area, their remoteness and their exposure to natural hazards. For example, their size can lead to intense pressures on the economy. This is because their relatively small populations create a limited domestic market. As such, these states are often dependent on external financial resources. Furthermore, their smallness and restricted land area not only limit availability

of land for development, but also limits resources. Resultantly, Small Island States are import dependent, as their limited resources make it increasingly difficult to provide goods and produce to their growing populations. These vulnerabilities are, in part, why tourism often forms the backbone of small island economies (Scandurra, Romano, Ronghi & Carfora, 2018; Scheyvens & Momsen, 2008). Despite the positive effects the tourism industry has on the development of island states' economies, such as foreign investment and economic growth, the industry also has several negative impacts, including price inflation, environmental degradation and intensive competition for land. These impacts could have negative implications for the overall sustainability of the island community.

Like many of its Caribbean neighbors, the island of Aruba is deeply invested in the tourism industry. In fact, tourism is one of the prime driving forces of the Aruban economy (Ridderstaat, Croes & Nijkamp, 2014; Sr, & Croes, 2003). In 2015, the industry was responsible for 88% of the islands' total GDP (World Travel & Tourism Council, 2015). The Aruban tourism industry also predominantly caters to the American market. For example, in 2015, roughly 50% of the stay-over tourists were from the United States (Central Bureau of Statistics, 2015). In 2017, the island saw a total of 1,071,000 international tourists arrive, an overwhelming number in comparison to the

country's modest population of 110,108 people (Central Bureau of Statistics, 2015; UNWTO, 2018). Aruba's 180km2 is densely populated and its limited land area makes spaces on the island multifunctional (CIA, 2018). Consequently, tourism space overlaps with the spaces used by Arubans to conduct the activities central to their everyday lives. Tourism, through its marketing ploys and tourist demands, influences how a space is produced. In addition, tourism imaginaries also play an integral role in the production of space. These imaginaries refer to how spaces are 'imagined, how meanings are ascribed to physical spaces (such that they are perceived, represented and interpreted in particular ways), how knowledge about these places is produced, and how these representations make various courses of action possible" (Salazar, 2012, p. 873). Access and determination of land use by local communities is important since land is in limited supply, and local interests and needs need to be met to ensure cultural continuity. Since tourism space overlaps with the space of locals, it is important to understand how tourism development influences the use of space by locals and their perception of it. Furthermore, as the island embarks on further developing its tourism industry and deepening its dependence, it is necessary to understand how tourism development takes place on the island and to what extent it includes the local population. This research therefore seeks to understand how tourism development influences the inclusion of Arubans in the design of, use of and belonging to space on the island.

Therefore, this research sets out to answer the following research question:

**How does tourism development influence the inclusion of Arubans in the design of, use and belonging to the island's space?**

The following sub questions were addressed in order to answer the research question:

How has tourism development taken place in Palm Beach since 1986?
1. How does tourism development influence the distribution of land use in Palm Beach, Aruba?
2. To what extent are Arubans included in the tourism decision-making in Palm Beach?
3. How does the tourism development in Palm Beach influence the use of space by Arubans?
4. How do Arubans perceive their inclusion in Palm Beach?

This research took a community-based approach by working with local stakeholders. This consisted of having meetings and conversations prior to conducting the research with local actors. This was done to incorporate the community in both the design of the study and questions addressed in the interviews and survey. Furthermore, the research findings will be shared with the community.

The production of tourism spaces, how they are influenced by tourism imaginaries and, how they are perceived and experienced by locals is an area in geography that is understudied (Bunce, 2008). Given the growing economic importance of tourism and tourism activities globally, it is imperative to understand how spaces and the experience of them are influenced by the industry. Since tourism is a global phenomenon, this research may not only give insight of the general perceptions or interactions of Aruban locals within these spaces but can also be relevant to any Small Island State (SIS) that experiences the transformation of everyday lived space into tourism leisurescapes.

## 2.0 Literature Review
### 2.1 Pros and Cons of Tourism
The development of the tourism industry comes with many benefits, of which the economic is most emphasized. The economic benefits of tourism range from job creation and increased expenditure by governments on different

development schemes, to the increased standard of living of the country's population. In addition to its economic benefits, tourism stands to strengthen regional values and traditions, has the potential to increase local pride and community spirit as well propel the conservation of heritage (Page & Hall, 2006).

Because of its profound importance, especially to that of building the economy, governments tend to encourage the expansion of the tourism sector through tourism development (Page & Hall, 2014). Tourism development refers to a process through which the tourism sector develops as a result of the strategic planning and implementation of schemes (Camillo, 2015). However, tourism and its associated development have numerous negative impacts on islands and their people.

Firstly, tourism often results in localized inflation whereby goods and services located in a tourist area are more expensive (Page & Hall, 2006) Localized inflation also occurs in the property market, where island gentrification due to continual investment and reinvestment into tourist areas – that is resort areas and shopping complexes to name a few- create a highly competitive property market (Clark, Johnson, Lundholm, & Malmberg, 2007).

Secondly, tourism development results in a grab for land, as property, especially prime beachfront property, is speculated by foreign investors (Page & Hall, 2006). Zoomers (2010) identifies tourism development to be one of the seven processes resulting in the foreignization of space globally. Tourism development usually results in the large-scale acquisition of land to establish hotels, resorts and other auxiliary amenities. Transnational companies and hotel chains such as the Marriott, Hilton and the Hyatt tend make huge investments in many countries. Thus, governments, especially those in the developing world, do not object to the industry's ability to spur large economic growth. However, in the bid to attract foreign investment,

through facilitating this large-scale land grab, governments have not anticipated the repercussions of large land areas being held by foreign entities. Zoomers (2010) has argued that this foreignization of space can be detrimental to the poorer sections in local communities who are unable to attain control over the land grab or even benefit from it.

Thirdly, tourism has negative impacts on the environment of the island, where the development of infrastructure in tourism can lead to environmental degradation and the complete loss of habitat. Take for instance the removal of mangrove forests in coastal property development or increased stress on marine environments as a result of intensive use. Again, this environmental degradation can impact the lives of the local communities who are often reliant on their environs for subsistence (Bishop, 2010; Page & Hall, 2006).

On a socio-cultural level, tourism development can disrupt community cohesion by changing the structure of that very community. The transformation of the local community's demographic, which is directly related to immigration to meet the labor demands of the industry, ultimately creates a multicultural society. This influx of foreign culture in the setting of Small Island States can threaten the very identity of the island. This in turn can potentially erode local culture impacting the island's uniqueness (Croes, Lee & Olson, 2013). Similarly, there may be an increase in social issues such as crime, particularly when there are growing inequalities in the local population stemming from tourism development (Bishop, 2010; Page & Hall, 2006).

Arguably the associated negative impacts of tourism development in Small Island States have particular implications on the sustainability of these islands and their communities. It is therefore important to ensure that the tourism development taking place is indeed harmonized with its local surroundings to minimize peril (Scheyevens & Momsen, 2008).

### 2.2 Tourism Development within the Context of a Small Island State

Scheyvens & Momsen (2008) argue that Small Island States are ideal spaces for tourism development. Firstly, their smallness and isolation create an idyllic environment in which their sun-sand-sea and tropical nature help them create a globally competitive tourism product. Indeed, Caribbean tourism typically models an industry based on the imagery of long stretches of white sandy beaches and turquoise waters – also known as the sun-sand-sea tourism product. This focus, Bishop (2010) argues, is resultantly because of the Western romanticized perception of the Caribbean paradise. The commodification of Caribbean landscape is both place-shaped and place shaping (Shaw & Williams, 2004). Not only does it determine the development of specific infrastructure on the island and how it's designed but this development serves to reinforce this imagery. As such, beaches for instance and landscaping around hotels are often kept well-manicured and immaculate to confirm and reconfirm the unchanging and timeless nature of Caribbean natural landscape perpetuated by this romanticism (Kothari & Arnall, 2017).

Another attribute of Small Island States in the Caribbean that influences the nature of tourism development is their relatively poor resource base. This means that these states are confined to developing a tourism industry that is highly dependent on external entities for capital and by extension are resultantly under external control. This dependence, Bishop (2010) argues, is often at conflict with local societies and ecology. However, Scheyvens & Momsen (2008) argue that in discussing the detriments of tourism to Small Island States and their people, the ability of island peoples to leverage and negotiate development processes and outcomes is often neglected. Indeed, the smallness of these islands also offers the ability to implement a cohesive and well-planned tourism development scheme that otherwise would not have been possible within another setting. This is clearly illustrated by Aruba's ability to transform their economy to focus on tourism by proactively pursuing to

develop the sector in just five years in the mid-1980s. In addition to this, the social and cultural capital associated with tight-knit communities in Small Island States also can have a positive influence on tourism development. This is evident in islands such as Vanuatu and the Cook Islands, where there is an explicit emphasis on maintaining cultural integrity, in which the smallness of these islands was crucial in devising a cohesive tourism development scheme and policy-making practices that incorporated local cultural values (Scheyvens & Momsen, 2008).

Despite the prospects of creating a cohesive tourism development scheme that is inclusive in nature, many Caribbean islands fail to produce an inclusive tourism development scheme simply because of the nature of tourism they seek. This is because traditionally, tourism and its associated developments in the region have been geared towards volume – that is increasing visitor arrivals (Bishop, 2010; Croes, Lee, & Olson, 2013). According to Bishop (2010), the mantra 'if you build it, they will come' remains prevalent within the region, ultimately leading to the perception that if more guests are catered to infrastructure-wise, there is more opportunity to procure economic benefit. Arguably, this mindset often comes at the detriment of the environmental sustainability of the islands. As a result, the tourism model prevalent in many Caribbean islands is sun, sand and sea, catered to the masses by a host of all-inclusive hotels and resorts strewn across the coastal landscape. According to Torres (2002) this model of tourism seems to be 'the oldest and most prolific forms of Fordist mass tourism' (p. 102).

### 2.3 Mass Tourism Development and the Transformation of Space

Mass tourism is a Fordist model of tourism in which there is a standardization of a tourism product whereby facilities, architecture and entertainment - to name a few - are similar, which is then consumed by large numbers of tourists. Consumption is collective, and prices are generally low to

promote volume (Shaw & Williams, 2004; Torres, 2002). Additionally, mass tourism results in the concentration of amenities in one area because of the 'collective tourist gaze' associated with the industry. This collective gaze requires that the presence of other people define the place, thus the presence of large numbers of other tourists defines an area as a tourist area. The collectiveness of the industry directly influences the undifferentiated nature of mass tourism (Torres, 2002). Another notable feature of mass tourism is tourists' demand for some degree of familiarity. This familiarity is aligned with the familiarity with the surroundings in their home country. Shaw & Williams (2004) suggest that tourists want their tourist experience to be predictable, efficient and controlled in conjunction with the McDonaldization of the daily life into being something increasingly predictable and controlled. Therefore, the facilities and experiences often mirror that of tourists' home with the exception of being in a different country (Shaw & Williams, 2004).

The development of mass tourism spaces therefore is inherently tied to two key factors. Firstly, the mass tourism imaginary, and secondly, the familiarity and standardization demanded by tourists. It is important to note that these spaces are constructs of social processes like tourism intertwined with local communities and politics. As such, spaces develop not solely by tourism and its development, but within the context of local inequality, local engagement and negotiation. Therefore, tourism development is not passively grafted onto a blank social space but indeed interacts with existing, 'inherited legacies- in land ownership, in the built environment, and in social relationships' (Shaw & Williams, 2004, p.188). Having said that, despite the ways in which mass tourism can transform a space, this does not deny the agency local populations have in influencing that transformation.

According to Shaw & Williams (2004), the production of tourist space is linked to material construction of that space together with symbolic meanings. Symbolic meaning is both place-shaping and place shaped in the sense that symbolic meanings are imposed on the material space, as well as influenced by it. This results in the 'creation of coherent spatial representation or narratives' (p. 243). The result is that tourism spaces are often themed and related to a node of production and consumption which is mediated both at the institutional level and within the lived sphere. In the case of mass tourism, imagined authenticity for the tourists of a place plays a pivotal role. Authenticity in the mass tourism industry is constructed through a series of stereotypical images which tourists associate with a particular place. It is believed by these tourists that these images are true and are authentic, therefore when they arrive in the destination these imaginaries are expected in reality. Arguably, 'authenticity' is often a projection of the tourist's ideals imitated and commodified for mass tourism (Croes, Lee & Olson, 2013; Shaw & Williams, 2004). It can therefore be said that that development of tourism spaces progress in line with market expectations. However, it is important to note that the tourist destination is not only shaped by the way tourists imagine them but also by the way they market themselves to the tourists which often plays on myths and fantasies associated with that destination (Shaw & Williams, 2004). These features are indeed tied to the mass tourism imaginary associated with the Caribbean. This need to reproduce this 'authenticity' often leads to the development of enclavic tourism sites in which the landscape and image of the country could be more easily maintained and controlled (Torres, 2002).

Another aspect that influences how mass tourism spaces develop is the need for standardization and familiarity. Given the demand for Western familiarity, there are clear similarities evident in the built landscape. This may be characterized by the amenities available, or the increased presence of familiar hotel and restaurant chains recognized globally (Torres, 2002). These amenities are often clustered together in keeping with creating a collective gaze (Shaw

& Williams, 2004). Torres (2002) argues that the demand for a standardized familiarity serves to erase perceptions of the local and indigenous products. However, this erasure does not happen solely because of tourist demands but is instead intrinsically linked to commercial filter produced and reinforced by tourism imaginaries in the tourism destination. Ultimately, this standardization and demand for familiarity leads to tourism spaces in one area becoming placeless and indistinguishable from other tourism spaces in the region (Shaw & Williams, 2004).

### 2.31 Issues with Mass Tourism

Without forgetting the more general impacts of the tourism, several issues with the mass tourism model can be explained in further detail. These issues include foreign ownership, spatial segregation and exclusion, and environmental degradation. Firstly, Torres (2002) argues that the mass tourism industry, like the tourism industry in Small Island States in general, is characterized by foreign ownership, namely by transnational companies who already have exerted dominance in the global tourism market. This implies that power is concentrated in the hands of a specific elite foreign group and not disseminated throughout the populace of the destination.

Secondly, the nature of mass tourism and its imaginaries in the Caribbean produce enclave tourism spaces. These enclaves necessitate order, cleanliness and monitoring in order to preserve the pristine imagery sold in travel brochures. Resultantly, not only is the immediate environment managed but so too is access to the tourism space. This means that locals and cultural elements that do not conform to this ethos are intentionally segregated preventing unwanted intrusion (Shaw & Williams, 2004; Torres, 2002).

Finally, although it is known that any sort of tourism development has environmental impacts, in the mass tourism model, environmental impacts appear prolific. This

is namely because the industry is geared towards high arrival volumes. High visitor numbers exert tremendous pressure on already fragile ecosystems. High volume tourism does not only negatively influence the natural environment but also perturbs the social environment by creating irritation in local communities due to the added pressure on local facilities (Page & Hall, 2006; Shaw & Williams, 2004; Torres, 2002).

### 2.4 Tourism Development in Aruba

Prior to the 1980s Aruba's tourism industry was characterized by a few family-run enterprises dispersed throughout the island. In 1953, the Aruba Tourism Bureau was established "as a government-controlled entity to take the lead in guiding Aruba's tourism sector". This bureau was taxed with attracting visitors from the US, Venezuela and the Netherlands to the island. This group of countries later diversified to cover other countries and regions. However, further government action as it pertained to facilitating and encouraging the industry, remained relatively low (Croes, 2000; Aruba Tourism Authority, n.d.).

The development of the tourism industry in Aruba was first actively attempted in 1980, when the Aruban government hired a consultant to assess the existing tourism on island and advise them on what was needed to make the sector flourish. The industry then became prioritized in Aruba by its government in the mid-1980s as an economic strategy for the island given the changing economic landscape of the island and the volatility of the oil industry. However, it was not until the closing of the oil refinery in 1985, the islands primary source of income, which contributed to the economic downturn in the country, that the government began to heavily prioritize tourism. It was seen as the only alternative to help Aruba weather the proverbial economic storm and make a recovery. As part of this initiative Aruba's land planning highlighted a land use and roadway scheme in an effort to stimulate and guide the development of hotels, restaurants, and other ancillary amenities along the

northwest coastal region of the island running along Eagle and Palm Beaches. The government was determined to double tourist arrivals within 5 years. The emphasis on the tourism industry coincided with its growing importance in the global economy at that time - Aruba saw the industry as a lucrative and feasible economic transition. The Aruban government took an activist approach and intervened in the island's economy to steer the composites of the tourism sector such as transport, accommodation, and other supporting facilities and amenities, in the right direction. This was done in order to propel tourism development on the island. As such, the Aruban government acted as a facilitator. Owing to the fact that government resources were limited in the wake of the economic collapse, private investors became an increasingly important component of Aruba's tourism development (Croes, 2000).

Initially, tourism development happened in an unplanned manner, in which the Aruba Tourism Authority (ATA) played a pivotal role in marketing activities solely. ATA provided – and still does to this day - support for the government of Aruba taking the marketing stance of the tourism sector and serving as an intermediary in uniting local and foreign stakeholders. Today, ATA in conjunction with the Ministry of Economic Affairs, Ministry of regional planning, infrastructure and the environment, and the Ministry of Tourism, Public Health and Sports are responsible for the planning, implementation and promotion of tourism both in the public and private spheres on the island (Croes, 2000; Aruba Tourism Authority, n.d.).

During the era of major tourism development – from the mid-1980s onwards - the Aruban government sought advice from different consultant firms. Consultation revealed that the island needed to have high occupancy given the relatively high operating costs on the island. These were mainly high importation of inputs, relatively expensive electricity and water, and a comparatively higher wage margin than other Caribbean islands (Croes, 2000).

Subsequently, for the past 25 plus years, Aruba's industry has remained focused on high volume tourism. Croes, Lee & Olson (2013) argue that this has profoundly impacted the country given the relatively large waves of immigration the island experienced to fill the labor gap. This influx of immigrants has changed the demographic profile of the island.

### 2.5 Theoretical Framework
### 2.51 Lefebvre's Spatial Triad
Lefebvre's spatial triad is typically used to understand the production of spaces in the contexts of cities. However, it has also been found to be appropriate in analyzing tourism space and its production (Bunce, 2008; Buzinde & Manuel-Navarrete, 2013). Lefebvre's triad consists of three elements: 1) spatial practice, 2) representations of space and 3) spaces of representation.
Spatial practice is defined in part by materiality- this refers to buildings, infrastructure et cetera. It also entails the practices of everyday life such as grocery shopping and going to work or school. It is the socio-economic processes that directly influence a space's material structure. According to Lefebvre (1992), spatial practice is understood through its direct lived experience, which often does not match how that space was conceptualized.

How a space is conceptualized refers to the representations of space. This includes how processes are conceived within a space. Ultimately, this is how governments and other bureaucratic entities envision, plan or delineate what a space is supposed to be through documentation, mapping and policies. It is the institutionalization of space by means of formal labelling, other codes and evident functions (Leary, 2009; Lefebvre, 1992).

The final element of the triad is spaces of representation, also known as representational spaces. This refers to the meaning or symbolism inhabitants and users of a space ascribe to it. This meaning or symbolism captures the feelings and emotions associated with a space and reflects how it is perceived by an individual or group of individuals. Because a space is used by several groups, the meaning or symbolism ascribed to it may differ depending on the group (Leary, 2009; Lefebvre, 1992) In this study, Lefebvre's spatial triad will be used as a framework to understand the production of tourism space in Aruba. By using it as the starting point of the investigation, each component of the production of space can be assessed for the inclusion of locals in a manner that reflects inclusive tourism development.

### 2.52 Inclusive Tourism Development
Inclusion can be a rather vague concept with many facets.

However, according to Scheyvens & Biddulph (2018) inclusive tourism development has specific components which are as follows: "1) Overcoming barriers to disadvantaged groups to access tourism as producers or consumers; 2) Facilitating self-representations by those who are marginalized or oppressed, so their stories can be told and their culture represented in ways that are meaningful to them; 3) Challenging dominant power relations; 4) Widening the range of people who contribute to decision-making about development of tourism; 5) Providing opportunities for new places to be on the tourism map and 6) Encouraging learning, exchange and mutually beneficial relationships which promote understanding and respect between 'hosts' and 'guests'" (p. 593) (see figure 1 below)



Figure 1. Components of Inclusive Tourism Development (Scheyvens & Biddulph, 2018)

After reviewing several facets of inclusion, the following aspects of inclusive tourism development will be central to this study: 1) local participation in the decision-making process; 2) locals as tourism producers and consumers; and 3) sense of belonging and representation (Cass, Shove & Urry, 2003; van Fossen & Lafferty, 2001; Scheyvens & Biddulph, 2018). These components are emphasized in this study because they are particularly important to community-based tourism. Community-based tourism is a form of inclusive tourism, which focuses on empowering and developing the local community (Scheyvens & Biddulph, 2018). This form of tourism is different from the current model of mass-tourism that Aruba has, which emphasizes profit maximization for international companies, and often comes at the detriment of the local community. Therefore, by taking community-based tourism as an example of a more inclusive form of tourism, the extent to which Arubans are included in the tourism development process can be investigated (Croes, 2000; Sharpley & Telfer, 2008).

### Local Participation in the Tourism Development Decision-Making

Local community participation in the tourism development decision-making process is important. Because the tourism industry tends to be dominated by corporations and businesses that are focused on profit maximization, the needs of locals are not addressed. Consequently, negative environmental and social impacts are seldom addressed since there may not be an inclination to adopt corporate responsibility. By incorporating the local community in the decision-making process, conflicts of interest are often avoided, which essentially enables there to be cultural continuity (Scheyvens & Biddulph, 2018; Shaw & Williams, 2004). The increased dominance of the internationalization of tourism development renders many communities' participation in the planning and development process of tourism obsolete. This means that the community often loses control in what can transpire in an area, how an area is developed and the foci of that area. By involving the local community in the decision-making process, locals are not only

empowered but given the ability to influence the continuity and construct of their society (Sharpley & Telfer, 2008).

However, despite the relative capacity of communities at the local level to steer tourism activities in a manner that suits the communities needs more effectively, action only at the local level has proven to be insufficient (van Fossen & Lafferty, 2001; Scheyvens & Biddulph, 2018; Sharpley & Telfer, 2008). It is therefore important that national government policies and legislations regarding tourism development and its associated land use policies and regulation be designed in a way in which the community is explicitly considered in the decision-making process. Van Fossen & Lafferty (2001) have found that Hawaii's system of land use control specifically stresses the importance of an inclusive decision-making process where the interests of the community and their concerns are considered. In their study, they found that locals with expertise are consulted regularly during the planning process. Locals can vote on how the land is used as well as their ideas integrated into the planning and aesthetic realization of tourism areas on the islands. Community participation in the decision-making process includes the opportunity to challenge tourism development ideas (protest), sharing of information and negotiation. It is important to note that despite legislation emphasizing local participation in the tourism development decision-making process, some groups may still feel excluded. This is because a community is not homogenous and so opinions and experiences differ across ethnicity, age, gender and other variables (Shaw & Williams, 2004). Furthermore, it is important to note that participation has many limitations at the operational, structural and cultural levels, which are embedded in the socio-political, economic and cultural context of the country in which tourism takes place (Sharpley & Telfer, 2008).

### Locals as Tourism Producers and Consumers

Scheyvens & Biddulph (2018) argue that for the tourism sector to be truly inclusive it needs to engage and incorporate different groups as producers and consumers of tourism products.

Indeed, tourism provides an incredible opportunity to stimulate the local economy and activate local entrepreneurship. However, many mainstream tourism enterprises are usually owned by international companies and as such the main tourism product producers are limited and do not tap into local economic potential (Park & Kim, 2016; Sharpley & Telfer, 2008; Scheyvens & Biddulph, 2018). To be more inclusive, members of the local community working as staff should be able to be part of the decision-making process. Furthermore, locals should be given the opportunity to obtain some sort of ownership in the tourism product. In addition to this, policies, schemes and incentives that encourage local business ownership can be put in place. These may include business support and shifting governmental focus from its disproportionate interest in attracting international enterprises to stimulating local tourism production (Sharpley & Telfer, 2008).

It is also equally important that locals are not only tourism producers but tourism consumers. Catering to the domestic market not only has economic and sociocultural benefits but also helps to ensure community continuity. This requires various services, attractions and establishments to not only remain economically accessible to the local population but also consider and cater to local needs. In addition to this, nationals should feel equally entitled to and able to be

tourism consumers. By enabling locals to be consumers they are able to maintain traditions and retain their way of life and their cultural heritage (Scheyvens & Biddulph, 2018).

### Sense of Belonging and Representation

Tourism commercializes and commodifies the culture and ideas of the 'other'. In this 'othering', locals often do not play a role in how they are represented. Thus, for tourism development to be inclusive, ways in which the community can decide how they are represented need to be found. Secondly, it is important that the local population feel that they belong in the tourism space, especially since this space intersects with their everyday lived space (Scheyvens & Biddulph, 2018).

Buzinde & Manuel-Navarrete (2013) showed in their study that the way tourism space is developed has an influence on whether the local population feels they belong and can participate in activities within it. For instance, enclave-styled tourism development, in which created physical barriers made local children feel as though they could not have access or use the space, were no longer recognized as their everyday lived space. Their study also found that locals are not encouraged to enter touristic sites, and so this contributes to their disassociation with the spaces.
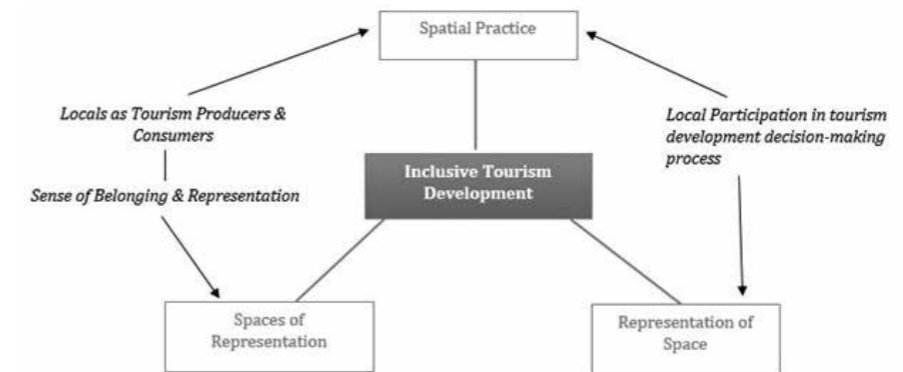


Figure 2. Conceptual Model illustrating how the concepts in the theoretical framework are related.

## *2.6 Case Study Area*



Figure 3. Map of study area in relation to the rest of Aruba

Palm Beach is located on the northwestern coast of Aruba and is one of the main tourism districts on the island. This area has traditionally been the area of major tourism development and has been a hotspot since the 1950s (Bongers, 2009). In the 1980s and 90s, the area received even more attention for tourism development given its coastal location and relatively easily developable lands. Palm Beach is the site of the high-rise hotels on the island (Aruba Tourism Authority, n.d.).

Palm Beach is a relatively large area on the island. Therefore, for this study, the mapping of a subarea was done. This area was chosen because it is representative of what tourism development looks like in Palm Beach as a whole.

## 3.0 Methodology

For this research, a case study approach was adopted where both primary and secondary data was gathered regarding various themes associated with tourism development on the island and inclusion. According to Leary (2009) case studies are a useful way of employing Lefebvre's spatial triad, which provides a deeper understanding of how space is produced. The spatial triad was used to assess how the tourism space at Palm Beach is created. In addition to this, an actor/stakeholder analysis was done to explore local inclusion in the tourism development process in Aruba. The actor/stakeholder analysis was done by conducting a series of interviews with the following groups: Ministry and Policy Officials, Business Representatives and Residents of Palm Beach (see Table 1 for respective descriptions). The convenience sampling method was used to obtain interviewees from the Ministry and Policy Officials actor/stakeholder group, whilst Business Representatives were selected via both the snowball and convenience sampling method. All other interviewees were sought via the 'snowball' method.

<u>Primary Data</u>
This research was based chiefly on primary data collection in the form of semi-structured interviews. Interviews were done because they offer detailed information and are more effective in capturing perceptions and opinions central to this study. These interviews were oriented towards obtaining qualitative data regarding the themes of interest in this study. Primary data collection was undertaken by identifying and categorizing four actor/stakeholder groups of interest. These actor/stakeholder groups were selected because of their perceived ability to provide relevant and important information that will aid in answering the research questions set out in this study. Interviews with Ministry and Policy officials provided insight into how tourism development takes place in Aruba and shed light on the ability of locals to participate in the tourism development decision-making processes. Interviews with Business Owners helped to identify and understand the extent to which locals are both tourism producers and consumers. Finally, interviews with Residents illustrated the perceptions surrounding feelings of belonging, representation and incorporation in tourism development, as well as identified consumption patterns. Overall, these offered a greater understanding of tourism development and inclusion on Aruba. A total of 12 interviews were conducted with the stakeholder groups as seen in Table 1 below. Pilot interviews were conducted to evaluate whether the initial interview questions indeed capture the content necessary for this study, two of which were used as data in the results. If and where necessary, the questions were adapted.

**Table 1. Description of Actor/Stakeholder Groups**

| Actor/Stakeholder Group | Description | Number of Interviews |
| --- | --- | --- |
| Ministry & Policy Officials | Officials or employees of the Ministry of Tourism Public Health and Sports and the Ministry of Regional Planning, Infrastructure and Environment | 3 |
| Business Representatives | Hoteliers or Employees of restaurants, bars or retail stores located in the study area in Palm Beach | 4(1 hotelier, 1 restaurant, 2 tour guide) |
| Residents of Palm Beach | Residents of Aruba, who reside within Palm Beach | 5 |

All participants will remain anonymous and will be referred to by a shortened code of their stakeholder group and the number of their interview. For example, the pilot interview held with a ministry official was coded as civil servant pilot (CSP).

Furthermore, as a secondary method of data collection a short online survey with predominantly closed questions was administered to obtain information from both residents and non-residents of Palm Beach. The survey questions were produced based on the responses to the interview questions. This survey complemented the primary method of data collection namely interviews and offered a more extensive representation of the Aruban population. The online survey was open to all residents of Aruba as it was important to capture their experiences because they may also utilize the space.

The information obtained from these surveys will help to gather more information on the perception of tourism development in Palm Beach.

In addition to interviews and surveys, observations and photographs of the study area were made. These were used in developing a map of the selected area of Palm Beach that illustrates the various uses and services/businesses. These were used to describe the area.

**Secondary Data**
In addition to the primary data, secondary data was used. The secondary sources used included satellite imagery of Aruba, which was used to aid the accuracy in mapping the study area. Furthermore, government policies and a survey conducted by the Ministry of Spatial Planning, Infrastructure and Environment were used in the analysis of the results.

**Ethical Considerations**
To ensure that this research was conducted in an

ethical manner several measures were taken. Firstly, all interviewees participated on a voluntary basis, had to give informed verbal consent and were able to retract from the study at any point. They were then sent transcripts of the interviews to ensure that they felt accurately represented. These transcripts will not be made available to any member of the public. Finally, all participants will remain anonymous. As mentioned above, interviewees are referred to by their stakeholder group and interview number, whilst survey respondents are referred to by their respondent number.

**Operationalization of the Theoretical Framework**
Lefebvre's spatial triad will be the starting point for analyzing the production of tourism space in Aruba. Within this triad, spatial practices will be understood by mapping the study area at Palm Beach to describe the facilities and amenities present. To investigate the way this space is conceptualized by Aruban policy, what Lefebvre deems as the representation of space, interviews with ministry and policy officials were conducted. Finally, the spaces of representation – that is the feelings and perceptions of the area were assessed through interviews and an online survey geared primarily towards capturing the local sense of belonging and representation, and local participation in tourism development decision-making process.

In addition to understanding how tourism development in Palm Beach influences the production of space, the results of the interviews with the four actor/stakeholder groups were also used to assess inclusion. To determine the extent to which tourism development in Palm Beach is inclusive in terms of the criteria set out in the theoretical framework, the components of inclusive tourism development will be operationalized. Table 2 provides an overview of how this operationalization will take place.

**Table 2. Operationalization of Inclusion**

| Theoretical concept | Translation into Research |
|---|---|
| Local participation in the tourism development decision-making process | To determine whether tourism development in Palm Beach involves local participation, policies and local experience must reflect the following: <br><br> • The local community is informed about tourism development projects in the area <br> • Local knowledge of the area is taken into consideration in the tourism development process by policy officials <br> • The local community can make suggestions on how they want tourism development to take place <br> • Local approval on tourism development is actively sought after <br> • Ability of locals to negotiate or challenge tourism development in the area through investigating the available mechanisms in place for locals to vote for or against a project |
| Locals as tourism producers and consumers | To establish the extent to which locals are both tourism producers and consumers in Palm Beach, findings must illustrate the following: <br><br> • Evidence of local entrepreneurship displayed through local business owners present in the area <br> • Policies or legislation that encourage local ownership through having incentives that enable locals to set up businesses in Palm Beach with ease <br> • Locals considered as valuable customers by entrepreneurs and policy makers <br> • Locals perceive prices to relatively accessible <br> • Locals feeling that they can patronize establishments in the area |
| Sense of belonging and representation | To distinguish if there is a sense of belonging and representation: <br><br> • There is a degree of controlling how Aruba is portrayed by Arubans <br> • Locals must feel their needs are catered to which is illustrated by their frequency of visits – that is, if their needs are not catered to there would be less of a reason to go to the area <br> • Locals must feel that they are 'allowed' or 'belong' in the area <br> • Locals feel encouraged to visit the area |

## 4.0 Results

### 4.1 Observations and Mapping of Palm Beach

Observations of the Palm Beach area were conducted on three separate occasions: 27th February 2019, 8th March 2019 and 15th March 2019. It was observed that the hotel area is well-manicured, clean and aesthetically pleasing. The infrastructure in the area was pedestrian focused with many footpaths and sidewalks. Hotels are located along the beachfront, whilst other commercial activities such as bars, restaurants, retail stores and nightlife entertainment were located on the opposite side of the hotels. An international presence was evident in the presence of many American chain and fast food restaurants including McDonald's, Denny's, Hooters, Dunkin' Donuts, Baskin Robins and the Hard Rock Café.

During the day the restaurants and bars located along the road were relatively quiet in comparison to those located along the beachfront directly in front of the hotels. The beach was notably the busiest part of the area during the day, where most individuals observed were tourists with the exception of a few locals who were staff at the hotels and establishments along the beach. The beachfront was crowded with palapas and lounge chairs, tables and other seating. These took up half of the beach leaving only part of the beach closest to the water open for non-customers. Furthermore, there was noticeable policing of the area given the presence of security guards both patrolling the beach front area as well as controlling who entered hotel premises.

On evenings the restaurants and bars opposite to the hotels located in the Paseo Herencia, Arawak Garden and the Village Mall became livelier. There were many people in the area, the streets were full of cars and the atmosphere felt very lively with music emanating from many establishments. Once again, restaurant patrons appeared to be predominantly tourists.

The services in the area included tourist accommodations, nightlife entertainment, gift shops and eateries. The map (figure 4) below illustrates the services in the area and their distribution. Table 3 elaborates on what establishments are located where.
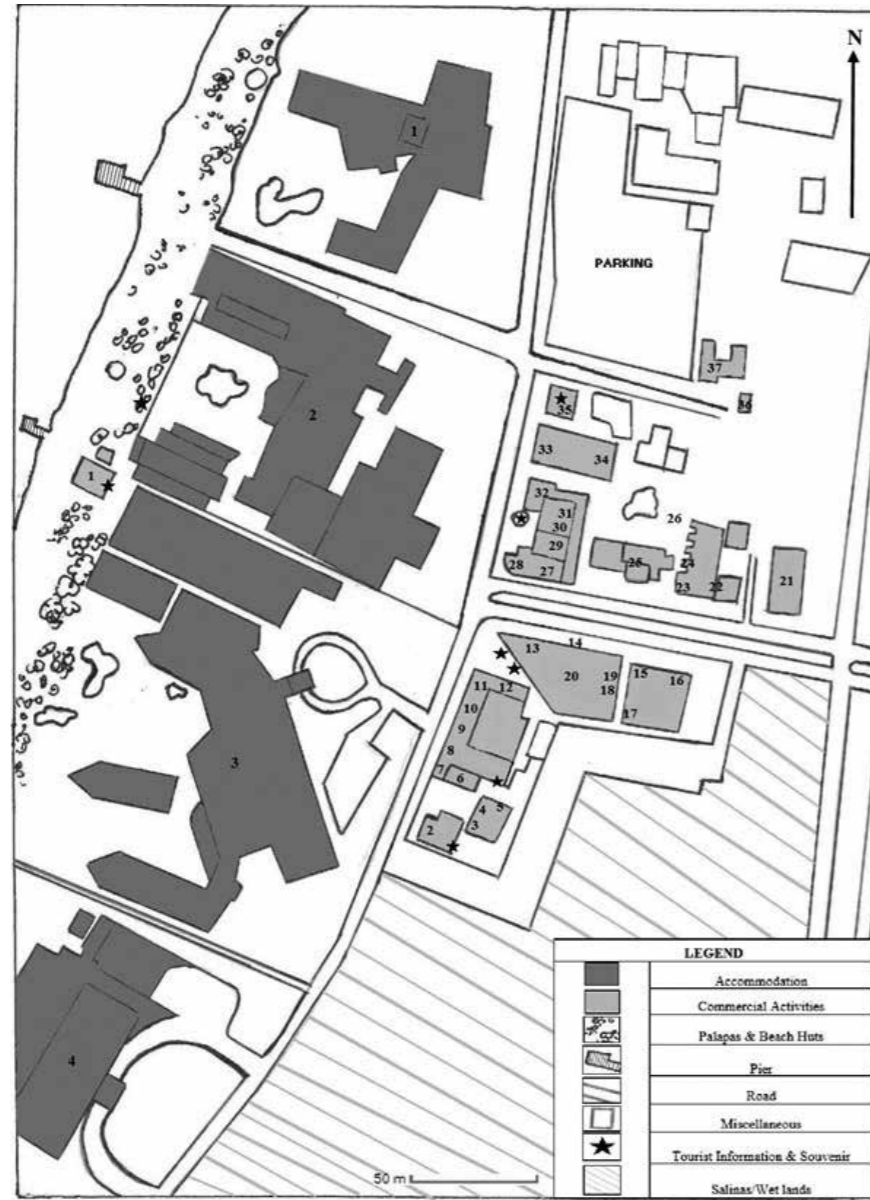
Figure 4. Map of study area in Palm Beach illustrating the distribution of services and amenities

**Table 3. Table elaborating the establishments identified by number in the map of Palm Beach (refer to the map).**

| Service Category | Number Represented on Map | Establishment Name |
|---|---|---|
| Accommodation | 1 | Hyatt Regency Aruba Resort Spa & Casino |
| | 2 | Hotel Barceló Aruba |
| | 3 | Hilton Aruba Caribbean Resort & Casino |
| | 4 | Hotel Riu Palace Aruba |
| Commercial Activity | 1 | Watersports Center |
| | 2 | Lobby Restaurant & Bar |
| | 3 | Mini Market & Liquor Store |
| | 4 | Papillon Restaurant |
| | 5 | Up-stairs Bar & Lounge |
| | 6 | Gusto Night Club |
| | 7 | Aruba Aloe at the Village |
| | 8 | Craft Coffee & Beer |
| | 9 | Gelatissimo Eatery & Bar |
| | 10 | Amore Mio Pizzeria Napoletana |
| | 11 | Gianni's Restaurant Aruba |
| | 12 | Daniel's Steakhouse |

| Number Represented on Map | Establishment Name |
|---|---|
| 11 | Gianni's Restaurant Aruba |
| 12 | Daniel's Steakhouse |
| 13 | Hard Rock Café |
| 14 | South Beach Nightclub |
| 15 | Hooters |
| 16 | Benihana |
| 17 | Chihuahua's Fiesta & Grill |
| 18 | Saloon Bar |
| 19 | Café de Pijp |
| 20 | Tandoor: The Indian Grill House |
| 21 | McDonald's |
| 22 | Aqua Grill |
| 23 | I love Hookah - Aruba |
| 24 | Alfie's in Aruba Restaurant |
| 25 | Brickell Bay Sand Beach Lounge |
| 26 | Saray Kebab House |
| 27 | The Sopranos' Piano Bar |
| 28 | Casa Tua Pizzeria |

| Number Represented on Map | Establishment Name |
|---|---|
| 29 | Tango Argentine Grill |
| 30 | Fishes & More, The Restaurant |
| 31 | Dragonfly Sushi & Asian |
| 32 | Salt & Pepper Restaurant |
| 33 | Joe & Guisseppe Steakhouse |
| 34 | Brickell Bay Beach Club & Spa |
| 35 | Diana's Pancakes Place |
| 36 | Pizza Pazza |
| 37 | Hostaria da Vittorio Restaurant |

### 4.2 Survey Results

The online survey was conducted from March 20th – 31st, 2019 and was circulated via email and social media platforms such as WhatsApp and Facebook. There were a total of 78 respondents, 69.23% of which were female and 30.77% male. Most of the respondents were between the ages of 25 -34. Furthermore, 58.97% of respondents were born in Aruba, the second largest country of origin being the Netherlands where 30.77% of the respondents came from. Most of the respondents have either lived all of their life in Aruba or have spent more than 15 years living on the island. Most of the respondents had at least a high school education while 46% of the respondents had a bachelor's degree or higher level of education. Most of the respondents were either students or employed – 40.79% and 35.53% respectively, with 86.30% of all respondents not working in the tourism sector. Of all the respondents only 12.33% worked in Palm Beach (most notably the 9 of the 10 respondents who worked in the tourism sector) while 87.67% worked outside of Palm Beach. Of the 6 regions on the island, most of the respondents resided in Oranjestad and Noord (25.64% and 24.36% respectively), two of the island's most densely populated and built-up areas that also have considerable amounts of tourism development.

Respondents who resided in Noord - the region in which Palm Beach is located- were asked what they found to be more expensive in Palm Beach in comparison to other areas on the island. 78.95% of the respondents reported that housing or land prices were the most expensive; 63.16% of the respondents considered bars and restaurants to be more expensive in the area in comparison to other areas on the island. 57.89% of the respondents considered shopping to be expensive, whilst 52.63% and 36.84% of the respondents considered property taxes and groceries more expensive than other parts of the island, respectively. When asked about how often they visited Palm Beach, 30 respondents said they visited the area sometimes, whilst 20 and 13 respondents reported that they always visited the area, or visited the area often, respectively. They were also asked about the leisure activities in the area (see Table 4 below) of which eating out and visiting the beach were the most popular activities, followed by clubbing/ nightlife activities, grocery shopping, and shopping.

**Table 4. Leisure Activities done in Palm Beach by Survey Respondents**

| Leisure Activity | Number of Responses |
|---|---|
| Eat Out (fast food, restaurants, bars) | 62 |
| Grocery Shopping | 29 |
| Shopping | 28 |
| Visit the Beach | 57 |
| Sports and Well-being (e.g. spa and yoga) | 6 |
| Stay at hotels | 28 |
| Clubbing/ Nightlife Entertainment | 30 |
| Visit friends and family | 21 |
| Church | 3 |
| Other | 7 |

The respondents were also asked if there was anything that prevented them from visiting and participating in leisure activities in Palm Beach; 51 respondents felt that there was nothing preventing them whilst 22 respondents claimed there was something preventing them, the remaining 5 respondents skipped that question. Of those respondents who felt that they were being prevented from visiting and participating in leisure activities in Palm Beach, the most popular restrictions had to do with the distance that the respondent had to travel to get to Palm Beach and its associated travel costs, as well as the cost of goods and service in the area. Other restrictions mentioned by the respondents included congestion and overcrowding (too busy/too many tourists/too much traffic) (7 respondents); lack of sufficient and safe parking (3 respondents); horse-drawn carriage rides (1 respondent); feeling that activities and amenities in the area are only meant for tourism (1 respondent); feeling that the area is inauthentic (1 respondent).

When asked if they were aware of information nights/consultations/town hall meetings held by the Aruba government regarding development in the area, 30.5% did not feel like they were aware of them, while 29.17% felt they were sufficiently aware. When asked whether they had attended one of these events over the past years, the majority - 87.5% of respondents- did not, whilst only 12.50% of the respondents had attended.

Furthermore, 62.50% of the respondents felt like the local community's opinion was being heard in tourism development planning in Palm Beach. However, 65.28% of the respondents did not feel like decision-makers value public input in the planning of tourism development in Palm Beach. When asked if the services and amenities present at Palm Beach are catered to their needs, most of the respondents - 48.57% - felt that the services and amenities meet their needs some of the time while 25.71% felt that their needs were met most of the time. Additionally, respondents

were asked if they felt like they were valued customers at the tourist sites and establishments in Palm Beach. Most of the respondents felt indifferent, while 34.29% felt as though they were valued customers and 24.29% felt that they were not. However, it was noted that 44.29% of the respondents feel that there is an insufficient number of bars, restaurants and stores in Palm Beach that they feel are affordable. When asked about what they were willing to pay for a meal in a restaurant, 30% said 16-25 Aruban florins whilst 34.29% said 26 -30 Aruban florins. Prices in the area are typically above 25 florins.

The respondents were asked if they felt at home in the Palm Beach area: 48.58% agreed, 18.57% disagreed and the remaining 32.66% were undecided. When asked if they felt out of place at the beaches, hotel area and tourist sites in Palm Beach, over half of the respondents did not feel out of place, whilst 21.43% felt out of place in these areas of Palm Beach.

To conclude, Table 5 below summarizes respondents' answers when asked to voice their opinions on the pros and cons of tourism development in Palm Beach.

**Table 5. Summary of the Pros and Cons of Tourism Development in Palm Beach according to the Opinions of the survey respondents**

| Pro | Cons |
| --- | --- |
| More jobs (4) | Overcrowding & congestion (17) |
| Income & Boosted economy (22) | High prices & pricing in US dollars (13) |
| More activities & increased variety of services & entertainment (12) | Everything geared towards tourist (2) |
| Rapid Development (1) | Lack of Shopping variety for locals (2) |
| Well maintained and attractive area (3) | Overdeveloped (13) |
| Tourism contained in one area (1) | Destruction of Nature/environment (18) |
| | Unsustainable (1) |
| | Lacks Aruban identity/ Too touristy (10) |
| | Displacement of locals (2) |
| | Taking away space from the public, notably beaches (4) |
| | Unfair/unequal treatment of locals in establishments (4) |
| | Poor service (1) |
| | Continuous construction (1) |
| | Difficult to access the area (1) |
| | Loud (1) |
| | Insufficient Green Space (1) |
| | Lack of security (1) |

## 5.0 Discussion

Aruba's tourism development is clearly reminiscent of the Fordist mass tourism model. As is the case in the mass tourism industry, there is the tendency for development to be familiar to incoming tourists (Shaw & Williams, 2004). Given the predominantly American market, a familiar American-like space has been created in the Palm Beach area. This is evident in the services and establishments present in Palm Beach, which include several American fast-food chains, American brands, and Miami-styled architecture. In addition to this, the US dollar is often the currency quoted in the establishments in the area.

From the surveys it is evident that the Aruban population acknowledges the benefits of tourism development, namely the economic income it brings to the island, the jobs it creates, and the increased activities made available. However, overall sentiments with regards to the industry are mixed - as to be expected, since no community is homogenous (Shaw & Williams, 2004). Some individuals have a more positive outlook on the industry whilst others have a more negative one. Admittedly, all respondents do seem aware and wary of the negative impacts the industry has on the island, and equally stress the need for intervention for the industry to be sustainable.

The survey results will be discussed, as it pertains to the inclusion of locals in the tourism development decision-making process, their ability to be both tourism producers and consumers, and their sense of belonging and representation in Palm Beach.

### 5.1 Local Participation in the Tourism Development Decision- Making Process

In discussing local participation in the tourism development decision-making process, the inclusion of locals in legislation and their awareness and active involvement in the legislative process are analyzed.

In Aruba, on the policy and legislation level, there is evident intent to include the local community in the tourism development decision-making process. The involvement of the local community in the spatial planning of the island is explicitly stated in the island's Ruimtelijk Ontwikkelingsplan (ROP) (Spatial Development Plan) of 2009-2015 and that of the new ROP drafted in 2019 (Ministry of Spatial Planning, Infrastructure and Environment, 2009 and 2019). In keeping with involving the local community in the planning process, the draft of the ROP was made available online in three languages (Dutch, Papiamento and English) for the community to review it. In addition to this, the government holds what they call information nights or townhall meetings to discuss developments with the community. According to survey responses, the public, for a large part, is aware of these, but very few have attended such meetings.

Lack of attendance to these meetings can be due to many factors, of which two were found in the survey. Firstly, most of the respondents did not feel like decision-makers value public input in tourism development. If people feel as though their input is not being valued, they may be less inclined to give it in the first place. Hence, they do not attend these meetings. Another plausible explanation that can be deduced from the survey responses is that people feel the community's opinions are already being considered in tourism development, and so may not see the need to attend such events. However, these two findings appear contradictory and are not supported by concrete evidence. Further research into what factors affect attendance to such events would need to be done.

Survey respondents mentioned that they did not want any more hotels to be built and that they fear for the overdevelopment of the Palm Beach area, and by extension the entire island. They voiced concerns over the degradation of Aruba's natural landscape and the withdrawal of lands from the public sphere into foreign private ownership. Interestingly, these results are also true for a survey conducted by the island's Ministry of Spatial Planning, Infrastructure and Environment from November 19th to December 7th, 2018. This survey was part of the government's consultation process in the creation of the 2019 ROP where they investigated how residents value their quality of life in their living environment (Ministry of Spatial Planning, Infrastructure and Environment, 2018). However, despite these sentiments, the government recently announced the building of an additional 900-room resort hotel in Seroe Colorado (Noticia Cla, 2019). These findings show an evident disconnect between what the community wants and what the government proceeds with. Ultimately, this disconnect between Aruban policy makers and government officials and the Aruban community could reduce the inclusive nature of tourism development on the island.

It is also important to note that the financial capacity of tourism development lies within the hands of foreign investors who are keenly catering solely to the larger tourist market. Because a huge portion of control is within the private sphere, government legislation can only go so far. This is because outside of purchasing the land and abiding by the general laws of Aruba when setting up a business, tourism developers are left largely to their own devices. Therefore, if they do not want to make their products available to or catered to the local community, they do not have to.

### 5.2 Locals as Tourism Producers and Consumers

This section will analyze the price increase and the nature of services in Palm Beach and their potential implications for the local population.

A very prominent factor mentioned by all respondents is that of increasing costs in Palm Beach. Arguably, price inflation on the island has come at the hands of tourism in conjunction with other external factors. This inflation compromises the ability of locals to be both business owners and consumers of goods and services on the island, by making these financially inaccessible. The survey results suggest that property and property taxes are the most expensive in Palm Beach. High property prices because of a competitive land market make it increasingly difficult for locals to acquire land. This restricts the locals from being able to afford rent, let alone purchase property to establish businesses, especially when they can be easily out competed by transnational corporations who tend to dominate the tourism business market.

In addition to an expensive property market, restaurants and shopping in the area were considered more expensive than elsewhere on the island. High prices in establishments directly influence the nature of the clientele, as those who are unable to pay the prices cannot access the services available. Things become even more expensive for locals if pricing is in US dollars, which makes things almost double its value in the local currency. High prices and pricing in US dollars in the area possibly explain why such a large proportion of respondents found that there was an insufficient number of restaurants, bars and stores that were affordable.

Although there is the creation of jobs by the industry, as one respondent suggests, the wages are often poor. The creation of low wage jobs by the industry cannot offset increased prices on the island. Therefore, there is a need to ensure that jobs are not only created, but that wages are suitable and in keeping with the cost of living in Aruba. If this is not the case, then the local community may be placed at a disadvantage.

Indeed, although most of the respondents mentioned that the services and amenities in Palm Beach cater to their needs, there seem to be some inconsistencies. This feeling of being catered to may be true in terms of the restaurants, bars and night life activities, however, may not be applicable when considering retail stores. As put by

one of the respondents, "no one living here wants to buy souvenirs. [There is a] lack of shopping variety for locals" (respondent 3). Another respondent claimed that the area has "too many shopping malls filled with junk" (respondent 71), whilst another commented on the fact that everything on offer was too American which made it difficult to find traditional Aruban goods. Arguably, retail stores in Palm Beach target mainly tourists, and this is evident by many of the stores in the area stocking Aruba-branded souvenirs and other tourist gimmicks - things that Arubans typically will not need in their daily lives. This automatically reduces local clientele and has overall implications on sustaining a domestic market in the event of diminished tourist numbers.

The feeling of not being catered to is not only present in pricing and products available but also treatment within establishments in Palm Beach. Most respondents felt indifferent to whether they are considered valued customers or not in these establishments. When they experienced otherwise, some respondents mentioned that "as a local you are sometimes not treated with equal importance as tourists because you do not leave as high tips as tourists" (respondent 69). This feeling points to a potential problem if widespread, which is directly discriminatory against the local population, who for several reasons may not have the same financial means to tip in addition to already high prices. Discrimination between tourists and locals can in turn create animosity amongst the groups, having further ramifications.

### 5.3 Sense of Belonging and Representation

Tourism commercializes and commodifies the culture of the country in which it takes place. However, given the intensive Americanization of Palm Beach, Aruban cultural identity is masked. Respondents have noted that although they feel at home in Palm Beach, the area does not represent Aruban life and culture. According to their responses, this inauthenticity stems from the lack of Aruban architecture

in the area as well as the lack of traditional Aruban goods. Arguably, what is available to the tourists in the Palm Beach area is a placeless American ideal of a Caribbean lifestyle, not necessarily specific to Aruba. Overall, the respondents felt that their culture is not being represented and that the island is at risk of becoming too American or a small Miami. These comments are interesting especially since most of the respondents claimed that they do not feel out of place in Palm Beach.

However, there are several elements acknowledged by the respondents that reduce the use of Palm Beach by locals. Many mentioned that they do not like to visit the area because of overcrowding. Additionally, there is the sense that tourism is taking away from shared public space which inherently implies that once tourism is dominant in an area they cannot or do not want to go to the area anymore. This is influenced by 1) the fact that goods, services and pricing are geared towards tourists, and 2) there is the lack of an authentic Aruban experience as defined by Arubans. This is similar to what Bunzinde & Manuel-Navarete (2013) observed in Mexico, where it is apparent that locals have disassociated themselves with tourism space simply by not using it.

Furthermore, there is a sense of disenfranchisement, as one respondent noted that they feel driven away from places they used to go to when they were children, commenting that if development continues as such, there will be little space left for the Aruban public (respondent 49). This implied war for space on the island is echoed in the feeling that residents are being nudged into other areas on the island in order to make room for tourists, as commented by one respondent. The dispute over space suggests au contraire to what is expressed in the survey and indeed implies locals do not experience a full sense of belonging in tourism space on the island.

Notably, the complexity of the situation cannot be fully assessed with just survey responses. This is why the final

research product will utilize information from interviews to paint a more in-depth picture of the local perspective on tourism development in Aruba.

### 6.0 Preliminary Conclusions

Overall, the tourism industry has done wonders for the Aruban community through creating jobs, providing the country with a booming economy, and influencing the island's overall infrastructural development. The Aruban community, for the large part, appears to be satisfied with the advancements the country has experienced through the development of the industry. However, this study has revealed a complex scenario that is at play on the island as a result of this development, which may have implications on the inclusion of locals in the planning, use and belonging to space on the island, and the overall sustainability of Aruban society.

Firstly, at a legislative level, there is capacity for the local population to be included in the tourism development decision-making process. This is because there are measures in place to facilitate negotiation between the government and the community. However, there is an apparent disconnect between involving the community and their wishes, and the realization of tourism development on the island. This, together with the large foreign ownership in the industry, undermines the industry's inclusive nature.

Secondly, in addition to the economic boost tourism has brought to the island, there has been island-wide price inflation. Although tourism cannot be the sole factor influencing cost of living in Aruba, it certainly contributes to the increased competition for land and higher prices for services. The growing expensive nature of the island can compromise the ability of locals to be tourism producers because they cannot compete with capital-rich foreign entities. Additionally, high prices can render local consumer abilities obsolete, especially if salaries do not increase to

match rising costs on the island. Together, these factors can make areas such as Palm Beach completely financially inaccessible to locals, ultimately excluding them if gone unchecked.

Finally, the Americanized character of the island's current tourism development masks Aruban culture. The change of the landscape and amenities or resources present to suit tourist needs can be detrimental to the Aruban community, as traditional goods and services are becoming less available. Furthermore, the creation of foreign-like space on the island can create disassociations. This causes locals to feel like where they are allowed to go is becoming restricted in some way or another. Therefore, it is vital that tourism development be inclusive of Aruban culture but also promote local belonging.

Given this pivotal moment in Aruba's tourism model life cycle, the findings of this research can be considered in Aruba's move forward to ensure that the local community is holistically included in tourism development, in a way that safeguards the Aruban community and way of life for generations to come.

### 7.0 Acknowledgements

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The balance between work and fun in Aruba made writing a thesis a lot more enjoyable. The impact that our research may have is another reason I wanted to come here. The community based approach of all these projects has allowed us to work with Aruba, for Aruba. Lastly, I wanted someone, something, to open my eyes and truly broaden my perspective. Not from a textbook, but from first-hand experience. Mission accomplished. One thing that I have learned is that one solution is not better than the other, but that combining solutions may be a way to move beyond cultural barriers in research.

Of course, it was not always rainbows and sunshine. Adapting to a new climate and landscape was one challenge, and sharing one car with six girls was another. Not having the same freedom as at home was particularly hard, because it dampened the independence I was so used to. The nature of my research also exposed me to horrible stories and oftentimes I was left speechless or close to tears. Overcoming these challenges was part of the process as much as going to the beach and eating sushi with participants was.

Overall the experience was enriching and valuable to my personal and academic growth. I am glad I came to Aruba, and I would do it all over again.

After five weeks of chasing a participant, I finally got her on the phone. In response to my question, she answered "yes, of course I will do an interview with you. Just come to my house!" A week later, she picked me up from home, drove me to a restaurant, and treated me to sushi. All whilst I bombarded her with questions about child protection and child abuse. This is just one example of the generosity and openness of Arubans that I experienced over the last three months.

I came to Aruba for a variety of reasons. Firstly, I thought it would be less stressful to do a thesis in Aruban's sun, sand, and sea, than to do one in the Dutch winter months. I was right! Our mornings in Aruba were often spent at the university, studying, writing, worrying about the next steps of our research. In contrast, the afternoons were spent at the beach, playing "ninja", eating crisps, and splashing in the water.

# Mapping the Health Services Responses to Child Maltreatment: The Aruban Case.

Gina Melis

## 1. Introduction

In recent months, child maltreatment has been widely discussed in Aruba. This increase in discourse on the topic can be partly attributed to the two young Aruban boys who lost their lives to child abuse in November 2017. This event has caused much uproar and signalled a need for change. To ignite this change, the Social Crisis Plan was designed by the Aruban Government to provide specific guidelines and goals for members of the social sector involved in child protection. Although the Social Crisis Plan encompasses a large number of organisations and agencies, the health services have been much neglected. Since the goals of the Social Crisis Plan are to be completed by the end of 2019, it is imperative that new developments are implemented rapidly. This study aims to recognise the role of the health services in responding to child maltreatment by mapping their responses and voicing their perceptions on the current crisis. To this end, the following research question will be asked: How do the health services in Aruba respond to child maltreatment? Answering this question will be guided by three subquestions as listed below.

- Subquestion 1. *What health services are available to the Aruban people in the case of child maltreatment?*
- Subquestion 2. *How do these health services respond to child maltreatment?*
- Subquestion 3. *What are the perceived strengths, barriers, and opportunities of these health services in responding to child maltreatment?*

The information provided by this research will support the implementation of the Social Crisis Plan by highlighting the areas where attention is most urgently needed. Additionally, this research might raise awareness of both the issue and the services available to citizens and highlight to them what their options are in case they experience or witness child maltreatment.

## 2. Literature Review

### 2.1 Child Maltreatment

Child maltreatment is a global public health issue, with at least 25% of adults worldwide having been abused as children (World Health Organisation, 2017). Child maltreatment has serious, lifelong consequences that impact the health and social development of children and can have a significant impact on the economic sector. Defining child maltreatment is complex, since the line between disciplining and abusing a child is a fine one and different in every culture. For the duration of this project, the definition of child maltreatment by the World Health Organisation will be used: "all forms of physical and/or emotional ill-treatment, sexual abuse, neglect or negligent treatment or commercial or other exploitation, resulting in actual or potential harm to the child's health, survival, development or dignity in the context of a relationship of responsibility, trust or power" (World Health Organisation, 1999). This definition describes five types of child maltreatment: physical abuse, emotional abuse, sexual abuse, neglect, and exploitation. The terms maltreatment and abuse will be used interchangeably in this project.

### 2.2 Risk and protective factors

Numerous risk factors for child maltreatment have been identified, although not all are applicable in every social and cultural setting. The World Health Organisation (WHO) recognises a variety of risk factors, including community, relationship, and individual child and parent factors. Other studies confirm some of those factors, including experiencing financial difficulties, misusing alcohol or drugs (including during pregnancy), high levels of unemployment or poverty, and parents having been maltreated themselves as a child (Dubowitz et al., 2011; Gilbert et al., 2009).

Similar to risk factors, not all preventive factors are relevant for every social and cultural setting. A large body of research has focused on identifying protective factors, and the most frequently found protective factor is social support (Afifi & MacMillan, 2011; Folger & Wright, 2013; Li, Godinet, & Arnsberger, 2011; Schultz, Tharp-Taylor, Haviland, & Jaycox 2009). More specifically, Afifi and MacMillan (2011) show that a stable family environment and supportive social relationships are associated with resilience following child maltreatment. Folger and Wright (2013) illustrate that social support from family and friends reduces the depression, anxiety, anger, and hostility often associated with the outcome of child maltreatment. Li et al. (2011) show that high levels of social support is associated with a lower chance of having a child maltreatment report, which they use as their measure of incidence. Last, Schultz et al. (2009) show that children with higher social competence, higher adaptive functioning skills, and a positive relationship with peers are more likely to be in a normal range for internalising and externalising behaviours. Thus, supportive social environments may play an important role in protecting children from child maltreatment and its negative impacts on development.

### 2.3 Consequences of Child Maltreatment

Child maltreatment can have lifelong negative consequences for its victims, that extend beyond obvious physical and psychological problems. Physical injuries, such as bruising, fractures, and head injuries, are often mentioned, as well as the association with increased risk behaviour, disruption of development, and psychological conditions (Dube, Felitti, Dong, Giles, & Anda, 2003; Gilbert et al., 2009; Kalmakis & Chandler, 2014; Norman et al., 2012). Examples of psychological conditions that may develop as a result of child maltreatment include depression, anxiety, suicidal behaviour, and alcohol abuse (Dube et al., 2003; Etter & Rickert, 2013; Gilbert et al., 2009; Norman et al., 2012). For example, a study in the East Asia and Pacific Region from 2012 shows that victims of child maltreatment are twice as likely to experience mental health and physical health disorders compared to controls (Fry, McCoy, & Swales, 2012). Another study from New Zealand shows that 11-21% of young adults or adolescents with a history of physical or sexual abuse attempted suicide, compared to 1-3% of controls (Fergusson, Boden, & Horwood, 2008).

Moreover, the severity of child maltreatment is directly linked to the severity of psychological distress experienced in adult life, meaning the more severe the abuse, the more severe the consequences (Medrano, Hatch, Zule, & Desmond, 2002). The same is true for physical disease. An example is the Adverse Childhood Experiences Study, a large-population study done in the US, which explored the relationship between the number of different types of adverse childhood experiences and the adult health outcome (Felitti et al., 1998). The study proves a graded relationship between adverse childhood experiences and poor adult health outcomes. The mechanism they propose states that the increased stress caused by adverse childhood experiences, such as abuse, leads to increased health risk

behaviours, causing disease and potentially early death (Felitti et al., 1998). Increased stress levels lead to higher levels of cortisol in the body, which damages and suppresses the body's vasculature and immune system, respectively. Therefore, a person becomes more susceptible to illness. In the most extreme cases, child abuse can be fatal.

Consequences often overlooked or missed include those on the economic sector. For example, directly related to child maltreatment is the higher cost for more health care utilisation, such as more visits to the doctor and treatment for both mental and physical conditions (Krug, Dahlberg, Mercy, Zwi, and Lozano, 2002; Thielen et al., 2016). More indirectly, child maltreatment causes productivity loss due to adverse mental health conditions, premature death, disability, and decreased quality of life (Krug et al., 2002; Thielen et al., 2016). Individuals who have suffered child maltreatment in the past are more likely to hold menial occupations and few individuals remain in a job for longer than five years (Gilbert et al., 2009). Additionally, the criminal justice system suffers financially from child maltreatment in the form of spending on foster care, police officers, and social welfare organisations (Krug et al., 2002).

Negative consequences of child maltreatment are often passed on to the next generation, leading to intergenerational child abuse. This means the negative consequences child abuse has on both the individual and the society are continued. To break this vicious cycle of violence, interventions aimed at eliminating existing violence and preventing future violence are of vital importance.

### 2.4 The Aruban Case

The problem of child maltreatment has been described as "endemic" in the Caribbean region (United Nations, 2006). For example, Klein et al. (2013) report that, in Trinidad & Tobago, 52% of 2-14-year-old children are physically punished and in Jamaica this percentage rises to 73%.

A study published by the Inter-American Development Bank in 2017 shows that 67% of Caribbean respondents find it necessary to physically discipline their child (Sutton & Alvarez, 2017). Additionally, 91% of those who support physical punishment admit to having been victims of such punishment themselves (Sutton & Alvarez, 2017). Scholars have argued that such traditions are present in the Caribbean due to a history of slavery (Sutton & Alvarez, 2017). Alternatively, it may be argued that child maltreatment is so common in the Caribbean due to its largely diverse people and cultures. For example, according to Shafe and Hutchinson (2014), several aspects of culture reduce reporting trends of child maltreatment, including sensitivity, taboo, attitude, and prejudice. Moreover, the small communities common to the Caribbean make that confidentiality cannot always be ensured, which further complicates the reporting process (Shafe & Hutchinson, 2014). A result of this lack of disclosure is the inability for child protection services to accurately assess the extent of the problem, and thus violence against children is continued.

In Aruba, 66.1 per 1,000 children are estimated to be maltreated each year (Guda, 2008). In recent years, child maltreatment has become a popular topic of discourse, fuelled by the death of two young boys at the end of 2017. A five-year-old boy was brought to the emergency room of the hospital with injuries including a haemorrhage and broken ribs. He passed away after two nights in the hospital. Upon investigation of the case, it became apparent that the boy's younger brother had been missing for two months. After three days of searching the island, the stepfather of the boys confessed to having killed and buried the three year-old. This event shook the whole island and the anger and frustration that Arubans felt nourished a need for immediate change.

To understand the current situation of children in Aruba, it is essential to look at the developments the country

has made over the last decade. In 2008, a prevalence study was published about child abuse in Aruba, which showed that there were 182 reports of child maltreatment on a population of 26,304 children over a period of two months (Guda, 2008). The three most common forms of maltreatment were physical neglect (25%), physical abuse (20%), and sexual abuse (16%) (Guda, 2008). Girls were most commonly sexually or physically abused and boys were mostly physically neglected. 63% of reports spoke of more than one type of abuse.

The Guda study also investigated familial factors in cases of child maltreatment. Interestingly, the risk factors mentioned previously overlap with the characteristics of the families in which child maltreatment occurred. For example, 49% of families in which a case was reported were considered of low-social-economic status. In 21% of families, both caregivers were unemployed and in 49% of families one caregiver was unemployed. In 15% of cases, the primary caregiver was involved in alcohol, drugs, or mental health problems, and in 19% of cases, the secondary caregiver was involved in alcohol, drugs, or mental health problems (Guda, 2008). These numbers illustrate that the above mentioned risk factors suggested by WHO, Gilbert et al. (2009), and Dubowitz et al. (2011) are a reality in Aruba.

Each Aruban government following the Guda study has focused on children and families in one way or another. The government of 2009-2013 employed UNICEF to perform a situational analysis of children and adolescents in Aruba (UNICEF, 2013). The government of 2013-2017 designed an integral youth policy for the period 2015-2020 and gave Bureau Sostenemi the task to make an inventory of the basic infrastructure for the prevention, signalling, and stopping of child maltreatment in Aruba (Bureau Sostenemi, 2016; Regering van Aruba, 2013). The Department of Social Affairs under the government of 2017-2021 performed another situational analysis of Aruba, in response to which

a policy-plan focusing on the family unit was designed (Directie Sociale Zaken, 2017; Gobierno di Aruba, 2017). All these analyses and inventories share similar conclusions:

1. Many families in Aruba are experiencing social problems, which has been shown to increase the risk for child maltreatment.
2. There is a lack of legislation and regulation regarding child maltreatment, including the absence of a reporting code.
3. The child protection system lacks efficiency due to a lack of policy and capacity.

Thus, from these reports it is evident that the Aruban government had knowledge of the situation of children and adolescents.

Despite having designed various policy plans, little concrete action was taken until the tragedy that struck Aruba in November 2017. In response to this heart-breaking incident, a Social Crisis Plan was created by the Department of Social Affairs in Aruba. This Social Crisis Plan has two general goals:

1. Implementing a broad and integrated child protective system including the entire chain of social services, health care, education, and justice, so that a child can grow up safe and healthy in Aruban society.
2. Strengthening the social economic security of vulnerable youth and children in the Aruban society by preventing and fighting social deprivation of the target group and their guardians, such as school drop outs, unemployment, criminality, and violence, including domestic violence, abuse, and neglect (Hernandez, 2019, p. 2).

Additionally, UNICEF performed another situational analysis of the child protection system to provide recommendations for future plans and directions (Stuer, 2018). The resulting product is an elaborate plan in which every organisation that works with children has been given a set of specific goals to work towards. Oddly, valuable members of the health sector were excluded from this plan.

## 2.5 The Current Study

The health services play an important role in the protection of children. Their role is crucial in the early recognition and signalling of child maltreatment, as well as in referring cases to appropriate care facilities (PAHO, n.d.). Moreover, the health sector plays a part in the prevention of child abuse, by helping us understand the problem and by educating the public (PAHO, n.d.).

The role of the health services has been neglected in the Social Crisis Plan. This is evident from the exclusion of general practitioners, hospital personnel, psychiatric facilities, midwives, and more, in the list of parties involved. However, as the Social Crisis Plan focuses on the "early signalling, help, and prevention of child maltreatment", it is important to collaborate with first line organisations who have early insight into the situation of high-risk families and can offer them aid (Hernandez, 2017, p. 20). Therefore, this study aims to focus solely on the health services responding to child maltreatment in Aruba. For this purpose, a map of the health services responses to child maltreatment will made, including an investigation of their core tasks and positions. This information will support implementation of the crisis plan by highlighting the areas where attention is most urgently needed to policy makers. Policy makers can use this information to "make concrete plans about how to change practices, train officials, and reorganise systems to better respond" (World Health Organisation, 2015, p. 1). The best time for policy making is when problems, solutions, and political circumstances come together (Kingdon, 2003). With an increased discourse, the Social Crisis Plan, and a new government, the current situation in Aruba is ideal for the evaluation and implementation of changes in policy.

In initiating policy changes, it is especially important to include the community that experiences the issues to ensure that the policy indeed includes a solution to the problem (Themba-Nixon, 2010). Therefore, this study takes

a community-based approach. Data for this study will be collected by interviewing local stakeholders and health workers, and possible recommendations will be made based on what they suggest. By including the local community in this research, the study will have a more holistic impact on local policy changes. In Themba-Nixon's (2010) words, "the best kind of policy initiative engages the community that shares the problem and insures that the initiative is part of the solution" (Themba-Nixon, 2010, p. 138).

## 3. Methods

### 3.1 Design

This descriptive study aimed to investigate the response of health services to child maltreatment in Aruba through semi-structured interviews with representatives of several health services. These interviews were guided by a topic guide and focused on child maltreatment in Aruba, and the role of the health services in the protection and prevention of child maltreatment.

### 3.2 Sampling

A purposive sampling method was used in this study. The sample frame consisted of all relevant child protection services in Aruba, based off a list provided by a UNICEF report (Stuer, 2018). In this preliminary list, the child protection services are divided into four sectors: social affairs, justice, education, and public health (Stuer, 2018). Considering the focus of this study is on health services, the child protection services under the public health sector will be prioritised. Health services were defined as "a public service that provides medical treatment" (Cambridge Dictionary, n.d.) and includes both physical and mental health services. Note that some changes were made to the list by UNICEF, e.g., general practitioners and midwives were added.

Qualitative studies employing individual interviews generally have a sample size below 50 (Ritchie & Lewis,

2003). This study was limited in time, hence a sample of 50 proved too large. However, for reliability purposes, it was important to have a sample size as large as possible within the limitations. Thus, this research aimed to interview at least two members of each selected child protection organisation to get a more reliable and accurate account of the health services responses. For the Policlinic Child and Youth (Polikliniek Kind en Jeugd) at least two nurses, two midwives, and two paediatricians were intended to be interviewed, since these people have very different roles in the Policlinic, and thus may have different insights. The total sample size was 18; see table 1 for details.

Table 1. Number of participants per organisation

| Organisation | Number of participants |
|---|---|
| Horacio E. Oduber Hospital (including Emergency Room, Policlinic Child and Youth, and Child Abuse Commission) | 4 |
| White Yellow Cross (Wit Gele Kruis) | 2 |
| Youth Health Care (Jeugdgezondheidszorg) | 4 |
| Policlinic Child and Youth Psychiatry (Polikliniek Kind-en Jeugdpsychiatrie) | 2 |
| Social Psychiatric Service (Sociaal Psychiatrische Dienst) | 2 |
| Medical Institute San Nicolas (Instituto Medico San Nicolas) (ImSan) | 1 |
| General practitioners | 2 |
| Midwives | 1 |

Unfortunately, not all aims were achieved. Bureaucratic processes hindered the recruitment of hospital personnel, hence only one person from the Policlinic Child and Youth was interviewed. Additionally, only one midwife and one employee of ImSan were interviewed. In three agencies it was possible to interview more than two people, and this opportunity was taken. In the case of the Youth Health Care department (Jeugdgezondheidszorg) and the general practitioners, four and three employees were interviewed, respectively.

Not every person contacted to participate in the research responded. In total there were 9 non-respondents. No persons chose to drop out of the research.

### 3.4 Ethics

Verbal informed consent was obtained from all participants before conducting the interviews, and all participants had the opportunity to withdraw from the study at any time, until the 18th of April. Confidentiality is extremely important, and although it is vital for the research to mention names of organisations and institutions in the report, the names of the individual interviewees will only be known to the researcher and their supervisor. Thus, personal information was anonymised.

It is worth noting that Aruba is a multilingual nation and that conducting interviews in English was not preferred by all participants. Therefore, all interviews were conducted in

Dutch, as preferred by the interviewees. One interviewee preferred to be interviewed in Papiamento, hence this interview was conducted by the researcher's assistant. This interview was transcribed and translated to Dutch, but the Dutch interviews were not translated. Analysis was performed directly from the Dutch transcriptions.

### 3.5 Data analysis

For this qualitative project, the data was analysed manually, rather than using software. This was possible due to the small size of the research. A thematic analysis of the interviews was conducted to identify patterns and themes. These were organised into a coding table and used for further deduction.

## 4. Results

### 4.1 The health services responses to child maltreatment in Aruba

The following health services play a role in the Aruban child protection system. The services they offer in general and their role in child protection are described, as well as their response to child abuse. In addition, the themes of development and training, and support and collaboration are explored.

### 4.1.1 Services and Role in Child Protection

**Horacio E. Oduber Hospital**

The hospital provides both emergency and chronic medical care for patients with a variety of health issues. Their role in child protection is to recognise child abuse and report the cases to the subsequent institutions in the chain of child protection. They also play a smaller role in the prevention of further abuse, e.g., by educating parents.

**White Yellow Cross (Wit Gele Kruis)**

The White Yellow Cross (WYC) offers a variety of health services to the Aruban people, including medical home care for elderly, practical support for chronic patients (e.g.,

with diabetes, COPD, hypertension), household support for elderly, and they operate a "care store" where patients can buy their medical equipment, e.g., wheelchairs. For children specifically they have the "GVO department", which includes Firm Parenting (Stevig Ouderschap), the Teen Mother Council (Tienermoeder-consulent), and the Consultation Bureau (consultatiebureau). Firm Parenting is a project in which all families that children are born into undergo a risk assessment by means of a survey. The WYC then gives each family a "grade" to describe to what extent they are at risk for social problems. The high-risk families receive parenting support. The Teen Mother Council is a service that has an overview of all teenage mothers on the island, and provides them with aid in case they need it. The Consultation Bureau is a service where all children aged 0-4 go for their regular check-ups and vaccinations. Here, their development is monitored, including tracking their weight, measuring their sight and hearing, and speech and language development. If development is not in accordance with expectations, aid is offered, e.g., speech classes.

The WYC has two tasks in child protection. First, the recognition of unsafe environments for children. As part of the Consultation Bureau service, nurses from WYC visit the homes of new-borns. This allows them to not only perform a check-up of the child, but also scan the house for any anomalies, such as unhygienic conditions or alcohol and drug abuse. When children are considered to be in an unsafe home situation, these cases are reported. Secondly, WYC have a preventive role in child protection through their Firm Parenting and Teen Mother Council programs. These programs are aimed at early recognition of at-risk or high-risk families and the provision of aid to these families, as to prevent the development of further social problems, and to protect the child from maltreatment.

**Youth Health Care (Jeugdgezondheidszorg)**

As one participant indicated, "the goal of Youth Health Care (YHC) is to monitor, stimulate, and maintain a good

and healthy development" (Participant 20 (P20)). They provide preventive care. The agency is closely associated with WYC: six doctors and six nurses are responsible for continuing the service of the Consultation Bureau of WYC at school ages. Doctors and nurses visit schools to ensure that children are vaccinated and to monitor their development. They currently only visit primary schools. Although they are supposed to visit secondary schools, as well, this is impossible as they are understaffed.

The role of YHC in child protection is mostly preventive. They monitor the child's development, e.g., ensuring they maintain a healthy weight, and report cases in which the child is abused or neglected.

**Policlinic Child and Youth Psychiatry (Polikliniek Kinder- en Jeugdpsychiatrie)**

The policlinic Child and Youth Psychiatry offers diagnostic services, as well as treatment for children with various ailments, e.g., traumas, autism, anxiety disorders. They treat children aged 0 through 19.

Their role in child protection is both curative and preventive. They recognise child abuse and report cases, but also treat victims and form a network for the family.

**Social Psychiatric Service (Sociaal Psychiatrische Dienst)**

The Social Psychiatric Service (SPS) offers outpatient care to psychiatric patients in the form of medication, examinations, and diagnostics.

They currently play a small role in child protection, as they do not treat children, yet. Only if a child is in a crisis or emergency they will intervene. As part of the Social Crisis Plan, they have been given the task to form a team specialised in treating children. This team is in the process of being set up. Once this team is in place, they will offer preventive and curative care for child maltreatment, by reporting cases and treating victims, respectively.

### 3.3 Recruitment

Participants were recruited via email and phone. Due to the small size of the country, it was also possible to recruit people personally by visiting the institutions, and to recruit participants via a snowballing technique. Willingness to participate was anticipated to be limited by the sensitivity of the research, so to make participation more attractive all data was anonymised. Participation was voluntary, and the interviewees received no compensation for their services.

**Medical Institute San Nicolas (Instituto Medico San Nicolas) (ImSan)**

The Medical Institute in San Nicolas (ImSan) offers a variety of services, including dialysis, diabetic care, and an emergency room.

Their role in child protection is small; they only refer cases. They have recently formed a commission to discuss the signs of child maltreatment and how to address the problem.

**General practitioners**

General practitioners offer preventive, curative, and referral services. They may educate patients, treat acute and chronic ailments, or refer patients to specialists.

Their role in child protection is to treat any injuries associated with abuse, as well as recognise abuse and refer cases to the specialised agency.

**Midwives**

Midwives offer both prenatal and postnatal care in the form of check-ups during pregnancy and house visits for 10 days after birth. They also have a role in educating the new parents by giving classes about pregnancy and giving birth, or by referring parents to parenting classes at White Yellow Cross.

Their role in child protection is small, says the participant, as their only role is to report.

*4.1.2 Response*

**Horacio E. Oduber Hospital**

Cases of child abuse may reach the hospital through various routes. Parents can bring their children to the Emergency Room, but other institutes (e.g. Voogdijraad) may also request the help of specialists in the hospital with cases of child abuse. When a child comes into the Emergency Room, a screening form is filled out by the attending nurse or doctor. This screening form consists of six questions.

This screening form can come out as green, indicating no risk or suspicion of child abuse, or as red, indicating a risk or suspicion of child abuse. When the form comes out as red, a "SPUTOVAMO" form is filled out. This is a form that guides a head-to-toe examination of the child in case of a suspicion of child maltreatment. One of the paediatricians is then consulted to assess whether the child is in immediate danger. If this is the case, the child may be administered to the policlinic for further examination and safekeeping. If the child is not in immediate danger, they may be sent home. These children may be requested to come back to the hospital for check-up if suspicious circumstances prevail. Every two weeks the Child Abuse Commission in the hospital holds a meeting where they discuss all the cases of child abuse over the past weeks. In these meetings they divide tasks for each case. For example, if psychiatric help is needed, the child psychologist of the Child Abuse Commission will pursue that aspect. Another example is when the case involves domestic violence, the medical social worker of the hospital will guide the family in the process of finding help to resolve the issue of violence. In serious cases, the medical social workers report to either Bureau Sostenemi or Voogdijraad. Bureau Sostenemi is involved in researching the case, while Voogdijraad has legal ground to pursue the case.

One participant indicated that 300-400 cases are discussed in the Child Abuse Commission per year, of which 150-175 cases turn out to be abuse. They most frequently see physical and sexual abuse.

Child maltreatment is documented in a separate system from the child's medical dossier for privacy reasons. These files are currently kept on paper, but the hospital is moving towards implementing a digital system.

**White Yellow Cross**

Cases of child maltreatment reach the White Yellow Cross from several sources. First, they may recognise cases themselves, either from home visits or patient visits at the Consultation Bureau. It may occur that parents do not show up for their children's check-up at the Bureau, in which case the parents are contacted by phone and mail. If they do not respond, the nurse may perform a house visit to check on the home situation. Second, other parties, including midwives, schools, and the hospital, may ask White Yellow Cross for a second opinion by visiting the home, as not all health services have the legal mandate to do so. Nurses perform the house visits and if suspicion of abuse or neglect persists, the parents are sent to the Consultation Bureau doctor for a check-up of the child. If the doctor finds the case similarly suspicious, parents are informed and a report is filed to Bureau Sostenemi, Voogdijraad, or the Department of Social Affairs.

Suspicion of child maltreatment is documented in the child's dossier. These documents are kept for 10 years and are currently only available on paper.

There is no official protocol or procedure to recognise and report child maltreatment.

**Youth Health Care**

A case of child maltreatment may be recognised by doctors or nurses, or be referred by schools, "leerplicht", families, or even from Voogdijraad. The doctors are always consulted and are responsible for reporting the case. All interviewees from this organisation mention the importance of talking to the parents before reporting a case, to "see what you can do within the families" (P20) and because "sometimes it's enough for parents to know that someone is paying attention" (P14). However, one participant mentions that they do not always speak to the parents, because it might put the child in more danger: "If I call up the parents and say 'listen your kid is telling me at school that you hit him', the parents might say 'you're crazy, I'm not coming for a meeting', what do you think happens when the kid comes home that night?" (P14).

Mild cases are reported to Sostenemi and severe cases are reported to Voogdijraad.

Cases are documented in the child's dossier, which is currently on paper. The organisation is working on digitalising the files.

There is no protocol for the recognition or reporting of child maltreatment at YHC, but all participants would like one. Reporting is not homogenous, as not everyone is inclined to report based on the same signs: "Everyone acts according to their own findings and that differs" (P14).

Barriers to reporting include shame, fear, denial, and reluctance to break the bond with parents (P14; P21).

**Policlinic Child and Youth Psychiatry**

To recognise a case of abuse, psychologists at the policlinic look for strange behaviours, bruises, and evaluate the parent-child relationship. When a case of child abuse is discovered and the child is safe, treatment is continued. If the child is unsafe at the time of discovery, the parents are informed to see if they can solve the case together. If not, a report is made to Bureau Sostenemi. Suspicions of cases are discussed within a team of psychologists before taking action.

One psychologist mentions that around 10-20% of their cases are about abuse. The type of abuse they encounter most frequently is sexual abuse.

Cases of abuse are documented in the patient's medical dossier, which is accessible to all psychologists and psychiatrists.

There is no official protocol in place at the policlinic.

Both interviewees mentioned that sharing information about a case is difficult, considering the doctor-patient privilege.

**Social Psychiatric Service**

Cases of child abuse are recognised by patients exhibiting traumatic behaviour, socialisation problems, and aggression. When a case of abuse is recognised, the parents are consulted and if the patient wishes to file a report, SPS will help them do so.

A note of the abuse case is made in the patient's dossier.

There is currently no protocol in place for the recognition and reporting of child abuse.

**Medical Institute San Nicolas**

ImSan utilises the same protocol as the Horacio E. Oduber Hospital. A screening form has to be filled out for children that come into the Emergency Room. If this form comes out "red", signalling suspicion of abuse, a "SPUTOVAMO" form is completed. If they conclude that there has been maltreatment, they call their contact at Slachtofferhulp ("Victim Help"), who picks up the child and takes them to Horacio E. Oduber Hospital.

The interviewee said that their caseload is low.

Cases are documented in the patient's medical dossier.

**General practitioners**

Signs for cases of abuse include strange behaviour, socially burdened families, repetitive injuries, and not showing up for appointments. When a case is recognised, the parents are informed and involved in deciding where the case is reported, e.g. police, paediatrician, or Bureau Sostenemi, and what information is shared. One participant says they most often report to the paediatrician, because the paediatrician is an expert in child maltreatment (P9).

Information on the abuse is documented in the patient's digital dossier, where the general practitioner and their assistant can see it.

There are no protocols for general practitioners, so not everyone knows how to recognise abuse and how and where to report it.

Barriers to reporting include telling the parents, especially when one of the parents is the perpetrator.

**Midwives**

Sign that midwives look for to recognise child abuse include the behaviour of the child and physical injuries. Suspicion of abuse is discussed with direct colleagues, or in some cases with the paediatrician or the White Yellow Cross. The participant does not speak to the parents before reporting.

When a case is reported, a small note is made in the medical dossier of the child. Information is shared with Voogdijraad, White Yellow Cross, the paediatrician, and sometimes social workers.

There is no protocol on how to signal or report child maltreatment.

Barriers to reporting include the lack of lawful protection, absence of feedback, little manpower, a lack of money, and shame.

*4.1.3 Development and Training*
**Horacio E. Oduber Hospital**

Two participants indicated that they personally have the knowledge and tools to handle the cases of child maltreatment, but not everyone does (P1; P11). Another participant says you can never have all the knowledge and tools you need, and that the tools they have are not sufficiently put to use by the hospital (P4). One participant said that the tools are not being optimally used: "The screening form is a tool and it is insufficiently organised, I think, because we still do not have the pop up in the digital system", and that the knowledge is sufficient, but could be improved (P10).

Training and opportunities for professional development exist, but often have to be organised by oneself (P11). Additional barriers to implementing professional development include the lack of time, money, and interest (P1; P4; P11). The Child Abuse Commission is currently working on implementing a series of e-learning modules to raise awareness and educate hospital personnel. It took them five years to get permission to set this up (P1).

**White Yellow Cross**

One of the participants stated that White Yellow Cross has the knowledge and tools they need to handle the cases of child abuse (P3). This same participant reported that they encounter two cases of abuse per year, while the other interviewee, who has a lower ranking function within the agency, reported seeing an average of two cases each week (P15). This interviewee felt like they do not have all knowledge and tools they need to handle the abuse cases. This feeling was motivated by the absence of a protocol for them or other agencies to follow, resulting in a lack of homogeneity in reporting cases. This person also mentioned that the training that is available is given to the wrong people, e.g., management instead of nurses. Barriers to implementation of professional development identified by this person were the lack of money, interest, and staff. "It has to come from above", they said (P15).

**Youth Health Care**

Two participants think they do not have the knowledge and tools they need to handle the cases of child maltreatment (P14; P19), while the third participant thinks it differs per person and discipline (P20). Barriers to the implementation of professional development and training include the lack of budget and personnel (P14; P19). One participant indicated that there is an overall resistance to cultural change, which hinders the implementation of professional development.

**Policlinic Child and Youth Psychiatry**

Both participants are satisfied with the training provided

for child maltreatment. They agreed that the knowledge they have is sufficient, although they would like more resources (P6; P7).

**Social Psychiatric Service**

One participant said "I do believe we have more than enough knowledge and tools, we just need to coordinate better" (P16), while the other said that they personally have the knowledge they need, but indicates a lack of knowledge amongst the staff: "For example, I made a permission form. If you work with children, you need to ask legal permission. I showed them, they never even thought about it" (P17). Both participants would like training on how to recognise and handle cases of child abuse, as "most of [the staff] have no training on how to tackle child maltreatment cases" (P16).

**Medical Institute San Nicolas**

The commission formed for child abuse at ImSan is looking into organising clinical sessions, as they feel they do not have all the knowledge they need and thus need more education.

**General practitioners**

One participant would like more knowledge and tools (P9), while the other said that more training has been available in recent years (P13). Still, training could be improved, they said (P13).

**Midwives**

The interviewee does not feel they have the knowledge or tools to handle the cases of child maltreatment. They said they have "no idea what to do" (P2). They reported not feeling satisfied with the training, because "there is no training". Barriers to implementing professional development include a lack of interest in the topic and little manpower.

*4.1.4 Support and Collaboration*
**Horacio E. Oduber Hospital**

Two participants said that they feel supported, one by the Commission, (P4) and one by their colleagues (P10). Two

participants mentioned the resistance they feel from the hospital, e.g., there is one professional who is an expert in child maltreatment, but does not get the time to handle all the cases (P1). One participant said that they feel that management closes their eyes to the problem and do not wish to talk about it (P4).

## Youth Health Care

All participants mentioned issues to do with collaboration. "One problem is that collaboration is lacking", says P14, "Everyone works on their own little island". Other participants mentioned fragmentation of collaboration and a lack of feedback after reporting a case: "When you report, you don't hear back because they don't have time or it takes very long, all those things there" (P20). Three participants feel supported, two by their colleagues (P20, P21), and one because they feel no one is working against them (P14).

## Policlinic Child and Youth Psychiatry

Both participants feel supported in their work for child protection, although they would like more support from the government (P7) and the schools (P6). Collaboration is said to be better than three years ago, but there is still room for improvement, e.g., more feedback after reporting (P7). Lack of collaboration is said to be common in Aruba:

Aruba is known for having the problem that everyone works within their organisation, so you have little islands on the island, with little communication, little collaboration, little of being on the same line, not multidisciplinary, and that makes it fragmented, because everyone does their own thing (P7).

However, more collaboration is desired: "We need each other" says P6, "Especially when it comes to the complexity of cases or the number of cases we get, at a certain point we have to start working together, we cannot work alone."

## Social Psychiatric Service

Neither of the participants feel supported in their work for child abuse. When cases are referred, they receive no

feedback (P16). "There is a certain collaboration", says P17, "But in practice we do not experience that". More collaboration is desired, especially in the form of feedback (P16) and routine meetings (P17).

## Medical Institute San Nicolas

The interviewee is happy with the support from Slachtofferhulp and content with the collaboration with the Horacio E. Oduber Hospital. They share a protocol, but do not share patient information. The interviewee does not feel supported in their work for child protection.

## General practitioners

Both participants feel supported. One by the paediatrician (P9), and the other because they always get the help they seek for the child (P13). In terms of collaboration, feedback is lacking (P9), but becoming more frequent (P13).

## Midwives

The participant does not feel supported in her work in child protection. They would like more support in the form of feedback after referrals. There is no collaboration according to P2.

## *4.2 Perceived strengths, barriers, and opportunities of health services responding to child maltreatment*

All participants were asked to describe the strengths, barriers, and opportunities for their organisation or line of work. These are described below.

### *4.2.1 Strengths*

### Horacio E. Oduber Hospital

The strengths of the hospital in their work for child protection, as described by the participants, include the Child Abuse Commission (P1; P4; P11), which provides a platform for discussion and advice and whose members are passionate and hard-working, and the protocol (screening and SPUTOVAMO) (P1, P10), which ensures that

professionals know what to do when they recognise a case of child abuse.

## White Yellow Cross

Strengths of the White Yellow Cross, as mentioned by the interviewees, include the fact that they are "the first line" (P15). They see almost all Aruban children in their early years and have the option to monitor their safety and development. Additionally, the agency has personnel that always goes the "extra mile", e.g., "The staff gets a call in the middle of the night from those teenagers and she goes" (P3). They are said to be respectful, professional, and knowledgeable (P3).

## Youth Health Care

Participants mention that strengths of Youth Health Care include "doing a lot with a little" (P14). They "see almost all the children in Aruba" (P20), there is a feeling of responsibility, (P20) and they all strive towards one goal (P20).

## Policlinic Child and Youth Psychiatry

Both participants agree that people are passionate in Aruba (P6, P7). Collaboration is good within their organisation (P6) and the workers are said to be knowledgeable and professional (P7).

## Social Psychiatric Service

Neither of the participants were very vocal on the strengths of their organisation. One interviewee says "I can tell you some strong points but they have nothing to do with child protection" (P16). The other only mentions that they expect "no resistance" once the specialised team for children is set up (P17).

## Medical Institute San Nicolas

The participant mentioned that they are passionate in their work to protect children: "Even though we are not protected by law, we still protect the patient, we protect the child" (P12).

## General practitioners

Only one general practitioner interviewed mentioned a strength: the fact that they are the first line (P13). When asked what is going well, the other participant said: "It's not going well" (P9).

## Midwives

One strength of the midwives is that they are able to visit the houses to evaluate the situation and identify anomalies early in the child's life.

### *4.2.2 Barriers*

### Horacio E. Oduber Hospital

Internal barriers indicated by participants include the lack of personnel, lack of time and money, and a lack of motivation and interest by colleagues (P1; P4; P11). External barriers include a lack of collaboration with other services (P4). For example, information or concern is not shared with general practitioners. Additionally, feedback from reporting services (Bureau Sostenemi and Voogdijraad) is missing, making it impossible to close certain cases (P4). One participant indicated that a third of all reported cases from the last 3 years remain open and unsolved (P4).

## White Yellow Cross

The two interviewees had very different views on the barriers they encounter in their work. One participant recognises no internal barriers (P3), while the other mentioned a few. These include: 1) the long steps to report or discuss cases, e.g., "I have to send an email to my team leader, who sends an email to the coordinator, who sends an email to the institution of interest" (P15); 2) the heterogeneity of the reporting process, e.g., some doctors and nurses are very quick to report a case, without asking questions, while others may hesitate more; 3) the lack of staff, resulting in a loss of information of patients and a strain on the doctor-patient relationship; and 4) the difference in culture and language between the patients and some of the workers, as many Dutch students come to do their internships in

Aruba for a few weeks or months, which poses a risk for misunderstanding or misjudging situations (P15).

Externally, both parties recognise a lack of funding for staff and training. One participant also mentioned the taboo that still surrounds child maltreatment (P15).

### Youth Health Care

Many barriers were mentioned by participants. Internally, they recognise material barriers, e.g., YHC currently does not have its own building and their computer system needs improvement, as their files are on paper (P14; P19; P20; P21). There is not enough staff, so the doctors and nurses do not get to see the children as often as they would like (P19; P20; P21). Also, staff have to use their own phone and car to visit and contact patients (P14). Additionally, the culture within the company was mentioned to be hierarchical: "Responsibilities are passed off, and from higher up responsibilities are not let go" (P14).

External barriers were only mentioned by one participant. These include the taboo that still surrounds child maltreatment, intergenerational continuance of social risk factors, and the ease with which people can hide from YHC if they want to: "If you just do not pick up the phone or if you just aren't home, at a certain point we lose track. All agencies are understaffed. The nurse will try a few times to visit such a family and then at a certain point she'll say 'I have enough patients, I'm going to the next one'" (P14). Politics was also mentioned as a barrier, as "it is not electorally sexy to finance the invisible worries at the bottom of society" (P14).

### Policlinic Child and Youth Psychiatry

One barrier that both participants mentioned was a disparity in knowledge and skills across psychologists on the island (P6; P7). The clinic invests in professional development, but not everyone has access to that (P6), so not everyone is schooled in the same way (P7). Additionally,

politics was said to be a barrier. P7 explained that every year plans change and fall through, and families suffer from that. P6 said that culture is a barrier, as "there is a lot of talking on the island, but few people take action". Last, P7 also mentioned that disparity in reporting caused by the absence of a protocol stands in the way of child protection.

### Social Psychiatric Service

The biggest barrier that both participants identified is the continued absence of a specialised team for children. There are no materials for this team, no staff hired for this team, and no building for this team. This forces the child psychologist to work in the building for adults, which poses a threat to the children's safety: "A few weeks ago we had someone walk in with a knife" (P17). Another internal barrier is the lack of knowledge of child abuse within the SPS (P16, P17).

An external barrier is the lack of collaboration and feedback from other agencies: "Nothing happens after you report abuse (…) so a majority of the time the abuse goes on, sometimes the reports never even get past the police station, they reach a total standstill" (P16). P17 mentions that there is not enough information sharing between agencies.

### Medical Institute San Nicolas

The participant mentions several barriers. Internally, people are not interested nor trained. Externally, collaboration is lacking, feedback is absent, and medical professionals are not protected by law. Additionally, they mentioned seeing a decrease in interest in the topic: "It is not easy here", said P12, "You start a project, but it costs a lot of energy to maintain those projects, because the people are initially interested, but then that interest diminishes. You have to keep chasing people."

### General practitioners

Internal barriers mentioned by the general practitioners include the absence of a protocol.

Externally, both interviewees mentioned the taboo around child maltreatment: "Not everyone can signal correctly, not everyone signals because of taboo or because of frustrations and barriers" (P9). Additionally, sharing information is hindered by confidentiality, perpetrators are not always punished appropriately, and not every case reaches their desks (P13).

### Midwives

Internal barriers for midwives include that they only get to see a child for 10 days after birth. Externally, they do not get feedback and are not protected by law when reporting a case. Additionally, shame plays a role in reporting, as child maltreatment still carries a stigma.

### 4.2.3 Opportunities

#### Horacio E. Oduber Hospital

Opportunities for changes that interviewees see include the introduction of a "vertrouwensarts", a doctor dedicated to handling cases of child abuse. Interviewees also agree that education of the hospital personnel, school teachers, and the public would benefit the functioning of the hospital in child protection. Participants believe that education within the hospital will contribute to stimulating motivation amongst health professionals. School teachers would learn how to recognise child abuse and what to do in case they do. The public would also benefit from education on where to go for which health issues, as the emergency room at the hospital is frequently full of people with the flu or a cough, for which they may as well visit the general practitioner.

#### White Yellow Cross

Changes that both interviewees would like to see is more personnel, especially for the Firm Parenting project. More training on how to recognise and report is also desired (P15). One participant mentioned that they would like more money and support from the government (P3), while the other mentioned that collaboration between agencies

and within White Yellow Cross needs to improve (P15). More specifically, feedback after reporting a case is desired.

### Youth Health Care

Opportunities for change centre around five topics. First, three participants agree that more action can be taken on social media, so that people are more aware of the services they offer and will appreciate them more (P14; P19; P20). Second, more staff is desired to carry out new projects, e.g., expanding the services from primary to secondary school (P14; P19; P21). Third, more training on signalling is desired (P14; P19). Fourth, digitalisation is expected to make the work more efficient (P14; P19). A potential digital child-following system was suggested by one participant (P14). Fifth, the same participant thinks that a reporting code coupled to a policy change would improve child protection (P14). All other participants would also like a protocol (P19; P20; P21).

### Policlinic Child and Youth Psychiatry

Opportunities that the participants see include more training on signalling, more psychologists that treat mental health problems rather than diagnosing them, and the implementation of a protocol. Both participants agree that more communication between agencies would benefit their work: "We need to start speaking the same language, especially when it comes to child abuse" (P6) and "We need to start finding each other" (P7). P7 said that they want a time and space to sit down and talk about cases in a multidisciplinary setting, and P6 agrees that work for child protection needs to be more interdisciplinary.

### Social Psychiatric Service

Four themes were mentioned in terms of opportunities. First, both participants want the specialised children's team to be set up:

> If everything goes as it should we will soon have our own child psychologist, child psychiatrist and other professionals who are educated specifically in this topic

and who know how to handle these caseloads and so we can then feel like we have enough support in regards to the protection of children. (P16)

Second, both participants want more collaboration between agencies. Participant 17 says "Directors should have routine meetings. Not that frequently, but every three months", and according to participant 16:

> What we need, I think, is just communication with the organisations involved in child maltreatment cases. If we could sit down together and discuss the best ways to tackle child maltreatment. Right now everything is confusing to us, if we go to Sostenemi they redirect us to Voogdijraad, we go there we get redirected again, so we want a clear view on what exactly everyone does and what they are supposed to be doing. (P16)

Third, both participants see the value of a structured protocol containing a list of risks and signs to be aware of and a guide on what to do when child abuse is discovered. Lastly, both participants think extra training is needed to raise awareness and motivate people to act.

### Medical Institute San Nicolas

The interviewee reported wanting more collaboration. They say that everyone involved in child protection needs to come together and form a commission. This commission would include members from all sectors: health care, social services, justice, and education. They also mentioned wanting more feedback.

### General practitioners

Both general practitioners would benefit from a protocol, including the signs of abuse and what to do when a case comes in. One participant stressed the need for structure: they want to know what agency has what role in child protection and where to go for what type of help (P9). Both participants would like more collaboration within the chain of child protection, e.g., better referrals from schools (P13) and more structured meetings between various parties (P9).

### Midwives

Opportunities seen by the participant include the implementation of a protocol, as well as a new law to protect medical professionals. Additionally, more collaboration and feedback is wanted. One way to do this, according to the participant, is to form an interdisciplinary commission: "It should be a commission between social affairs, paediatricians, White Yellow Cross, and us of course" (P2). With this commission, they could discuss cases and divide tasks in handling cases of abuse.

## 5. Conclusion

This descriptive study has provided an account of how the health services in Aruba respond to child maltreatment. It has shown that the health sector indeed plays a role in child protection.

In addition to describing the role of the health services in child protection, this research asked participants to describe the strengths and barriers of their organisation or occupation and consulted them on what opportunities for change they saw. The most frequently mentioned strength is that health professionals are passionate and will go beyond what is expected of them. Recurring barriers include a lack of staff, material barriers (e.g. no building, no digital filing system), and the taboo that still surrounds child maltreatment in Aruba. A lack of money, interest, and feedback is also mentioned, as well as heterogeneity in reporting due to the absence of a reporting code, lack of collaboration between agencies, and the politics that surround progress. When asked what participants would change, they often said they wanted a protocol, protection by law, more collaboration, and more training. Many respondents do not feel supported in their work for child protection.

Thus, it can be concluded that although Arubans are passionate and hardworking, they are not reaching their full

potential due to the barriers mentioned above. Removing these barriers, or reducing them, may provide health professionals with the means to fulfil their goals and wishes. The participants clearly indicated wanting to do more to protect children, but being unable to do so, having their hands tied behind their backs by the numerous barriers they encounter.

The only recommendation that can be made from these conclusions is to take into consideration the voice of the health sector in deciding the future direction of child protection in Aruba.

## 6. Author's note

This paper is part of a larger research project for my bachelor's thesis that aims to answer the question: How can the health services responding to child maltreatment in Aruba align their operations to the demands of the Social Crisis Plan? This paper served as part 1 of the project by describing the health services responses to child abuse in Aruba. Part 2 of this research will focus on analysing the gaps between the current situation and the desired situation as described within the Social Crisis Plan. Based on a model of "best practice", suggestions will be made on how to bridge these gaps and move towards a brighter future for Aruban children. If anyone is interested in reading the final results of this project, please contact the author at ginalucia@icloud.com.

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Amy Priscilla Richards, University of Aruba

I am so happy that I could be part of something so extraordinary and insightful as the UAUCU Research Exchange Program. What an amazing past few months I've had, with such a lovely group of ladies! It was truly a blessing to work, play and grow with the motivated, driven and focused fellow researchers. From the first moment I heard of the UAUCU program, I was already excited and ready to join. I was looking forward to share my passion for politics and governance, especially in regard to social policy, and learn about other disciplines and academic backgrounds.

At the first meeting you could tell how motivated everyone was, explaining with great pride about our research topics and approaches. It was very interesting for me to discover the reasoning behind the choice of their specific topic and learn more about their passion and interests. To me, what was really beautiful was the fact that many participants of this research program chose to come a long way to Aruba

and spend their precious time on my little island.

We spent many of our days under the hot sun, while appreciating the cool island breeze, talking about a variety of important social issues that Aruba is currently facing. It was empowering to hear so many effective and practical approaches to address and cure these issues. Everyone really wanted to contribute with valuable insight that can positively be applied in our friendly and happy community. From the bottom of my heart, I want to thank all of the UCU ladies for their time, effort and input that went into their interesting, and sometimes challenging, researches.

Throughout this entire program, I have learned to work more independently and with confidence. I have also learned to remain calm in moments of insecurity and that by offering support to one another, we can all grow and develop further while becoming stronger. It was a successful collaboration between the UA and the UCU and I am confident that the friendships and bonds that were formed during these past few months, will last a lifetime.

Lastly, I want to emphasize that it is so important to build the body of knowledge on the island of Aruba. Through intensive data collection and by bringing forward these researches, it may contribute to future implementation of plans on the island of Aruba.

Even though my research paper is not complete yet, I am confident that the final research product will conclude with some helpful and insightful data. I am so grateful for my family who supported me during this entire process, to the lecturers of the University of Aruba for their guidance and knowledge, to my fellow researchers for their inspiring drive and ambition and to the Minister of Social Affairs and Labor for implementing such an essential policy and for encouraging me to do my research on the Social Crisis Plan. I wish our program coordinator, Mr. Eric Mijts, a lot of success in the future with this research program and I trust that it will continue to grow and inspire many more researchers in the future. Keep up the amazing job!

# Social Crisis Plan Aruba 2018-2020: Stimulating and Hindering Factors.

Amy Priscilla Richards

## Introduction

Based on the data collected during the 2010 Aruba Population and Housing Census, the Central Bureau of Statistics (CBS) Aruba created the report Vulnerable groups within the population of Aruba (2015). In this report, children not attending school (ages 4-17 years), young unemployed persons (ages 15-24 years), persons with a disability, elderly (60+ years), single parents (with children younger than 18 years) and teenage mothers (ages 14-19 years) are classified as the primary vulnerable groups of the general Aruban society. The CBS has defined the concept of vulnerable groups as follows:

> Groups that experience a higher risk of poverty and social exclusion than the general population. Ethnic minorities, migrants, disabled persons, the homeless, those struggling with substance abuse, isolated elderly people and children all face difficulties that can lead to further social exclusion, such as low levels of education and unemployment or underemployment. (2015, p.5)

After the findings of this report were made public, the current Aruban social situation was dubbed as being in a "social crisis" by the local government. This announcement was made after the tragic and violent death of two young brothers named Rishandroh and Eugene in November 2017. The Minister of Social Affairs and Labor decided to meet with all of the directors of different organizations and departments in the social sector to hear their viewpoint on what can be done to address this social crisis and stop the abuse against the vulnerable groups within our community. This type of joining forces of a large number of different involved organizations was something that Aruba has not seen before. This was the vision of the Minister of Social Affairs and Labor as a solution-based approach (DSA, December 2017). These meetings led to the creation of the Social Crisis Plan (SCP) with the title Integraal Sociaal Plan Aruba (DSA, December 2017).

The main objective of this public policy crisis plan is to save many lives. The SCP intends to safeguard and promote the wellbeing of the children and adolescents in Aruba by creating a better functioning social chain. An important part of the intended outcome is to improve the various social aspects of the island by tackling the current societal problems in every level in the Aruban community (DSA, December 2017). According to this plan, this means that the involvement of families, schools, neighborhoods, organizations and the government play a very crucial role in forming a strengthened community. The policy was designed as a direct instruction of the Minister to all the local social organizations that focus primarily on children and adolescents with their main focus being on prevention and working in a curative way (DSA, December 2017).

Since the initial creation of the first policy starting in December 2017, when all organizations would meet once a month, the policy has simultaneously been introduced as well as implemented within the local social sector.

To be able to gain insight on the effectiveness of this public policy, it would be meaningful to research the implementation, including the actual state of affairs of this policy plan. With this research, it will become noticeable which hindering and stimulating factors play a role in the implementation and how can two of the intended objectives of the Social Crisis Plan (to eliminate the long waiting list of abuse cases pending to get processed and to provide timely guidance in social crisis cases) be best achieved according to the involved organizations (DSA, October 2018, p. 8).

Due to the fact that this research project serves to fulfill the requirement of the bachelor thesis for the Organization, Governance and Management Faculty (University of Aruba) and that the time shared during the UAUCU Student Research Exchange was limited, this paper will only elaborate on the context, literature review, theoretical framework and methodology employed for the present research study. This paper was designed during the months spent participating in the Student Research Exchange Program, as preparation for the data collection phase of this bachelor research thesis.

## Research Questions

The purpose of this research is to characterize the stimulating and hindering factors that have affected and/or still affect the implementation of the SCP and indicate how the objectives of this policy can best be accomplished.

The following main research question was formulated:
What are the stimulating and hindering factors for the implementation of two of the objectives of the Social Crisis Plan (to eliminate the long waiting list of abuse cases pending to get processed and to provide timely guidance in social crisis cases), and how can these intended objectives be best achieved according to the organizations involved?

In order to answer the main question, the following three sub-questions were formulated:

1. Which organizations are involved in the design and implementation of the selected two objectives of the Social Crisis Plan and what were their tasks and responsibilities?
2. What are the stimulating and hindering factors for the implementation of these two objectives of the Social Crisis Plan?
3. How can these intended objectives be maximized according to the organizations involved?

By creating a theoretical framework based on a literature review and using this as a basis for this research, it will become apparent which specific factors related or relate to the current implementation of the SCP. The method used to conduct this study is an explorative qualitative approach due to the flexibility that it offers to the research respondents to express valuable insights on this topic and not only to the themes that were initially taken into account in this study. By using semi-structured interviews, the researcher can prepare the interview questions ahead of time, based on the topic list created, which also allows space for new follow-up questions based on what is expressed during the interview. This provides an opportunity for the researcher to gain a broad spectrum of relevant knowledge and insights on the topic at hand (Bryman, 2016).

## SCP 2018-2020

The Social Crisis Plan, as mentioned before, was created by means of having the participation of various local social organizations. This united front, had the main task of putting together a detailed plan of approach that will cure the social crisis, which Aruba is currently facing. The first document created with intent to direct the SCP, Integraal Sociaal Plan Aruba (DSA, December 2017) depicts the current social

situation of Aruba by stating the data collected in previous analyses and also gives the perspectives of the cases with which the Department of Social Affairs is frequently confronted . Such cases include unemployment, housing problems, divorces and family problems, poverty, domestic violence, abuse and isolation of elders, alcohol and drug problems. The aim of this plan is to make a coherent plan of proposals for specific policy-based measures. This includes short term (crisis), medium and long term measures at various levels and with regard to various target groups. These measures seek to prevent, address and combat an increase in social problems and pave the way for restoring the prominent social inequalities. This action plan attempts to achieve this goal by restoring the balance within the social field more effectively, by paying specific attention - in the broad field of prevention and cure - to all the vulnerable groups in our society. The most important guiding principles for the Integraal Sociaal Plan Aruba in relation to the present research project are:

- Early identification of abuse, early intervention in abuse cases and prevention of abuse to ensure that social needs are not compromised.
- To offer a second chance to at-risk youth or children by getting and keeping them on the right track through coaching and coaching trajectories that may give them more opportunities for work in the future.
- To develop more interactive policies that target specific groups and disadvantaged people.
- To introduce innovative ways of working by using methods catered towards the target groups, while focusing on customization, self-managing of own developments and promoting self-reliance.
- Each social actor has their own responsibility and should also actively take up this responsibility in the effective management of children and adolescents at risk.

To be able to successfully work towards improving the quality of life of the Aruban society, the SCP adopted the transforming lives theory and approach presented to the United Kingdom Parliament, by the Secretary of State for

Work and Pensions, Mr. George Iain Duncan Smith in March 2012. This approach integrally examines all phases in human life and, for each phase, looks at the environment and the possible risks per life phase (DSA, December 2017). It also examines which strategies can be effectively used to tackle these risks in time. The life phases are: baby/toddler and preschool phase, child phase, teenage phase, adult phase and senior phase. The most common environments of each of these mentioned group are separated into categories and their established risk factors are shown for each category and also the specific steps within the strategies of approach. Separate from these specified phases, the society as a whole must also be taken into account. An important starting point for this plan was also the emphasis on early identification of abuse, early assistance in abuse cases and prevention of abuse. The main target group consists of vulnerable children and young people in the field of social security. The aim of the SCP is mainly to establish a child protection system across the entire chain of care, education, justice and in neighborhoods, so that children may grow up safely and healthily in the Aruban society.

The government of Aruba will apply a three stream policy in the prioritization of interventions in the SCP. The first stream consists of interventions that should take place immediately, this includes primary and secondary prevention and early intervention. Primary intervention and early intervention consist of targeting and screening of high-risk families after the birth of each child, in each district by means of home visits by the "Wit Gele Kruis". Another objective is to increase the parenting skills from the birth of each child in each district with the stationing of social workers in a number of districts/schools with multidisciplinary teams aiming for early identification and early assistance. It is essential to work with a multidisciplinary approach with police, school principals, care institutions under the guidance of social workers from the Department of Social Affairs in each district. An important goal is also to be able to set up a local registration tracking system of high-risk

families and children. In the area of prevention, a mass campaign supporting norms and values and the awareness of relational violence will be presented. The final stage is to implement a national abuse report code.

The second stream, being the main focus of this research, consists of curative and repressive interventions. The aim is to eliminate the current waiting lists of an average of two years that different social organizations have, tackle "urgent matters", create sufficient reception areas and also, offer support to repeat offenders with a criminal record. The aim of this second stream is also to ensure that high-risk families and high-risk young people receive more guidance and also to be able to offer a timelier crisis care for young people with a behavioral problem.

The third stream focuses on strengthening the position, disadvantage and safety of the target group of children and young people with disabilities. The aim is to be able to offer disability care, 24-hour care, nursing and care for disabled people with intensive care needs. It was decided by the steering committee to have all projects carried out in existing buildings, either via National Decrees/Programme of Requirements for Foundations or via plans of approach coming from offices and/or services falling under various Ministries (DSA, October 2017).

**Policy Theory**
Several authors have defined public policy making in many ways, but the defining aspects revolve mainly around the decisions that the government makes to be able to direct the community in a specific direction. For example, Bovens et al. (2012) defined the term as "all intentions, choices and actions of one or more administrative bodies directed to the steering of a particular social development' (p. 51). Another definition by Dye (1972) stated that the meaning behind public policy is in fact, "whatever governments choose to do or not to do" (p. 2) This definition, however, does not give any in-depth insight as to what the reader may or may not expect.

The definition that the present research will be adhering to as the main point of view, is that of Noordegraaf (2015). The way he has presented the idea of public policy combined with the necessary legal regulations and control, creates a more professional and realistic view, as opposed to other definitions mentioned previously. Noordegraaf believes that the concept of public policy can be viewed as established and authorized political decisions and intentions. This stipulates that there must be political involvement during the process of public policy making and also the aspect of having authorization concerning planning, decision making, legal regulations and control comes to light. When a public policy is created and implemented without the necessary involvement of those who have political power and without those who have been assigned to the implementation process, it cannot be considered valid, as Noordegraaf has argued.

**Policy Design**
Bovens, Hart and van Twist (2012) established the eight main steps that a policy design cycle consists of. It starts by setting a clear vision of what exactly the policy aims to achieve. The second step analyzes what problem the policy is trying to solve. The third step delves deeper into the problem area and addresses its main causes and effects. Soss stated: "Direct experiences with policy design provide citizens with "scripts" that indicate how they can expect government to act" (2000, p. 376). After being able to receive all this background information and clarity has been established related to the main topic, goals and processes, it is time to determine clear guidelines to be able to achieve the goals that were mentioned in the beginning steps. These guidelines will become the main objectives of the policy plan.

Young and Quinn (2002) have explained that to be able to convince the government and general public that there is a real problem that deserves their attention and input, the policy must effectively display the "causes, effects and extent of the problem based on a wide variety of sources" (p. 13). The fifth step, according to the authors,

is to formulate what is necessary to guide the policy and bring it into its full effect in order to be able to, finally, achieve the objectives. Sabatier and Mazmanian (1980) pointed out that the policy goal is "to develop better tools for addressing heterogeneous problems which demand substantial behavioral change" (p. 544).

After determining what is being achieved and how this will be done, it is important to have the key players that will implement this policy. These players can ensure that the processes are taking place correctly and that the main objectives are being obtained. Thus, the sixth step is to find the best way to implement the complete policy by making use of those who are valuable to achieve the effectivity of the policy plan. The seventh step is to analyze how the necessary tools will help the implementation process of the policy, and also, what financial significance this will have for the stakeholders involved.

## Policy Implementation

Once the policy design phase has been completed, the start of the implementation process can commence. This means to bring the plan into full effect and manage and monitor the execution and outcome of the steps and plans that have been established beforehand. Before starting the implementation process, there are aspects that can be taken into consideration as possible strengths and weaknesses due to the fact that obstacles or hindrances may arise. On the contrary, there may also be many stimulating factors that may be present, but only when the policy is being implemented, will these become clearer. Lindqvist (2016) has defined the implementation process as "the action undertaken to realize policies, which in turn can be defined as propositions to solve societal problems, including goals and tools for achieving these" (p. 5). There are many aspects that can influence the implementation process and Hill (2003) elaborated on the environment surrounding the entire process by focusing on economics, public opinion and the response of the policy's target group.

## Well-designed policy

Schacter (2006) explained a variety of elements that can help strengthen a good policy design. His main criteria for a good policy design are the following ten points: Firstly, Schacter argues that a good policy advice would arrive in a timely manner. What he meant by this was that the policy would arrive on time, ideally when specific legislators and ministers need it to be able to put it into practice or execute its content. Secondly, good policy advice would be based on adequate consultation within the field in which it will be implemented. The necessary dialogue to address the issues at hand is very important along with the initiative to have a sit down conversation with all stakeholders who have been affected by the problem and who will also, in time, be affected by the intended outcomes of the policy. Another important element within a policy, is the ability to have a clear purpose. Bovens et al. emphasized that an effective policy must contain a clear vision of the desired goals. Hill (2003) also mentioned that policy implementers have to be able to grasp the true purpose of the policy as well as how this will be incorporated in their day-to-day tasks. When having a policy design that is not clear, in terms of intention and execution, the main objectives may not be achieved in the end. Schacter (2006) pointed out that other important element in policy design is the logical and evidentiary basis that it possesses. Singleton (2001) also placed the emphasis on having the necessary valid data, as relevant evidence, to be able to support the arguments brought forward in a policy. The motive behind the policy intent, necessary data collected to support motivating statements, the description of the advice and a plan of action, have to all be connected in a detailed, integrated manner. By having multiple stakeholders involved in a policy design, it is also helpful to have it presented in a balanced way. Bovens et al. have determined that the sixth step of the policy design cycle is to consider the input of those who are valuable to the effectivity of the policy plan (2012). This can help emphasize different strategies and help with being able to address other viable options for

action. By having different perspectives and observing various ways of bringing change, it keeps the policy dynamic and also pragmatic. When taking all of the above mentioned points, relating them to the relevancy of the policy, and presenting them in a simple and understandable structure for the implementers, it can have a positive impact on the implementation process. Hewison (2008) stated: "vague definition of values allows stakeholders and policy analysts to argue at cross-purposes about vastly different things without realizing it, thus hampering the policy process" (p. 293).

## Tasks and Responsibilities

Roberts and Brandley (1991) believed that creating the opportunity for different actors to work together and bring their multiple perspectives may lead to thorough insights that can result in effective policy making and execution. In one important approach applied in the SCP, the Social Justice: Transforming Lives Strategy (2012), stated that a multi-agency collaboration is a fundamental and effective aspect in problem solving. A lot of emphasis is put on the initial design phase, by confirming that the objectives are clearly stated, to ensure a positive and effective final execution. When implementing a public policy that includes the active roles of various organizations, it may become challenging to divide tasks and responsibilities, especially if it consists of organizations who have not worked together before or who do not have a positive history of cooperating. This aspect may even become more crucial when the continuity of the policy relies on joint actions to be taken. Sabatier and Mazmanian (1980) mentioned that some existing frameworks disregard the importance of having clear statements on the formal authority and roles of those involved during the implementation process. They also stated that it is advisable to have clear communication on the "relative priority" that new directions of a policy may have, to prevent delays that can occur if organizations choose to focus on their own original organization goals and/or projects (1980, p. 545).

Pressman & Wildavsky (1973) also warned about the (negative) influence that having different interests may have on the implementation, and then continued to state that having clear role description is essential for an effective implementation. Sabatier and Mazmanian (1980) focused on "obtaining coordinated action within any given agency and among the numerous semi-autonomous agencies involved in most implementation efforts" (p. 546). They stated that one of the most important aspects that should be stipulated in a policy is how it clearly states the roles and responsibility of the organizations actively involved in the implementation phase. A lack of clarity in this area may result in a variety of approach and lack compliance to policy measures by different organizations. When stipulating a hierarchical system to the policy implementation, clearance points can also be regulated to ensure that when working stepwise, an overall view of the implementation process at hand will be clearer for those involved, specifically for those in monitoring and supervisory roles.

## Leadership, Management and Monitoring

When researching stimulating factors around public policy, it is relevant to recognize the level of political commitment to the entire process. According to Post et al. (2010), political will is displayed when "a sufficient set of decision makers with a common understanding of a particular problem on the formal agenda is committed to supporting a commonly perceived, potentially effective policy solution" (p. 659). The authors also mention that besides political will and authority being essential to achieve the desired objectives, so is the capacity and the legitimacy of the main decision makers involved in the process.

Crisis situations may consist of uncertain events that may leave a negative behavioral and/or emotional aftermath for the community they affect. The events experienced can lower the level of trust and certainty placed in the individuals and organizations primarily responsible for working with or responding to the circumstances (Alison &

Crego, 2008). The leaders, directors and presidents of such organizations may be the first ones called to give a report on how the occurrences reached the extent of crisis.

## Communication

When a collaboration relies on the input of multiple actors from different organizations and also different levels within the organizations, the focus may be placed on the aspect of communication, which can be regarded as a stimulating and/or a hindering factor. To communicate by sharing information and details will help the process of implementation move forward by working against ambiguity. However, the mere fact of sharing information may not always be enough; effective communication should also lead to reaching a shared understanding or sense-making of a (crisis) situation (Weick, 1995), especially within teams acting at the highest levels of the crisis management organization. The aspect of communication between the various organizations and organization members is one of the most crucial and time-consuming tasks within a crisis management organization (Rogalski & Samurçay, 1993). According to Blazenaite (2012):

> Organizational structure channels communication along the vertical and/or horizontal directions of communication and determines the load of information that formal and informal networks filter. Hierarchical ordering stimulates or hinders the relationships along the lines of authority which in itself constitutes a large part of the communication system. According to the dominant structure of an organization, formal organizational communication networks develop and specific sub-systems of organizational barriers are delineated. (p. 91.)

The author clarified that vertical messages travel upward or downward, through the organizational lines of authority. The horizontal messages, however, travel between employees. Both directions can have their specific elements of influence on the overall communication during the entire implementation process, and factors that restrict the flow of information can be considered as barriers (Blazenaite, 2012).

## Resources

According to Bovens et al. (2012), the fifth step of a policy design cycle is to determine what is necessary (tools & resources) to ensure the implementation is successful by achieving the end objectives. The authors also mentioned the seventh policy design step, which entails analyzing how the necessary tools will help the implementation process. The SCP has as a goal to be able to reinforce the social sector with the necessary tools, instruments and funding that they deem necessary to be able to address the social crisis. Public management implies "the use of organizational resources in and by public and non-profit organizations to coordinate special efforts, so that different objectives can be accomplished and public needs are satisfied" (Noordegraaf, 2015, p. 20). Peters et al. (2018) have distinguished three main levels of analysis when it comes to policy effectiveness, namely, spaces, process and tools. Bovens et al. (2012) stated that the seventh step of a policy design phase is to analyze how tools and processes can help the implementation and what effects it will have for those involved.

The first level of policy effectiveness, according to Peters et al. (2018), state that an effective design environment is crucial to the policy as a whole. The authors have explained that creating a space where different ideas can be brought forward and discussions can be held fosters good policy design. Those involved in the design process must possess technical expertise and also have leadership and communication skills (2018). The second level of policy effectivity resorts around the instruments being used throughout the various processes aimed to complete the policy design. Policy instruments that are expected to aid the processes in achieving certain policy objectives, such as self-regulation, are opposed to working under close supervision or by setting up mechanisms of deliberately thought-out steps to help achieve the objectives defined in the policy. These processes are set in place to support the targets that are set to be met, through the implementation of the policy. The third level according to Peters et al.

(2018) is to focus on the specific policy tools. The tools are considered to be the necessities that the government possesses or needs to possess in order to achieve the objectives. This can range from a substantial funding and manpower to training, goods and services provided. It is advised to do an assessment on what the government has as tools, and to analyze how these were used in the past and the impact that they have had.

## Impact Assessment

In the process of making an assessment of the impact caused by a proposed set of actions, it is useful to first be able to define what an impact is. Fitz-Gibbon (1996) considered this to be any consequences felt by a specific group of people, that was caused by an event or action. This opens the possibility of identifying that an impact can have both positive and negative tendencies, predetermined or not.

Impact analysis may be used as part of the policy cycle to identify future consequences of actions being proposed in a policy plan. It entails a variety of approaches and tools to be able to conduct the necessary assessment. (Hughes, 2017). Hughes distinguished two different roles of the assessment. The first one is an ex-ante impact analysis, which seeks to create the perspective of what the policy interventions might have as consequences and how it might impact the community in which it is aiming to have an influence through the tasks assigned in the policy. Van Noije & Wittebrood (2010) argued that there might be some inconsistencies between the assumed and the actual effects of policy interventions, and used evidence-based approach on evaluation to bridge this gap. The second role of the assessment is ex-post impact analysis, which looks to observe the effects of the interventions that were conducted through the policy (Hughes, 2017).

Bakker, de Krijger, Koska, Puetter (2016) targeted the assessment of policy implications for the European Union (EU) citizens, mentioning that ex-ante analyses

of the possible effects and outcomes of a proposed policy plan, more than likely will influence the decision-making processes. According to these authors., there are two different perspectives that can be adopted when choosing to take up an impact assessment tool, namely, the technical-rational and the post-positive perspective on ex-ante evaluation. The technical-rational approach view the impact assessment as objective processes used to structurally evaluate the proposed actions and measures within a plan, in the hopes of contributing to a form a better, more effective policy (2016). This includes the involvement of experts with the vision of separating those involved in policy formation and the decision makers. In contrast, the post-positive approach to impact assessment views it as a continuing learning process for those involved in the policy development and implementation phase. With the involvement of those connected actors, and through a range of transparent evaluations, there must be a sense of willingness present to hear and consider different views and approaches. It must be borne in mind that the entire process is where the post-positive approach lies its importance, and not only the final product (2016). This approach is used to support the idea that, through these learning experiences, organizations and the various actors involved will adopt a mindset that will create opportunities to encourage future dialogues on other serious and difficult matters (Owens, Rayner & Bina, 2004, p. 1948). There have been critiques on these two approaches and Owens et al. (2004), mentioned that a limitation that the technical-rational model confronted was that it ignored the complexity of the decision-making process, and the post-positive perspective is said to be "time-consuming" and the cause for conflict, hindering the goal to give advice and information to decision makers.

Al et al. (2015) have classified three key reasons for collecting data on impact:

> Whether the projects are being conducted effectively, in order to learn from and improve project activities;
> Whether the program is making a difference to people,

groups, organizations or communities; and lastly to use that evidence of impact to advocate for continued support and/or funding from relevant stakeholders. (p.115)

Pressman and Wildavsky (1973) distinguished a large variety of different evaluation forms and pointed out the main reason why it is so important to ensure that an evaluation is done and also that the data presented will be considered and applied (p. 198). The authors also state that decision makers should work closely with evaluators in a collective effort to improve the policy implementation to ensure the objectives are being met.

### Lack of mentioned stimulating factors

Quarantelli (1999) observed the organizational behavior when confronted with a crisis and he stipulated three common management challenges that may arise that can be considered the opposite of some of the aforementioned stimulating factors. Firstly, disturbances in the flow of communication within and between organizations and also, to and from the organizations involved and the public. Secondly, organizational decision making problems may occur due to losses of personnel, in managerial and executive positions, because of overwork, conflict related to authority over new disaster tasks being introduced and uncertainties over jurisdictional responsibilities. Another challenge that is mentioned, related to organizational behavior, is difficulties with inter organizational coordination. This may arise due to a lack of consensus and communication about what constitutes proper coordination, and forced relationships created by new crisis tasks. Furthermore, Pressman and Wildavsky (1973) mentioned multiple goals and lack of clarity in the objective of the policy. They mention that the main goal of the Economic Development Administration (EDA) project was clear but it was only to be achieved by means of other separate decisions involving other stakeholders and partners. Therefore, the lack of mentioned stimulated factors might be considered as possible hindering factors.

### Different interests & perspective on goals

During a policy implementation phase, it is possible that the involved stakeholders might have different priorities. This can lead to conflicts, disinterest, time consuming steps to reach agreements and other hindering effects (Pressman and Wildavsky, 1973). Kroll (2018) stipulated that before starting the implementation of a policy, consultation is necessary to assess the priorities of the various actors involved. Only then, he states, will it become apparent if it is realistic to embark together, once the priorities align, to work towards achieving the policy objectives. Salvesen et al. (2008) discussed how conflict may arise and de-route the implementation process. Conflicts can arise between organizations and actors involved but also it may arise in the community when the policy is made public or is introduced. It is wise to be prepared for these conflicts to arise and deal with them strategically as one is encountered with them. The authors state that when a policy introduces something that may disrupt the status quo, conflict may be expected. In relation to conflicts rising, May (2014) has pointed out that: "problems arise from inadequate specification of desired actions and from failure to include features that overcome basic conflicts among the actors charged with carrying out policies (p. 2-3).

Pressman and Wildavsky (1973) established that bargaining also played a role that led to the failure of the EDA project, due to negotiation between all actors involved, to ensure that their interests were met. When dealing with various decision points that need approval, it may become a challenging task due to the involvement of various actors and this might lead to having to delay the implementation. An important aspect that Pressman and Wildavsky mentioned is the intensity of the participants involved. Due to other projects, interests of priorities, it might become a hindrance when actors involved are not contributing as much as they should. This causes a negative effect on the entire process and may cause the implementation to stall or fail (Pressman & Wildavsky, 1973).

### Theoretical framework

#### Policy implementation

| Stimulating factors | Hindering factors |
|---|---|
| Well-designed policy<br>-Timely & relevant<br>- Adequate & balanced consultation<br>- Logical & evidentiary basis<br>- Clear purpose<br>- Viable options<br>- Understandable & pragmatic | Lack of the mentioned stimulating factors |
| Task & responsibilities<br>-Clear division of tasks & authority | Different interests & perspectives on goals<br>• Bargaining<br>• Conflict<br>• Lack of intensity of participants |
| Leadership<br>-Managing<br>-Monitoring | |
| Communication<br>-Effective (vertical & horizontal) | |
| Resources<br>-Manpower<br>-Instruments<br>-Finances<br>-Training | |
| Impact assessment:<br>• impact/effect on people/groups/organizations/communities<br>• Effectiveness of process | |

Based on Literature by Bovens et al. (2003), Howlett et al. (2009), Sabatier (1986), Salvesen et al. (2008), Schacter (2006), Singleton (2001), Peters et al. (2018), Pressman and Wildavsky (1973), Weick, 1995

Stimulating factors that were noted during the making of the literature review were the following: a well-designed policy, clearly divided tasks and responsibilities, constructive leadership, effective communication, the necessary resources and impact assessment. The hindering factors that will be focused on during this research paper are the following: lack of stimulating factors and different interests, perspectives on goals of the organizations involved. For some factors, variables have been established to be able to define the influence of the factor more clearly due to the broad range of aspects that can be taken into consideration. Besides the points mentioned in the theoretical framework, during the data collection phase there will be space for emerging themes that might appear, which can possibly also be considered as factors or variables.

## Methodology

The method chosen for this research is a qualitative approach. The main reason why a qualitative approach was chosen, is due to the fact that it presents the opportunity to gain in-depth insight on different perspectives such as values, beliefs and underlying motives that are difficult to assess when using a quantitative method (2016). For this research project, these perspectives are highly necessary to be able to answer the main research question and sub questions. This objective would not likely be achievable through quantitative research, which focuses on numerical value. According to Bryman, (2016) "qualitative research is a research strategy that usually emphasizes words rather than quantification in the collection and analysis of data" (p. 374). Based on the participants' responses on their personal assessment and impressions, the present research study will be able to formulate conclusions with the potential main themes that would be brought forward during the data collection phase. In the past, qualitative methods have been used to report, for example, probable hindering factors in implementing a trial of embryo transfer. In this case, small group discussions were

conducted to encourage the staff to explain their own reluctance to cooperate and this lead to an improved collaboration (Porter and Bhattacharya, 2005).

Furthermore, deductive theory will be applied. This means that a theoretical framework was designed for this research on the base of a literature review. This theoretical framework is used to create a topic list and after collecting the necessary data through fieldwork, the data will be analyzed through the theoretical framework that was presented, and hereafter, the final conclusions can be formed. Bryman (2016) has explained  that the topic list is "an interview guide and here the researcher has a list of questions or fairly specific topics to be covered" (p. 468). However, one of the advantages of qualitative research is that it leaves room for emerging themes, which might also appear in the present research study.

## Respondents

The objective of this research project is to be able to offer insight to those who work in the field of policy making and implementation, by depicting different stimulating and/or hindering factors that can be taken into consideration during the process of public policy implementation. To obtain the necessary data, 14 semi-structured qualitative interviews with the Minister of Social Affairs, policy advisors and implementers involved in the Social Crisis Plan such as the director and social workers of various departments and organizations, will be conducted. The objective of this approach is to be able to receive a broad perspective on different aspects related to the implementation of the SCP. The departments and organizations specifically selected were amongst the first ones called by the Minister to create an organizational and situational assessment, and thus, have been involved in the SCP since its initial formation. Some of the selected participants were directly involved during the design phase, while others were included during the implementation and execution phase of the SCP.

## Research Instruments

The three instruments used to conduct the data gathering for this research project will be the following: a topic list for the interview questions, a consent form and a voice recorder. A topic list was created as a guideline for the interview to ensure all themes were incorporated. As mentioned before, semi-structured interviews are included in this research study with open-ended questions to allow the respondents to answer in their own way without being limited to predetermined answers (Bryman, 2016). These types of questions also create the opportunity for the respondents to answer honestly and openly, because the question does not suggest a specific direction as to what answer is being expected (p. 244). A consent form will be used to ensure confidentiality for every participating respondent who voluntarily shared their views and experiences. The form also presents information regarding the main research question, and ensured their anonymity throughout the analysis and writing up phase. Lastly, a voice recorder will be used to record the interviews with the consent of the respondents. This way, the researcher will be able to relive the respondents' expressions and tone of voice used during the interview while analyzing the data collected. Also, to precisely identify the themes that would be  brought forward with the expressed words chosen, it is advisable to use a recording device. Bryman described the importance of using a voice recorder, stating that "qualitative researchers are frequently interested not just in what people say but also in the way they say it. If this aspect is to be fully woven into an analysis, it is necessary for a complete account of the series of exchanges to be available" (p. 479). All of the above mentioned factors will be used to guide the data analysis process to formulate a final conclusion. The main language chosen for the interviews is Papiamento, sincethis is the primary language spoken by most participants and one of the official languages of Aruba. However, it can be expected that some participants choose to express themselves in Dutch, which is also considered an official language on the island.

## Fieldwork Procedure

The entire period of data collection transpired between April 2019 and May 2019.

## Data analysis

By making summaries of the interviews and by using a systematic way of coding, the researcher will look for recurring themes and will seek to understand and answer the main research question and the sub questions as well. According to Bryman (2016), "one of the main difficulties with qualitative research is that it very rapidly generates a large, cumbersome database because of its reliance on prose in the form of such media as field notes, interviews transcripts, or documents" (p. 570). He also mentioned that "coding is the starting point for most forms of qualitative data analysis" (p. 581). A thematic analysis will be done on the different reoccurring themes brought forward during the interviews and the similarities and differences in the data collected will be examined. By selecting the themes and connecting them to the theoretical framework, there will be a clearer depiction on what exactly is being experienced by the respondents. In addition to this, emerging themes will also be analyzed to identify themes that were previously not taken into consideration. The researcher may use these emerging themes from early interviews and incorporate them for other interviews in the future (p. 469).

## Role of the researcher and ethics

In qualitative research, the researcher is a main factor and tool for the entire process. A qualitative researcher has to be aware of their own prejudices, biases and also assumptions to be able to prevent oneself from making incorrect or biased conclusions. This is why Finlay (2002) explained the importance of reflection during the research process, stating that reflexivity has the potential to explore the position, perspective and presence of the researcher, open up unconscious motivations and unspoken biases in the researcher's approach and also develop rich insight through examining personal responses and interpersonal dynamics.

Since the present researcher is currently functioning in a double role, as a policy advisor for the current Minister of Social Affairs and also as a researcher studying factors related to the implementation of the SCP, the purpose becomes to reflect as much as necessary to ensure the objectivity in designing the topic list with open, non-biased questions and interpreting and analyzing the research results. By being able to provide objective results, which will also be followed by recommendations, a true depiction will be guaranteed of the matters at hand. Only then can the results actually contribute to the greater knowledge of those involved in the area of policy implementation. If personal biases are interfering with the data analysis, the results will be ineffective and thus all the time invested in this research will be useless.

Furthermore, it is crucial to protect participants during the research process and to ensure their overall well-being. Bryman (2016) explained that the research study should not harm the participants physically, emotionally or their interest of employment opportunities. The researcher can ensure the protection of the participants by informing them of the research topic, of their rights as voluntary actors and by allowing them to sign a consent form stating that they will remain anonymous at all times. To be able to gather and analyze accurate data, the participants are informed that the interviews will be recorded with their consent in order for the researcher to summarize and analyze the content. Relevance of research

The relevance of this research is to contribute to the limited existing research database on the island of Aruba. It targets local organizational processes during the first stages of the implementation of a public policy. To be able to analyze the SCP and evaluate how the implementation process of a public policy is influenced by both stimulating and hindering factors, it can contribute to the knowledge of policy makers and implementers and result in promoting a more effective way of implementing policies in the

future, leading to sustainable solutions. This research aims to encourage policy makers to contemplate and take into account the various factors surrounding the implementation of a policy, especially when involving a number of actors during the design and implementation phase, and not only on the initial design and objectives.

Considering that Aruba is facing some significant challenges in the social area, it is important to have an appropriate policy, effectively implemented, that targets this with the aim to improve the overall quality of life of those currently in crisis situations by offering them timely guidance and care. The intent of this research remains to attempt to strengthen the strategies in place, which are currently being used, when implementing a public policy by identifying key influencing factors.

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When I initially arrived in the blistering heat of Aruba, I was surprised by how unlike the island was from what I had imagined. I had decided to come for multiple reasons, one being away from the hustle and bustle of UCU and to enjoy some peace and quiet. Being 6 girls in a closed space, I might have overlooked the obvious drama that could arise from that situation! Of course, these girls have come to be my close friends whose opinions and ideas I value most.

The contrast threw me off the first weeks, but as soon as I started my research, I felt better. Spending time at the Reclassering office with Giovanny showed me what a true community feeling was. I was welcomed with open arms and helped as much as I could have been. Seeing all the workers try their hardest to help as many people as they could, whilst being worked to their maximum, was heart-warming and heart-breaking at the same time. The passion they radiated gave me a boost to continue on my research

and find out as much as I could on the way reintegration works on this small island, and make some good research.

Having Giovanny by my side was a good insight into the Aruban daily life. Hearing his stories, his interest in his own country, and his curiosity in mine, helped me understand the culture I had inserted myself into a bit better. After a particularly tiring couple of interviews, we went to get a pastechi and spent some time discussing the morning we had had – I was practically a local. Working alongside him, as well as my fellow researchers, was very rewarding.

Of course, Aruba has not only been research and work, although sometimes it felt like it! Arashi, Mangel Halto, Boca Grandi and all the other beaches became our escape from transcriptions and coding. The fresh air, cool water, and sweet cocktails helped us keep our minds refreshed and ready to start a new day. Making friends with tourists, locals, and those in between, we managed to find a nice routine to call this island home for a few months.

Looking back at these few months, I am so glad I embarked on this journey. It has definitely made me more patient, understanding, and compromising – with a big group of girls, it is bound to happen! It's also made me appreciate a totally different culture that I hadn't been exposed to, and given me the opportunity to make real, concrete research that will hopefully contribute to Aruba and its generous community.

# Once a Thief, Always a Thief? Factors Helping or Hindering the Reintegration of Ex-Prisoners on Aruba.

Florentine Röell

## 1. Introduction

In Aruba's idyllic setting, the notion of criminal activity does not tally with its 'One Happy Island' image. However, finding more about the island's recidivism is a positive way to reduce its rate, and overall criminality. In fact, by shining a light on the areas that are in need of work, it is possible to reduce the crime rate in a productive way.

Recidivism refers to the relapse of criminal behaviour, after having already been convicted or imprisoned (National Justice Institute, 2014). This is empirically defined by a range of behaviours from re-arrest, reconviction, or reimprisonment, and is notoriously hard to define (Fazel & Wolf, 2015). An important aspect of recidivism is the idea that it implies that imprisonment the first time around has failed its purpose. In fact, the criminal justice system has multiple goals accepted world-wide when putting someone in prison: as a deterrent to others from committing crimes, as retribution or punishment for their crimes, to protect society through incapacitation, and lastly to rehabilitate the offender so they fully reintegrate society (SCRR, 2015). Thus, if prison was successful in its goals, when a prisoner leaves the institution, they should be rehabilitated, get reinserted into society, and never commit any more crimes. Successful reintegration describes how one diverts their pathway and stops their criminal career. This can be through therapy or treatment,

finding a job, programs during and after imprisonment, or the parole system (United Nations Office on Drugs and Crime, 2006). However, as having all ex-convicts desist from their criminal past after prison is not realistic, recidivism follows and persists.

This failure is institutional, as seen above, but also personal and environmental (Morales Gomez, 2018). For example, the individual could have used their time in prison to reflect and change their path through desistance of crime. When coming out of prison, a neighbourhood or social group that is particularly criminogenic or antisocial can influence the ex-convict and ultimately cause them to relapse into criminal activity. Thus, the main research question that will be investigated is as follows:

What are the factors that can influence the success or failure for an ex-prisoner to reintegrate within Aruban society?

In order to break down the study's main purpose we shall examine the following sub-questions:
1. Which personal, environmental, and institutional factors are perceived by parole workers as helping or hindering the reintegration of their clients?
2. What is reclassering, and how does it factor into the reintegration of ex-prisoners on the island?
3. What reclassering, prison, and societal ideals do parole

workers believe can help with the reintegration of their clients?
4. What reclassering, prison, and societal ideals do clients believe can help with their own and others' reintegration?

To answer these questions, structured interviews were conducted through the reclassering system on the island[1]. Examining these different factors may give a more specific idea of what the institutions on the island can focus their attention on in order to help gauge the efficiency of the reintegration of ex-convicts on the island.

## 2. Theoretical Background

In this project, I will be discerning the characteristics that successfully help reintegrate ex-prisoners in Aruban society, and the ones that hinder their reinsertion. It is important to focus on specific factors that concern the issue of reoffence, as they can open a discussion on what could be improved to help ex-convicts in the future. These factors fit in three themes, namely personal, institutional, and environmental. Some of these are static, which means they cannot be changed (such as age or criminal history), and others are dynamic, which are those that are more flexible (such as neighbourhood or drug abuse) (Bonta, 1999). Many studies investigate these factors and their relationship to criminal desistance (to stop) and persistence (to continue) in criminal activity, mentioned below.

### 2.1 Personal Factors

In regards to recidivism, individual factors are the most investigated kind of characteristics. This is mostly because they are easier to study, since they are static (or less dynamic than environmental and institutional factors) and easy to find from official statistics or qualitative studies. This group of factors include the parolees' age, criminal history, use of drugs, and whether or not they have a psychological disorder.

#### 2.1.1 Age

An offender's age is often related to their desistance because the greater the age, the greater the acquired maturity and social understanding of the world (Huebner & Berg, 2011). There is a bigger perceived need to conform to social situations and become aware of the consequences of criminal activity as an ex-offender becomes older. Associating with deviant peers, for example, decreases when age increases, especially when variables such as marriage and employment come into play. Huebner & Berg's (2011) study on 3786 men released in 1998 and subsequently followed for 8 years found that men who were convicted when they were younger were more likely to reoffend, and less interested in desisting than men of the study's average. Similarly, Mulder observed in her doctorate dissertation on juvenile offenders and their recidivism rates who were placed in a PIJ (Placement in an Institution for Juveniles for mandatory treatment) in the Netherlands that from the 737 juveniles recorded, more than 60% reoffended within the first two years of release (Mulder, Brand, Bullens, & van Marle, 2010). This is considerably higher than the national average of 48% reoffence rate after two years (Fazel & Wolf, 2015). She also found that recidivists who started their criminal career younger were less likely to desist (Mulder, Brand, Bullens, & van Marle, 2010). Thus, younger offenders seem more inclined to reoffend, and less likely to desist from their crimes, at least until later on.

#### 2.1.2 Criminal History

Morales Gomez (2018) in her study looked into the recidivism rates of ex-offenders in Chile and their characteristics. One of her most important findings is that a criminal history was a big indicator of an individual's likelihood to reoffend. This was further highlighted when there were multiple prior convictions; in short, if someone is a prior recidivist, they were more likely to keep the vicious cycle up and reoffend again. Huebner and Berg (2011) conducted a similar study in the US and found that those with prior convictions were more likely to reoffend again. Furthermore, Mulder et al.

[1]Explained further in the paper

(2010) when investigating Dutch juvenile offenders, found that the offenders with the longest criminal history were least likely to desist, and reoffended quicker than the study's average. A lengthier criminal past, it seems, makes it harder to break the criminal cycle than someone who is placed in prison for the first time.

### 2.1.3 Behaviour Disorders

Mulder's research also focused on young violent recidivists (Mulder, Brand, Bullens, & van Marle, 2010). These are juveniles who were placed in the institution for violent offenses such as assault, attempted manslaughter or attempted murder. She found that conduct disorder was more likely to be present in recidivists compared with non-recidivists (Mulder, Brand, Bullens, & van Marle, 2010). This is however only present in violent offenders. Conduct disorder can show itself through aggressive actions and a tendency to violate rules. Thus, juveniles with conduct disorder may be more likely to reoffend after therapy. A study conducted by Hiscoke et al. (2003) investigated the adult version of this behavioural disorder, namely Anti-Social Personality Disorder, and its connection to recidivism. It was found in this self-report survey study of over 185 Swedish prisoners that those who reported having most symptoms for Anti-Social Personality Disorder were nearly five times more likely to reoffend than those who did not show any signs of the behavioural disorder (Hiscoke, Långström, Ottosson, & Grann, 2003).

### 2.1.4 Behavioural Problems

Behavioural and aggression problems in prison may lead ex-offenders to commit more crime, according to Mooney and Daffern (2014). With a sample of 148 violent male ex-offenders, the authors looked into the number of aggressive incidents recorded within the prison. It was found that prisoners with three or more aggression incidents were more likely to be charged with a violent crime sooner, and more often. Those who had less than three incidents recorded did not show any significant patterns of violent

charges post-release. However, it is important to highlight that some prisoners who were very aggressive in prison were not when released, and others who did not have any recorded aggressive incidents were later charged with a violent crime. Thus, the environmental factors of the prison atmosphere, its frustration, and having to adapt to prison life, all can have an effect on the way the prisoners behave and may not be part of a personal behaviour trait.

### 2.1.5 Drug or Substance abuse

Drug use has often been linked to high levels of offending. Indeed, Bartol & Bartol (2011) explained that juveniles who chronically commit high level crimes are far more likely to be excessive drug and alcohol users. A study conducted by Stahler et al. (2013) looked into, amongst other things, substance abuse and an increase in recidivism. In this study, around 80% of prisoners in the US self-identified as having serious alcohol or drug problems. The authors explain that criminal activity and therefore incarceration could be motivated by the need for financial gain to feed their addiction, paired with a decreased ability to maintain a regular or stable job. Furthermore, around 30% of convicts committed offences whilst under the influence. This would suggest that drug users are more likely to reoffend to supply their economic needs after leaving prison (Stahler, et al., 2013).In their study, Huebner and Berg (2011) corroborate these findings by explaining that those in the sample who had substance abuse problems were less than half as likely to desist from criminal activity than those who did not have drug dependence issues.

### 2.2 Environmental Factors

Although most of the literature investigates personal factors that leads to recidivism, some research focuses on environmental factors, such as the neighbourhood, social group and family situation in which they live.

### 2.2.1 Neighbourhood

Kubrin et al. (2006) examined the effect of neighbourhoods

in recidivism rates. By retrieving data from the state of Oregon, they controlled for individual-level factors and concentrated solely on four variables chosen to represent neighbourhood status: the proportion of persons in the neighbourhood on public assistance, persons below the poverty level, persons unemployed, and the median family income (Kubrin & Stewart, 2006). Results show that individuals who, upon their release from prison, moved into the most disadvantaged neighbourhoods were more likely to reoffend after a year of parole. Conversely, those who moved into more affluent neighbourhoods were less likely to go back to prison, even when controlling for individual factors such as gender and the type of offense committed. Kirk (2009) also studied the effect of neighbourhoods on recidivism. The author postulated that when the ex-convict comes 'home' after prison, they return to the same environment, with the same criminogenic activity and opportunity, and is thus likely to go back to the same habits as before. With this hypothesis in mind, he investigated the reoffence rates of ex-convicts who had to move neighbourhoods because their home was destroyed by Hurricane Katrina and compared them to those who did not move homes (since their houses were not ruined). By using a natural experiment (since the participants were moved because of a natural cause, instead of the experiment), he controlled for socio-economic status factor and focused on the effect of returning to the same neighbourhood as before the arrest. He discovered that parolees who had to move areas were substantially and significantly less likely to reoffend a year after their release (Kirk, 2009).

### 2.2.2 Family & Partner

Tight family bonds can help inmates look forward to getting out and living a normal life that is worthy for their family. Brunton-Smith and McCarthy (2017) inquired into the effect of family attachment during and after prison on recidivism rates. Through a longitudinal study, they found that those who strengthened their bonds with their family throughout their prison sentence were less likely to

reoffend upon their release. Having strong family bonds also encouraged ex-convicts to abstain from the use of drugs and find a stable job (Brunton-Smith & McCarthy, 2017). Similarly, Huebner and Berg (2011) observed that ex-convicts who had sustained their marriage throughout their sentence were 2.61 times more likely to desist when released. Marriage could also delay how long the ex-convict would take until they reoffended. Another study found that the subjects were less likely to offend again if they had a partner they could go to when they were released (Morales Gomez, 2018). Conversely, Mulder's study also researched the Dutch juveniles' family situation. If they had families with criminogenic ties, or who would abuse children, this would significantly raise the recidivism rates of the group (Mulder, Brand, Bullens, & van Marle, 2010). This means that not only must the family ties be strong, but also non-criminal. Leslie (2016) also found a diminished will of breaking the law when family and relationship bonds were stronger. Ex-offenders can, therefore, have somewhere to stay and some financial help when they get out of prison, but also motivation and a guardian to keep them out of trouble.

### 2.2.3 Career & Education

Not much research has been done on the effect of starting a career after prison, although it is often understood that a job largely benefits the ex-convict and helps lower recidivism rates. Yelowitz and Bollinger (2015) headed a study on 219 ex-prisoners from the New York area. They focused on the difference between no job training after prison, standard training, and enhanced training. The last group would receive more intensive training and skills by America Works, a foundation that helps ex-convicts find jobs. Ultimately, it was found that non-violent ex-convicts who were placed into jobs soon after release through the enhanced training were less likely to reoffend. After 36 months of supervision, 31% of the enhanced training group were reconvicted of a crime, whilst half of the standard training group would reoffend in the same time gap. However, violent ex-convicts

did not largely benefit from the enhanced training, with both training groups having around 44% recidivism rate. The authors concluded that any training is beneficial to the parolee, and enhanced training can work better on non-violent ex-convicts. (Yelowitz & Bollinger, 2015).

### 2.3 Institutional Factors

Institutional factors such as prison and the parole system can make or break someone's re-offense odds after completing their sentence. For instance, schooling programs can have a significant impact on whether or not they reoffend. Conversely, a traumatic or negative prisoner's experience may lose faith in the judicial system they have entered and become more criminal once they leave the institution.

#### 2.3.1 Prison Experience

Some scholars believe harsher living conditions in prison could deter the prisoner from criminal activity once they are released because they do not want to relive the hardship they went through in the institution (Listwan, Sullivan, Agnew, Cullen, & Colvin, 2013). This is called deterrence theory and was particularly popular in the second half of the 20th century. Now, most researchers believe that prison is criminogenic more than anything, and a harsher or more painful prison experience actually raises recidivism rates instead of lowering them. A study based in Ohio examined three different burdens prisoners may go through when incarcerated: a negative prison environment, negative relations with officers, and negative relations with other peers (Listwan, Sullivan, Agnew, Cullen, & Colvin, 2013). Through a regression study the authors found that the two burdens in returning to prison that had most impact on the offenders were the negative environment of the prison and having negative relations with other prisoners. This is explained through the idea that the prisoners became hardened and more aggressive, violent and criminal throughout their stay in prison. Being around other criminals and in a stressful environment did not deter them but encouraged them to pursue more serious illegal activity.

#### 2.3.2 Prison Programs

The opportunity to work within the prison helps individuals feel useful. For example, welding workshops are put in place in Jamaica to teach the prisoners skills that are usable in the outer world. Thus, when they come out of the prison, they can apply these and find employment more easily (Leslie, 2016).

Although some studies (Linden & Perry, 2008); (Gerber & Fritsch, 1995) have looked into educational and vocational programs' effectiveness to keep ex-convicts out of prison, the results showed only small success in lowering recidivism rates. However, one of the most recent meta-analysis of prison programs in the US and their effect on recidivism rates conducted by Davis et al. in 2013, concluded that these programs were more effective than initially thought. In fact, on average, recidivism rates dropped 43% for prisoners who took part in these programs (Davis, Bozick, Steele, Saunders, & Miles, 2013). Furthermore, inmates who finished their General Educational Development degree had 30% less risk of reoffending. These numbers are consistent with the belief that programs within prisons work and give inmates a better chance at a normal life when leaving the prison. However, these programs are often voluntary, so we may speculate that those who participate in them already have intrinsic motivation to stop their criminal activity and get a legitimate job when they leave the institution.

#### 2.3.3 Parole

Many studies have shown the importance of parole, and specifically the relationship with the parole officers, for the reintegration of ex-prisoners. This is often because parole officers pose as authority figures that encourage them in a legitimate pathway. For example, a study performed by Chamberlain et al. (2017) found that a positive relationship between parolee and officer resulted in lower recidivism rates in the future. Another study done on 140 young women that were previously incarcerated investigated their relationship to their parole officers (Vidal, Oudekerk,

Reppucci, & Woolard, 2013). It was hypothesised that the latter group acted as somewhat of a parental figure, as the relationship was important only for women who did not have good parental assistance. For women who had parents that were present and willing to help, the bond did not matter as much and did not influence recidivism rates for this particular group. Conversely, violent recidivism was significantly negatively correlated to the perceived quality of the parole relationship for women with low parental assistance. On that account, finding out what kind of relationship parole officers have with their clients may give an important insight into its effect on recidivism rates.

## 3. The Situation on Aruba

### 3.1 Tourism on Aruba

Aruba is seen as a relatively secure island, so a comprehensive view on crime may enforce the idea that Aruba is a safe haven for tourists. Its slogan is 'One Happy Island', which describes the image that island authorities would like to portray for the incoming tourists. Since the island possesses a tourism-driven economy, research on criminal activity, and especially a way to decrease recidivism, may help lower the overall crime rates of the island, and strengthen the image on which it has worked.

Conversely, an increase in tourist victimisation will most likely have direct negative consequences on the country, since it may drive tourists away (Central Bureau of Statistics, 2014). Indeed, some measures have already been put in place. For example, from the beginning of 2014, known perpetrators of crimes against tourists, including pickpocketing, can be banned from areas that are frequented by many tourists (Central Bureau of Statistics, 2014). This is, however, not a permanent solution for the perpetrators, since this is a punitive rather than rehabilitating method. It is of interest to look into the reasons why offenders commit crimes against tourists, instead of banning them from certain places.

### 3.2 Crime and Recidivism on Aruba

As explained above, most statistics on crime on Aruba are not made public. However, some basic statistics can be found through the Central Bureau of Statistics (CBS). The most recent statistics that can be found online are from 2006, which show that 5,643 crimes were recorded on Aruba that year. Around 56% of those were perpetrated in the island's capital, Oranjestad. This number does not include traffic violations or accidents, nor any deportations. These numbers are relatively dated, and thus do not give us a very concise idea of how much crime is perpetrated at present. By looking at older statistics, crime has been stable at around 5,000 to 6,000 crimes per year since 2000. It is of note that the lack of recent records of relevant criminal activity presents a barrier for this research as we can only speculate.

The Korrectie Instituut Aruba (KIA) is the only prison on the island. The prison holds about 310 people (as of 2014), but only around 240 inhabit it, both in detention and pre-trial (World Prison Brief, 2014). All genders are represented, and there is a juvenile facility within it, too. Records of how many recidivist men in KIA in 2013 can be found in a social development report (Directie Sociale Zaken, 2017). In 2013, there were 228 people incarcerated in KIA, with 94 percent of them being men. Of those 228 prisoners, 60 had been in prison more than once. More specifically, "50 percent of the sample population surveyed (N=30) was incarcerated twice, 13 percent three times and 13 percent four times, and 23 percent seven or more times" (Directie Sociale Zaken, 2017). The reported recidivism rate in the Netherlands at the time was 34 percent, which is very similar to this rate (38 percent) (Trapenberg, 2014). However, high-rate recidivists – those who have reoffended seven or more times – seems to be of quite high occurrence (23 percent of the prison recidivist population). Furthermore, this number does not encapsulate all recidivists, since unreported or unrecorded crime is not included.

The European Committee for the Prevention of Torture and Inhuman or Degrading Treatment or Punishment (CPT) published a 2014 report on the overall situation in KIA (Council of Europe, 2014). In this report, many recommendations for improvements in the prison were mentioned, such as finding strategies to reduce inter-prisoner and guard-prisoner violence, addressing the below-standard conditions of detention, developing more activities and programs for the prisoners, and increasing the amount of prison staff and giving them appropriate training. Overall, the report for KIA showed many services where much improvement was needed. The conditions of living were deemed sub-standard and in need of help (Council of Europe, 2014).

A Bachelor's thesis was written on the subject of recidivist men on Aruba in 2014. The author mainly looked at the after-care of newly released men from KIA, and its effectiveness. The results indicated that 70% of 30 reincarcerated – and therefore recidivist – men interviewed had not received any type of after-care, such as therapy, guidance, financial support, and social assistance. After-care system that was never provided or existing at the time were work re-entry programs, housing services and financial support. The support systems and programs that were deemed effective were the following: "education program, spiritual guidance, mental health services, substance abuse services and community re-entry services" (Trapenberg, 2014). The author organised recommendations on different planes, including more responsibility-taking needed from the reincarcerated men towards their future, more communication and awareness between organisations including Stichting Reclassering and KIA, and more programs available for newly-released men on the island.

Overall, conducting research on the issue of crime, and more specifically recidivism, is welcome and needed on the island. Aruba has little research done on the subject, and therefore, having a clearer view of what the police and government is faced with can benefit society as a whole. Working with the parole system, we can find out more about exactly what works and fails in reintegrating someone successfully into the Aruban society.

### 3.3 Reclassering

Stichting Reclassering en Jeugdbescherming, the parole system that Aruba has in place, effectively takes on cases of court-mandated guidance after incarceration, and helps the ex-prisoner navigate through their first months or years as free individuals. Reports are made of the situation in which the ex-convict is in, financially, socially, and personally. This way, each person going through this system's progress is tracked, and easier to keep tabs on. The Reclassering agency classifies recidivism as quite high in average, and therefore they are invested in looking into this issue.

Many projects have been started up since the foundation's inception. For example, a mentoring project pairs incarcerated youths with volunteers who help them and prepare them for the future. This relationship officially lasts about a year and is an "extended arm" of the parole system (Stichting Reclassering en Jeugdbescherming Aruba, Mentoren Project, 2019). Another project tailored for younger offenders is the 'Leer Werk Project', in which at-risk and previously incarcerated youths participate in a work program. Ultimately, the goal is that they have a starting qualification so that they can confidently enter the labour market (Stichting Reclassering en Jeugdbescherming Aruba, Leer Werk Traject, 2019). Similarly, a project was started up to help youth get reintegrated within society through an "intensive program". During this period of half a year to nine months, the twelve- to seventeen-year-old will be guided and coached through an action plan every week. This is only applicable for youths in the age bracket who have been in contact with the criminal justice system twice or more in the last year. Learning programs for adults are available if the individual was charged with driving whilst under the influence, for which they may have 24 hours mandated course on alcohol and driving. Another program is set up called "aggression regulation training" in which they learn how to control their anger, which is available for those who were charged with a violent crime (Stichting Reclassering en Jeugdbescherming Aruba, Alternatieve Sancties, 2019).

As illustrated, many of these projects are centred around juveniles or younger offenders. However, a department within reclassering does take care of finding jobs for ex-convicts. This is of utmost importance for clients coming out of prison to reinstate themselves as working individuals. It may however be of interest to see during the interviews if there is any demand for older ex-prisoners who have expressed a need for projects of other nature, such as a social- or personal-oriented program.

## 4. Methods and Materials

### 4.1 Study Design

This study looked at the experiences and perceptions of parole officers on the topic of their clients' reintegration and recidivism. This was paired with data taken from some of the parole workers' clients. This exploratory research used an explanatory approach through in-depth interviews. This qualitative method was utilised to enable richer data and a more subjective take on the issue at hand. Furthermore, these somewhat difficult to reach groups have insights into a world that is unknown to many on the island. Experiences may differ from subject to subject and may be misconstrued if not looked at in depth.

The primary data were the interview with parole workers. The secondary data, which serve as accompanying the parole worker interviews, were interviews with the clients. Semi-structured interviews were conducted face-to-face and with the help of two topic guides (one for each group); the interviews for parole workers were divided into three main subsections that were of foremost interest. These sections were namely personal, institutional, and environmental factors that may help or hinder ex-offenders' reintegration into Aruban society. The specific factors were chosen through careful deliberation with the director of the parole system, as well as the literature stated above. These are: age, criminal history, substance abuse, behavioural issues, mindset, neighbourhood, socialisation process, family, career, prison experience, and Reclassering experience.

The open-ended questions, paired with prompts, helped gather important data through comprehensive organisation. All interviews with the workers lasted between 35 and 74 minutes, with an average of 53 minutes. No repeat interviews were conducted. For the secondary data, the topic guide was revised after the interviews with the workers. It was decided that the secondary data would not give any major insights if the same topic guide was administered to both groups. Thus, a simpler topic guide was produced, wherein only questions focused on the clients' experiences of jail, KIA and reclassering were put forward. Five clients were interviewed through the workers' contacts. The interview length was on average 31.6 minutes, spanning between 22 and 44 minutes. No repeat interviews were conducted. All interviews for both groups were conducted in English except one client interview which was done in Papiamento. All interviews took place in the Reclassering building.

### 4.2 Sample

There are two samples in this study: one sample worked as part of the reclassering (parole) system, and the other were parolees at the time of the interview. Sampling was done based on non-probability purposive sampling. The only criterion for the first sample was profession, namely parole officer at the reclassering system on Aruba. The only criterion for the second sample was that they were clients of the reclassering system. All genders, races, ethnicities, ages and social statuses were applicable to be part of the sample, although not purposefully searched for. The island of Aruba was chosen as part of the Aruba exchange research program of University College Utrecht.

The samples of this study included 10 parole workers and 5 clients. The sample of parole workers encapsulates the entirety of the reclassering system, and included 5 parole officers, 2 researchers, a psychologist, a job coach, and a community worker. Generally, qualitative studies on the basis of interviews have samples of less than 50 (Ritchie & Lewis, 2003). Due to time and resource constraints, the sample sizes are somewhat smaller than average, but may be generalisable to a certain extent (this will be further discussed later on).

### 4.3 Recruitment

Participants for this study were recruited through the Stichting Reclassering en Jeugdbescherming Aruba, the parole office system on the island. The director of the parole office encouraged all workers and cases to participate in the study, and thus, the samples were acquired through convenience. Participation was completely voluntary, and the interviewees did not receive any compensation for their services. All parole workers approached agreed to participate in the study. The clients' group was harder to attain and was also found through purposive sampling. Five clients were willing to sit down for an interview, and thus the client group was formed.

### 4.4 Ethical Considerations

Considerations of privacy and consent were important for this study. This is because of the sensitive and confidential issues raised during the interviews. Therefore, a consent form was produced in English and Papiamento (two of the most used languages on the island). The participants were invited to read and sign the form before the start of the interview. Additionally, a verbal explanation of the concept of the study, as well as an explicit explanation that the interviewee could stop the interview or refuse to answer a question were given. After the interviews were transcribed, we also sent each of the participants their transcript, so they could look over what they had said.

### 4.5 Data Analysis

The data collected were analysed in their full form. None of the participants dropped out during the time between collection and analysis. Transcriptions of the interviews were first completed and sent to the participants to check for misunderstandings and for them to read over their responses. Then, the transcriptions were put through the NVivo 11.4 analysis tool, to be coded. Open codes were first written, followed by axial coding. Redundant codes were grouped together so as to have a concise analysis. Axial codes were inspired by the themes of the sensitising concepts previously thought of during the topic guide process. Thus, the analysis of the raw data was done thematically, according to the three main topics of the interviews (personal, institutional, and environmental factors).

## 5. Results

### 5.1 Characteristics of Workers and Clients
### 5.1.1 Characteristics of Clients

|  | Gender | Age | Nationality | Time at Reclassering | Time in Jail | Time in KIA |
|---|---|---|---|---|---|---|
| **Client 1** | Female | 54 | Aruban | 60 hours, done | 11 days | N/A |
| **Client 2** | Male | 56 | Aruban | 200 hours, done | 11 days | 1 month |
| **Client 3** | Male | 22 | Aruban | 2 years, ongoing | 14 days | Unknown, >1 year |
| **Client 4** | Male | 57 | Aruban | 1 year, ongoing | 11 days | 30 days |
| **Client 5** | Male | 20 | Aruban | 3 years, ongoing | 20 days | 18 months |

Table 1. Client Characteristics

All clients interviewed but one were male. Of the five clients, four had been to KIA, and client 1 was therefore interviewed on her jail experience in the police station rather than her prison experience. The average age for the clients was 41.8. Client 3 did not disclose the amount of time he was in prison.

### 5.1.2 Characteristics of Workers

| | Gender | Age | Nation-ality | Amount of time working in Reclassering | Job Description | Number of Clients/ Cases | Age Bracket of Clients |
|---|---|---|---|---|---|---|---|
| Worker 1 | Male | 38 | Dutch | 10 months | Reintegration Coach | 18 | |
| Worker 2 | Female | N/A | Aruban | 21 years | Reporter | 5 | 14-60 |
| Worker 3 | Female | 39 | Aruban/ Dutch | 7 years | Parole Officer/ Reporter | 20-30 | 14-23 |
| Worker 4 | Female | 31 | Aruban/ Dutch | 1 ½ years | Psychologist | 4 a week | All ages |
| Worker 5 | Female | 54 | Aruban/ Dutch | 8 years | Parole Officer / Part-time Community Worker | 19 in parole, 20 in community work | 20-63 |
| Worker 6 | Female | 37 | Aruban/ Dutch | 9 years | Parole Officer | 30-35 | 13-50 |
| Worker 7 | Female | 31 | Aruban/ Dutch | 2 ½ years | Parole Officer/ Reporter | 30 | 16-18 |
| Worker 8 | Female | 36 | Aruban/ Dutch | 7 years | Reporter | N/A | 14-67 |
| Worker 9 | Female | 27 | Aruban/ Dutch | 3 months | Parole Officer | 5 | 16-21 |
| Worker 10 | Female | 36 | Aruban/ Dutch | 1 ½ years | Community Worker/ Part-time Parole Officer | 20 | All ages |

Table 2. Worker Characteristics

All workers but one were female. The average age was 32.9 (not including worker 2, whose age was not disclosed). The average time the personnel has worked in reclassering was 5.9 years. Most employees work multiple sectors of Reclassering at once, such as parole officer and reporter. Reporters make different types of reports for the Openbaar Ministerie, to help them make decisions like early releases, psychological evaluations, and sentencing. Parole officers offer guidance for clients, and make sure they do not get into any trouble. Community workers place the clients and oversee the hours that they must make as alternative punishments to prison. The in-house psychologist offers guidance and evaluations for clients. The reintegration coach works with clients to find them jobs, as well as leading a project for youths to work. Reclassering has recently split, and is still in the process of, splitting its workers so that some guide minors exclusively, whilst others stick with adult guidance.

Figure 1. Coding Map
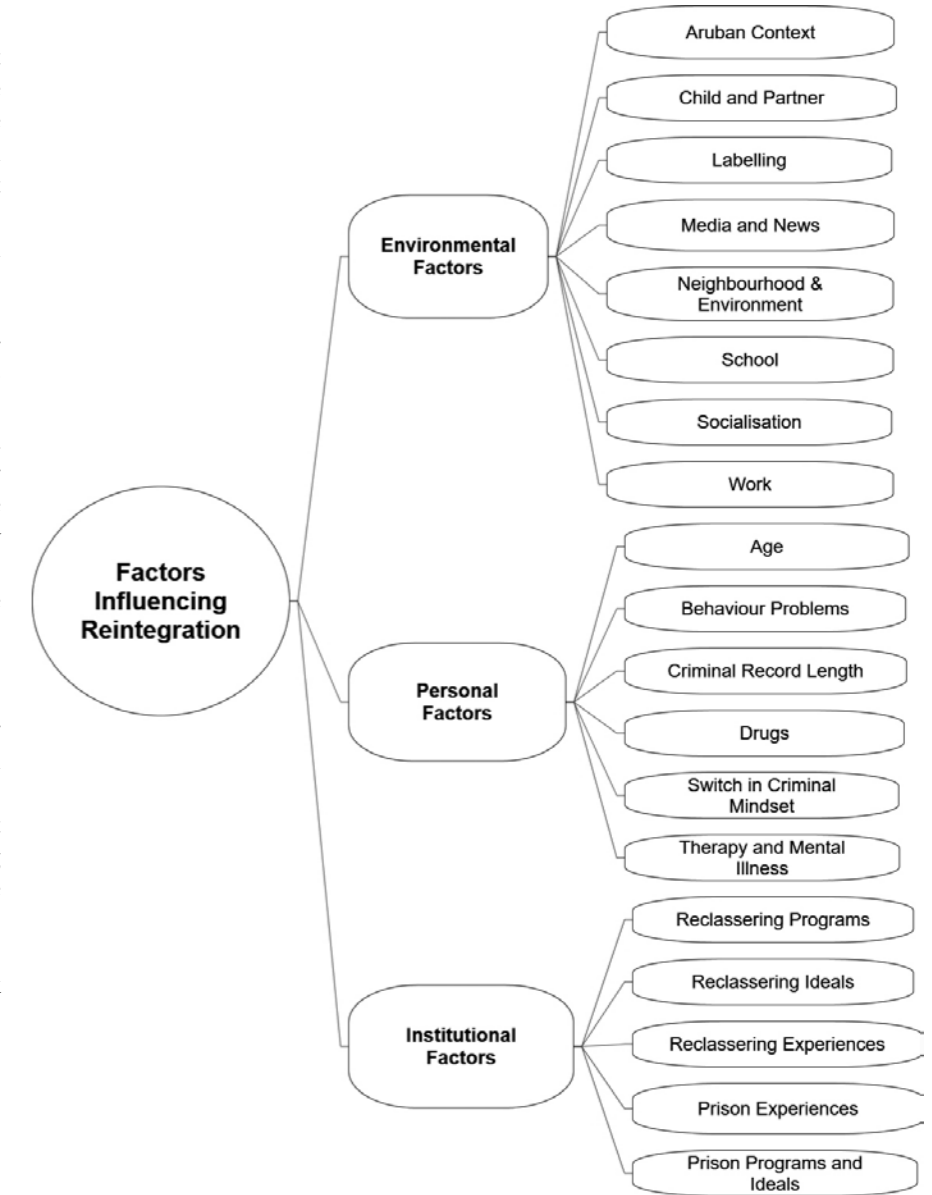
### 5.2 Personal Factors of Reintegration from Workers

#### 5.2.1 Age

The average age of the client varied, as mentioned above. However, a worker pointed out that she believed the average client's age in the past years was getting younger. Most clients were young, with the age bracket 16-18 being the most mentioned. This was different for the Drunk Driving course in particular, where the typical client was a middle-aged man.

Overall, workers believe age could influence prisoners' reaction to prison. Two explained they saw no difference in age and the way the clients experienced prison, and another two added that prison is a traumatic experience for all, no matter the age. Two workers, however, did mention the younger prisoners could get influenced by the older prisoners.

*"Some of them see it as a learning ground." – Worker 6*

Younger prisoners then become 'wiser' inside prison by getting influenced and copying and letting older inmates guide them through the process. Moreover, older people may have an easier time adapting to their environment without getting influenced by others because their more advanced age gives them an advantage.

*"But if you're above 30 or 40, you're more conscious of your surroundings, and you know better to position yourself in KIA. If you're older, who's going to try and mess with you? They'll just leave you alone." – Worker 8*

Six interviewees believe the way people react to reclassering once they get out of prison is partly to be linked to age. In fact, four of the workers said the younger clients were less mature and take their guidance less seriously, whilst three claim they have more behavioural problems to deal with when clients were younger. Clients who are under 18 must come to reclassering on their parents' orders, which may partially explain the lack of interest in guidance. However,

one worker says she prefers to work with younger people because she has more influence on them. Conversely, five workers mentioned older people are more mature during their reclassering process, with one worker explaining they are easier to work with.

#### 5.2.2 Criminal Record Length

From experience with their clients, most workers (6/10) believe having a longer criminal record can make reintegration harder for their clients.

*"If somebody has already been in the circuit for years, it's so difficult." – Worker 8*

Some workers said that crime becomes a way of life, a habit that they get used to. Another mentions that some might continue their behaviour without getting caught because they become better at hiding their misdeeds. A longer criminal record can affect their chances at finding a job, an impactful problem on the island, mentioned below.

#### 5.2.3 Behaviour Problems

Six out of 10 of the workers said most clients that come through Reclassering have aggression or behaviour problems. All of them however explained they have never felt threatened or experienced aggression towards them during meetings. The possible roots of this aggression are twofold: the restrictions on their life in KIA that do not apply when they come out, such as being locked up with multiple other people in a confined space; and the inability to process pain and trauma through other means but aggression. Six workers mentioned negative consequences of exhibiting behavioural issues. These included a harder time adjusting to the reclassering process (2) as well as a harder time following rules (1), discipline issues (2) and problems finding jobs (3).

*"One of the problems is that these guys in my program don't have ethics, discipline, no work" – Worker 1*

*"So, if they have real anger problems, it's harder to place them at a [job] because you don't want to cause problems for the place either." – Worker 10*

#### 5.2.4 Drug Use

Eight out of ten workers said most clients use marijuana frequently. Most workers mentioned that if the client is intoxicated during meetings, they turn them away. Marijuana use is varied, between 50 and 90 percent of clients, dependant on what workers estimated. One worker mentioned that most clients who are recidivists abuse drugs.

*"[recidivists are] more like drug addicts, people that deal drugs, because that's their way of life. So, that gets them every time problems with the justice." – Worker 6*

Two others mentioned that drugs are most likely the reason for their client's crimes if they are a drug abuser. Four workers said that clients see their drug use as non-abusive and therefore uninterested to stop. Some workers advise their clients to stop their drug use, and three workers say it can influence their work opportunities. For example, employers may submit drug tests to their employees. One worker believes it influences their behaviour and overall interest in subjects.

The term "double trouble" was used multiple times to describe someone who has both a known drug abuse problem, and a mental illness. Workers believe there are quite a few on the island and must often send these people's cases back to the Openbaar Ministerie because they are not equipped to help them in reclassering. Rehabilitation centres for substance abuse on the island are mostly voluntary, and workers are mostly unimpressed with the way they cope with their clients. Reclassering itself does not have a drugs program.

#### 5.2.5 Switch in Criminal Mindset

The concept of a thought pattern was mentioned multiple times. Eight workers said a switch in mental pattern towards criminality can bring positivity and a better chance at reintegration, with three workers specifically explaining that it brings positive behaviours in all spheres. Three employees said programs are a tool to help bring a switch in mentality, one worker mentioned therapy, whilst another believes this switch can also happen in KIA. Starting a family or a relationship can also push clients to stop their criminal career, too. Generally speaking, a positive mindset was understood to get them better jobs, since the employer might trust them more.

#### 5.2.6 Mental Illness and Therapy

Therapy is often not wanted in Aruba because of its taboo nature. However, workers said having an in-house psychologist has brought good changes. This is mainly because the clients do not need to travel to someone's office, and instead it is centralised within reclassering.

*"It went really well and because everything was here, he was initially still reluctant, but the he noticed it was for his own good and he was 17 and it helped so much. It worked out and the communication got much better, because he used to explode and now he's learnt a different way of communicating." – Worker 7*

Psychiatric hospitals on the island are mainly voluntary and not as equipped as workers would like them to be. Lack of resources and knowledge on mental illness has resulted in more crime, and, occasionally, deaths.

### 5.3 Environmental Factors of Reintegration from Workers

#### 5.3.1 Aruban context

Because Aruba is a small island, many workers touched upon the negative side effects of the Aruban context in which they live in. Ten out of 10 workers made some sort of acknowledgement that reintegrating in a smaller island may be more difficult than a bigger location. Five employees used the phrase "everyone knows each other" as a problem

linked to reintegration. Eight workers say Arubans do not forgive easily or do not believe in total redemption from their crime.

*'In Aruba, they always say "once a thief, always a thief"* – Worker 9

A consequence of this that was most communicated is the mistrust that ex-criminals must face, especially for work opportunities.

Another issue that seems to be part of Aruban society is the lack of resources that the island faces to function at optimal levels. Four workers felt it was harder to start over and turn a new leaf in Aruba because of lack of opportunities, such as more work, or available housing in new neighbourhoods, to do so. Two workers mentioned the overall inefficiency of the island, whilst another two described the island as limited in its resources, with one saying the island is too dependent on the Netherlands for ideas and aid.

The parole workers also talked about the positive side of living within a small society, particularly the communitarian feel of an island. Overall, seven workers explained there is a more personal, community feel to Aruba that is not found in other, bigger societies. Two specifically mentioned there is more social control because of everyone knowing each other on a personal level, which will make people think twice before breaking the law. One worker mentioned a loss of community feel in the past years, which has put a strain on reintegration, and another reported a loss in social awareness and skills in the younger generations.

### 5.3.2 Labelling
Labelling on a small island is bound to be an issue. Seven workers said it mostly impacts their job search and finding a working environment where they are not judged. Six mentioned stigma towards their clients in social circles and from the overarching community. Four employees

specifically point out the small island context as a cause of the labelling, and two workers said it is worse for bigger, graver crimes. Another worker also explained the need for ex-criminals to leave the island because of the labelling and stigma they have around them:

*"We have inmates, that after 15, 16 years, they decide to leave the island and go and live somewhere else, because they know they will have no life in Aruba with such a heavy crime."* – Worker 2

A worker speaks of a self-fulfilling prophecy because of labelling. Overall, labelling is a negative factor for the reintegration on the island, mostly because of the small community in which these crimes occur.

### 5.3.3 Family and Partner
Family and partners have been shown to have an impact on the reintegration of ex-prisoners around the world, and it seems to be no different on Aruba. Most, if not all, clients live with their family when coming out of prison, workers explained. All the clients interviewed went back to live with their respective families when out of jail or prison. All ten workers said having a family or partner can have a big influence on the way the clients reinsert themselves into society. Seven workers explained that having a family or partner to come back to is a positive influence on the client's willingness to reintegrate. Conversely, three workers said it can be a bad influence on client if the family environment is unsafe or criminogenic. If family itself is involved in criminal activity, workers have noticed a correlation with the lack of reintegration or interest in Reclassering or working. One ent gowes further and explained that even if it is a criminogenic environment, if there is no other place to live, clients must go back to living in the family home. This can in turn influence whether or not the client will commit more crimes.

Four workers aid that family visiting prison is a good influence and tightens bonds at home when they come out.

If family does not visit, this can have negative repercussions in the future, two workers mentioned.

*"The family distanced themselves from the inmates, because the crime is so heavy, they want nothing to do with the person. That kind of inmates, it's harder for them, because they know when they get out they have to start from 0 and they have to walk on their own, to find out how to survive."* – Worker 2

Three workers believe family support in reclassering can have good consequences on their attitude, attendance, and behaviour.

### 5.3.4 Media and News
A factor that came up during the interviews without prompting was the impact of media and social media on reintegration. Six workers brought up the subject of media and social media in relation to their negative influence on reintegration. Four employees said that the media gives no privacy to people who are involved in a crime, not matter if they are convicted or not. A worker explains that some media outlets do not follow up on their news items, which can bring to misunderstandings and fake news which can have consequences on the individuals involved. It can also be problematic for schools, as talked about with five workers. Most schools do not want to have students involved with criminal activity, which they hear about in the media. Three workers also say that the news outlets can break someone's reputation on the island, something that is deemed important in a small-scale community such as Aruba.

### 5.3.5 Neighbourhood and Environment
When asked about neighbourhood importance in reintegration, answers were varied. Some explained that people come to reclassering from all over the island, whilst others mentioned specific neighbourhoods that they believed were more criminogenic than others. Most clients go back to the neighbourhood in which they were initially living in when they were arrested. Five mentioned social

housing neighbourhoods as somewhat more known to reclassering. Neighbourhoods mentioned by name where Noord (three workers), Santa Cruz (three workers), Sero Patrishi (one worker), The Village in San Nicolas (three workers), Rancho (two workers), Pos Chiquito (two workers), and Madiki (one worker). Three workers said poverty can be directly linked to the crime committed (often theft or burglary). Living in the streets may heighten the clients' recidivism chances.

*"Because some of them don't have a place to go, and they end up on the street. And those who go live on the streets, they come back very fast."* – worker 5

Three workers said that moving neighbourhoods can help reintegration, whilst other workers dismissed this by explaining that since the island is small, it is easy to go back to the criminogenic environment that led them astray in the first place.

### 5.3.6 School
Most clients come from EPB, a practical and technical school on island. Some are from higher level high schools that teach HAVO, and there are sporadic Colegio students (the highest level of high school education on the island). Most clients do not want any more education when coming out of prison. Having a criminal record can influence their schooling career because some schools do not let people in once they have been arrested. This means clients often must do night school since day school do not allow them to come back. Those who want to go back to school were called "not typical reclassering kids" (worker 8), and often seen as the exception to the rule.

### 5.3.7 Socialisation
Eight workers said that socialisation is impactful on reintegration. Half of the employees saidd that clients get in trouble with friends, especially if they are younger. Four workers mentioned that clients feel the need to keep tough

appearances whilst spending time with criminal friends. Two workers said clients make new friends when in KIA, and two others explained some clients get in trouble with new friends once they get out of prison. Four workers said most clients go back to old friends, which may get them back into trouble. Two workers explained that many recidivists are gang members. However, a worker mentioned that having a good friend network can actually help people out of KIA, especially if they do not have a secure family to go back to.

**5.3.8 Work**
All or most clients want to work instead of pursuing education, according to six of the ten workers. The Department of Public Labour is the main way of getting a job, but reclassering officers sometimes help them, especially with the younger clients. They occasionally give them tips for interviews, build their CVs, and may even drive them to their appointments. It is illegal for minors to work on the island, so most of them need to work odd jobs. Most clients want to work manual jobs, the workers said.

*"You have to find something where they're busy with their hands, so not where they stand still as a security guard, but something in construction, where they're constantly busy and that they can feel like they're achieving something." – Worker 7*

**5.4 Institutional Factors of Reintegration from Clients and Workers**
**5.4.1 Reclassering Experience**
All clients were overall very happy with the way they went through reclassering programs and guidance.

*"They made me feel good. Very comfortable." – Client 1*

All workers said they wish to keep their relationship professional with the clients. However, many also mentioned that, if the client is willing, they liked to have a role that is both professional and friendly. This way, the client felt more trust and would be more open to their guidance.

*"I focus that they see in me a serious person, but a person you can trust. Like a secret box. Because there are people that don't like to express themselves that easily. So, not a friend, I am polite to them, I like to speak with them, but not the friendly level. So more empathy." – Worker 4*

**5.4.2 Reclassering Programs**
Reclassering at the moment has two adult programs: a Drunk Driving Program, and an Anger Management Program. Both of these are ongoing and have been repeated multiple times. One interviewed client has gone through the Anger Management course twice. When asked about it, he explained:

*"Now, I'm not even half as aggressive as I was before. [They] gave me books to read about anger, how to count one to ten, I had a lot of… I don't know if I have them still, I could give them to you guys. And it helped me a lot. I became less aggressive." – Client 2*

Conectando is a new program that is being led by the reintegration coach. He oversees the implications of this program. It is a project that is aimed at 16 to 25-year olds with little to no qualifications for jobs. The main aspect of the program is to have the clients work in manual jobs for remuneration. Next to that, the youth learn more social skills, get job coaching, music lessons, and sports. Another program, Equip, is also aimed at youths trying to get into the labour market with little qualifications. A client is currently part of the project and has had a positive experience with it.

*"F: What do you like about it?*
*C5: Everything! You learn discipline. You start 8 o'clock. We finish 12 o'clock.*
*F: So, you have structure.*
*C5: Yes.*
*F: And you like it?*
*C5: Yes." – Client 5*

A youth house used to exist in which a small group of young boys would live with each other if their family's environment was not favourable for reintegration. The program as shut down a year ago.

*"We had a very good pilot program. It was a house that we had for minors. They lived in the house, I think it was 6 minors. To get them out of their environment, put them in a house, guide them, and give them work. And they have to learn to live together with house rules. But the program was closed after 2 years because of money." – Worker 2*

Most workers were very positive about the program, but one was sceptical if it helped the clients in any way, because of Aruba's small island characteristic.

*"That doesn't work, they can just go out at night and walk to their house." – Worker 8*

**5.4.3 Reclassering Ideals**
**5.4.3.1 Program Ideals**
Four workers talked about wanting housing provision for adults as well as youth, in the same vein as the discontinued youth house. Four people voiced the need to have a program or project that spread awareness to the Aruban society of what reclassering is and does. Three workers said an anger management class, such as the one for adults that is in place, should be available for youths. Another two mentioned having a program that focuses solely on sharpening clients' social skills.

*"Trainings for youths and clients, social skills for the youths but also for adults. Under social skills, you can look at anger issues, everything, tackle everything." – worker 6*

A worker mentioned having education programs that could help students who cannot go back to their schools. Other ideas included having a hotline for basic life skills such as how to start up a bank; a program for self-help,

meditation, or emotion regulation; a program on resisting peer pressure; a prevention program for at-risk youth; expanding Conectando; and a program for sex offenders (which is in the works already).

All clients were overall impressed with the reclassering system. One had recommendations for programs he would like to see for the future. A buddy system, a revamped version of the mentor program already in place, was of high interest.

*"I'm really pro for a buddy system. Reclassering could really be like "here's a friend, go hang out with him. He's gonna pick you up at 5 o'clock, make sure you're not on the streets doing bad." and just working out together, something like that." – Client 3*

**5.4.3.2 System Ideals:**
The reclassering employees also had ideas for the institution as a whole. Two workers said having a mental illness facility in-house could help for youths and adults. Another worker explained the need for having a more organised mapped-out, straightforward process on how to deal with each client, and a few mentioned needing more staff. The clients said that Reclassering would benefit from having more manpower to help with the high caseload, as well as more resources to expand.

**5.4.4 Prison Experiences**
Seven workers said the overall experience of their clients in prison is very negative.

*"It's a hell in there. they do not experience it as something positive, something they can do for the next 15 years, no." – Worker 6*

Most of the employees' clients mentioned how little there is to do in KIA. One worker mentioned cell overcrowding, another the high temperature in the cells, whilst a third

explained that there is inter-prisoner violence and peer pressure. Three workers said some of their clients have had traumatic experiences that still scar them.

*"Some of them have traumatic experiences that they don't talk to me about. They just say that something really bad happened in there, but they don't talk about it." – Worker 3*

However, a few workers said that KIA is sometimes a safe haven from the outside for offenders.

*"Sometimes, they would rather be in there than out here, because at least you get some food, somewhere to sleep, some type of stability in there that you don't always have when you're out. And sadly, that is the reality of – I won't say most – but of some." - Worker 7*

Another two workers explained that some clients do not see it as that bad of an experience due to the socialisation.

*"Some of them say "it was okay, my friends were there" - Worker 3*

The interviewed clients who have been to KIA have all had a negative experience of prison. All mentioned a certain level of boredom, and a lack of things to do. All touched upon bad living conditions, and two talked about feeling unsafe and insecure. All four have mentioned violence in their cells, three talked about drugs in prison. Aggression can stem from these prison experiences.

*"I heard a lot of people saying this: "if you cage an animal for a long time it gets angry". And that's legit what it is. […] I mean, you're locked up 24/7 at times, 23 hours a day… little things will make you mad. And that's gonna make it harder when you come out because you're gonna come out with anger." – Client 3*

When asked about their experience in jail, all five clients asserted that it was worse than KIA. The client who has not

been to jail explained that those with whom she was in jail with were relieved to go to KIA when their time was up. Bad living conditions, no air, and no light were the most mentioned problems in their jail cells.

### 5.4.5 Prison Programs and Ideals
### 5.4.5.1 Prison Programs in the Past
Workers who have been in reclassering for longer knew more about the programs in KIA that were active in the past. Three workers said there were programs learning a trade, such as mechanical or electrical work. Four workers talked about handcrafting, such as a cushion-making program that was banned because of the risk needles posed. A barber school was set up, a sports instructor was hired, a pastor could come lead bible study, and prisoners could train dogs. Two workers said they felt like there were more programs than there are now.

### 5.4.5.2 Prison Programs Now
Four workers said they did not know if there were any programs in the prison at the moment. There is some form of schooling, and a reinsertion program. However, this program is not known to be working at the moment. Three workers mentioned a library, but there is discrepancy about whether it still exists or not. A worker mentioned that there is a program to help men become better fathers going on at the moment, and another talked about a very recent upholstery project. All workers seemed to agree that they are short and sporadic programs, and some said there seemed to be more programs on paper than in practice.

Some of the clients who have been in KIA recently participated in a program. One client had a job in KIA, in which he passed food around every morning. He also attended a CPR class, which he found useful, but inconsistent.

*"I thought CPR was really important. But they come maybe once and then they take maybe 2-3 months to come again. So it wasn't consistent." – Client 3*

Another spent an hour a week for a month planting trees and other plants. He found the program somewhat uninteresting and too short. The two others did not participate in any programs but heard of job opportunities for prisoners who were in KIA for a longer time than them.

### 5.4.5.3 Prison Program Ideals
Four workers said they would like to see better schooling in KIA. Another four wanted a program specifically designed to improve social skills. Three workers said they wanted more physical activity for the prisoners, as well as more trade learning, so that they could come out of KIA with some sort of certificate. Two workers said having an arts and crafts program could help them, and two others talked about anger management classes. Having a reintegration plan that starts within, and is closely monitored by reclassering, was also mentioned by two workers. A drug rehab and a better selection of books – including self-help books – were also talked about.

Clients mirrored some of the workers' ideals. More school opportunities, anger management classes, more sports, more books in the library, trade learning programs, and a drugs and alcohol program were all mentioned as needed. A client expressed the need to bring bible study back. One client also talked about having reclassering workers inside the prison at the very start would help prisoners in the future.

### 5.4.5.4 Prison System Ideals
Some reclassering workers wanted to see changes in the prison itself to help reintegration. For example, a worker suggested letting prisoners go on job interviews in the short time before they got out so that they could start their job as soon as they were out. Another wondered if KIA could help people with loans and financial necessities inside prison. With the small amount of social workers working inside prison, a worker had an idea of dealing with high risk prisoners first may help with the backlogging of cases.

*"They should have some sort of scale to help determine high and low risk prisoners so they can be attended as soon as possible, and gradually work down to the low risk prisoners. So when they come out they have a list of things they worked on and things they've failed to address, and reclassering picks it up from there." Worker 7*

Clients also had changes they would like to see. Having a trained in-house psychologist or psychiatrist was high on the list, as well as having more security within the prison.

*"More guards. More security. We don't have security. Something could happen in seconds." – Client 5*

### 5. Discussion and Conclusion
Many factors present in academic literature are also present when looking at Aruban ex-prisoners' reintegration on the island. All three spheres of personal, environmental and institutional had varying degrees of importance in this particular context.

In the personal factors, being younger seemed to have a big effect on how the client would respond to both reclassering and prison. Being less mature and harder to work with in reclassering meant they would often not take the issue at hand seriously. In prison, they are more easily influenced by older prisoners, which could in turn mean they would not want to reintegrate back into society after prison, but rather continue their criminal activity with their newfound friends and criminal mentors. The younger generation is, however, a group that has more power in the future, as they are the ones who will have an influence on how the country will look like in a few years. Therefore, it is a group that reclassering must continue to guide closely. Having a longer criminal record is thought to be an obstacle for finding jobs, getting a steady revenue, and a good social circle, which reflects the findings of the literature stated above (Morales Gomez, 2018; Huebner and Berg, 2011; Mulder et al., 2010). Drug use and behavioural problems can also influence the

jobs that ex-offenders may be able to have in the future, which will then also impact on their reintegration. Drugs are, according to both clients and reclassering workers, very easy to find on the island, and even easier in prison. Some workers said being under the influence of substances can impact many facets of the ex-prisoners' lives, including how they react to and perceive reintegration – as a burden. The thought pattern attached to this, which highlights wanting to continue committing criminal acts, seems to be very important to the choice of reintegration. Indeed, many workers and clients said wanting to reintegrate is the first step towards it. This thought process can be positively changed through starting a family or relationship, therapy, and guidance through reclassering.

Environmental factors seem to have a great impact on reintegration on Aruba. Those that were deemed pivotal for reintegration included the context of living on a small Caribbean island such as Aruba. Firstly, Arubans are thought to not easily forgive. For a small island like this one to function, being able to trust everyone is very important. Thus, when someone commits a crime, some of that trust towards them must inevitably disappear. Thus, socially reintegrating within society, after the knowledge that they have committed a crime has spread, is more difficult. Being labelled as a criminal is fundamental to this social stigma on the island, which agrees with the Labelling Theory by Becker (Shulman, 2005). Workers have explained that recidivists may be acting upon a self-fulfilling prophecy that has been attributed to them because of their past criminal activity. The media has a big impact on this small island and is very problematic for labelling. The consequences of the way media portray criminal acts are very high, because the whole island now knows the face, name and characteristics of anyone involved in any type of crime. Family is very influential in reintegration but can have a "make or break" nature. In fact, if the family is criminogenic, or participates in criminal activity, the child is more likely to follow in their family's footsteps again. If the family fosters a positive

environment without any criminality, the chances are reintegration may go smoother. Academic literature cited above seem to go along the same thread as these findings (Brunton-Smith & McCarthy, 2017; Huebner & Berg, 2011; Moralez Gomez, 2018; Mulder et al., 2010; Leslie, 2016). This also is influenced by the neighbourhood in which a family lives in. Some are better known than others for criminal activity, which may be problematic because it is not as easy to get away from crime when returning from prison than living in a non-criminogenic neighbourhood. Socialisation seems to be very important for reintegration, especially for younger people who count on their group of friends as a "second family". If new or old friends commit crimes, it is likely the individual in question will follow them, which is why having criminal friends can influence reintegration and desistance from crime. After KIA, most clients want to go to work instead of school (especially since most schools shut out any ex-prisoners). If clients can stick to new rules and regulations set by their workplace, they seem to be more likely to make their money honestly, instead of finding illegal ways to make money fast.

The institutional factors of reintegration are mainly linked to reclassering and prison experiences. The prison seems to act like a detention centre rather than a correctional facility, as programs are sporadic and short, and conditions are more criminogenic than rehabilitative. Many workers and clients said ex-prisoners come out worse than they did before, as their problems are not treated, but rather pushed down deeper within them. The environment in which they live seems to have a negative effect on how they perceive Aruban authority, and therefore, can impact their mindset on rehabilitation. Reclassering as a whole seems to be trying as hard as they can to guide a big number of clients. Most workers are stretched thin covering as many jobs, reports, guidance cases, and programs as they can manage. The projects in place are good, but most clients and workers want more rehabilitation plans made and available for the public.

Many ideals of what the reintegration systems on the island could look like were voiced when interviewing the personnel and clients. All wanted more programs, both rehabilitative and preventive. Clients expressed the need for better conditions in KIA for prisoner safety. Workers believed an expansion of reclassering would be beneficial to cover the needs of everyone on the island, as well as more awareness of what reclassering does so that everyone can profit from the organisation. A tighter bond between KIA and reclassering was mentioned by both clients and workers so as to have a smoother transition from prison to the outside world. This would also speed processes of practical matters, such as finances and housing. Both groups mentioned more manpower to help with the overwhelming amount of cases the workers deal with every day. Better working institutions that can work with reclassering in a more communicative manner will help cut down on problems such as drug addiction and untreated mental illnesses: having mandatory rehabilitation centres, more mental health facilities, a separate juvenile facility in KIA (which has already been brought up with the government), and more psychologists could positively influence reintegration on the island for those in need of these establishments.

Overall, many factors contribute to the reintegration of ex-prisoners on Aruba, of which many of them are linked to its small-island nature. Being an ex-prisoner in a small community is difficult, because most people around them know of their past, and starting over is not as easy as in a bigger country. Therefore, having working institutions that are ready to help the client find their way back into society is very important. This starts within KIA, as having active programs that foster interest and skills for the prisoners will develop their desire to go back to a society in which they have some tools they can use, such as certificates and diplomas, to find a job when they are out. Communication with reclassering, but also other institutions which can help people who struggle with mental illnesses or addictions, is imperative for a smoother running society. Sturdy bonds

and strong management of these organisations will make the lives of people in need much easier. Generally speaking, investing in rehabilitation, as well as prevention, will have a positive effect on at-risk individuals as well as ex-criminals. Labels must be broken down through more awareness, trust, and opportunities for people who want a second chance, so that the community can unlearn the skewed idea that a thief is only and always a thief.

## 6. Acknowledgements

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The UAUCU is a multidisciplinary exchange project where a group of students of the University of Aruba (UA) collaborate with a group of students from the University College Utrecht (UCU). The program's focus is on undergraduate students doing research. The reason for my participation is that I got the chance to network in an international diverse group. Second, an added value is that I could discuss about my research and hear about the perspectives and opinions of other students in regards to my research. This helped me think more critical towards my research. Third, the UAUCU project helped me learn more about sustainable development in small island states. Even though my research is not directly about sustainable development, it still was always an interesting topic for me to learn more about especially with the field trips. Before the students of the UCU arrived to Aruba, contact was initiated by doing a skype meeting. During the meeting the students introduced themselves and talked about their topics of research. After the students arrived there was an introduction week consisting of a field trip to visit different places in Aruba and to get educational lectures about these places. The field trip started on Monday, January 28 where there was a personal introduction. The goals and guiding principles was announced and the students introduced their research in front of other students of the UA.

Tuesday, January 29 the UAUCU students did a visit to Mangel Halto where they learned about the mangrove ecosystem and the locals concern with the dangers that this natural habitat encounters. The students learned why the conservation of the mangrove ecosystem of Aruba is so important. Furthermore, the research of one of the students is also about the topic about Aruba's mangrove ecosystem and she shared her insight on the topic. Later that day the students visit San Nicolas Elezier Foundation where they learned more about San Nicloaas history throughout different time periods. The Tuesday tour was finished with a visit to the Casibari rock formation where the students had a chance to climb the steps to the rock to get an amazing view of the island. On Wednesday, January 30 there was a trip by boat that departed from the pier in front of Lucy's retired surfers bar in Renaissance Marina. The trip provided a view of Aruba's waste disposal. The purpose of the boat trip was to discuss the waste footprint of Aruba and to learn about the impact that it has on the environment in terms of damage to the ecosystems especially on the nearby mangrove ecosystem when the waste is constantly burning. This morning tour presented the problem while the afternoon tour at the metabolic foundation served as a nice contrast to present a solution for plastic waste. It shows that the community of Aruba is doing an effort to introduce plastic recycling. The metabolic foundation is like a mini factory that uses the plastic waste that locals bring to the foundation and this plastic waste is recycled by making pretty and useful items e.g. photo frames, lamps, benches and whatever a client desires. Thursday, January 31 the students got an introduction and walking tour into the neighborhood of Rancho, where a lecture was given by the "Stichting Rancho Aruba". The Rancho foundation talked about the history of Rancho and also about social issues that are sometimes present in the neighborhood. Friday, February 1 marked the closure of the field trip with a research discussion meeting, and also a set up of peer review and social agenda. After the field trip the students stayed in contact with each other by meeting each other sometimes at school, and arranging dinners sometimes only the group and sometimes at Mr. Eric Mijts' house that guides the group. Furthermore, during that time the students worked on their draft of research paper and prepared for their final presentation for the closing symposium of April 18.

This project was not possible without the help of some wonderful people. First, I want to express my gratitude to Eric Mijts, for coordinating the project, Kitty Groothuijse for supporting the UAUCU project and Jenny Lozano-Cosme, Carlos Rodriguez Iglesias and Joost Horward for editing the UAUCU papers and book. Furthermore, a thanks goes to the fellow UAUCU students that participated in this project and helped made it fun and educational.

# Early detection of visual disorders in children in Aruba and assurance of timely care and services: The approach of the MDT-VOV.

Tiffany Lateefah Stein

## 1. Introduction

### 1.1 Research topic

According to the census of 2010, there were 6,955 people (6.9% of the total population of Aruba) who indicated experiencing one or more functional limitations. Of this number, almost half of the cases (3105 people) were reported as visual impairments. Many of them were 65 years of age and older and the "prevalence of disability increases almost exponentially with increasing age" (CBS Aruba, 2013).

However, there are also babies who are born with functional limitations or children who acquire these at a young age. In 2010, there were 119 children from 0-14 years of age in Aruba who were blind or had a visual limitation (CBS Aruba, 2010). The CBS Aruba (2014) considers people with disabilities as one of the risk groups for poverty and social exclusion, and people with visual disabilities are no exception to this (CBS Aruba, 2013). The study of de Droog (2016) showed that living with a visual impairment in Aruba brings challenges for the "self-determination, identity (or self-image) and (self-) esteem" (p. 340). With regards to self-determination, it is especially respondents who have had a visual impairment from early on in life that encounter problems with not being able to acquire the skills and autonomy associated with the adulthood stage. Smart (2012) mentioned that people with adult-onset disabilities

tend to have higher rates of employments compared to people with adolescent-onset disabilities or congenital onset disabilities (p. 364).

On Aruba there is the Fundacion Arubano di Visualmente Incapacita (FAVI) that offers targeted guidance to children with visual disorders, their parents, other educators and their teachers. It concerns early intervention for children aged 0-4 years and itinerant educational guidance for children aged 4-19 years. In addition to this, FAVI offers also services to adults and elderly. The data of the FAVI, the population surveys of the CBS Aruba (2000, 2010) and the study of de Droog (2016) show that not all disorders in this area in Aruba are detected timely and children do not always receive timely the necessary treatment and/or guidance" (MDT-VOV, 2018, p. 4). For some of them, this have irreversible consequences (MDTVOV, 2018). An example of this is strabismus. "Strabismus is the medical term for an eye condition commonly called by various names: Squint, crossed eyes, walleyes, wandering eyes, goggle eyes and deviating eyes. It is a condition in which the eyes do not properly align with each other when looking at an object" (Alenezi, El-Fetoh, Ulruwaili, W.L.Alanazi, N.S.Alanazi, M.S.Alanazi, S.L.Alanazi, T.S. Alanazi, B.A.Alanazi, O.F.Alanazi, Alrwaili, 2018, p.298). "The chance of success in treating a lazy eye is greatest when starting before the age of 6, after that the chance decreases" (MDTVOV, 2018, p.4). Furthermore,

according to Alenezi et al. (2018) squint may lead to a failure to develop binocular vision, and amblyopia, either of which may prevent an individual from pursuing certain occupations (p. 298). Moreover, the appearance of ocular misalignment may interfere with social and psychological development with potentially serious effects for all patients with strabismus (Alenezi et al, 2018, p.298). The authors of the article referred to recommend early treatment.

The importance of early detection and possible timely treatment of visual disorders, guidance of these children, their parents, teachers and other caregivers and stimulation of inclusion in the society is of paramount importance. The Multidisciplinary Team Early Detection of Visual Disorders (MDT-VOV) was established in 2008 in Aruba by the Wit Gele Kruis (WGK), Jeugd Gezondheids Zorg (JGZ) and FAVI. Their vision states: "A strong collaboration on Aruba to recognize visual disorders in children at an early stage and to guarantee timely quality care and services" (MDT-VOV, 2018 p.1).

### 1.2 Objective

The first objective of this research project is to find out to which extent the approach of the Multidisciplinary Team Early Detection of Visual Disorders (MDT-VOV) has resulted in early detection and early intervention of visual disorders of children in Aruba, addressing the needs of these children and parents. This entails, firstly, that the research study verifies if there was an increase in detection of children after the introduction of the 2018 strategic plan. Secondly, the present project studies if the needs of the children and parents have been met. Thirdly, it examines how the efforts of the MDT-VOV can be improved in terms of early detection and early intervention strategy. These insights may contribute to a policy improvement of the MDT-VOV in the future.

### 1.3 Relevance of the topic

The relevance of this research topic is gathering more

insights on early detection of visual disorders in Aruba, and early interventions through the efforts of a multi-disciplinary team. This research is in line with the University of Aruba Organization, Government and Management Faculty (OGM) core value, sustainability, and the Sustainable Development Goal (SDG) 10, which is to reduce inequality (UNDP, 2019). One of the aims of this SDG is to empower and promote the social, economic and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion or economic or other status. Furthermore, this research project focusses on SDG 17, which is partnerships for the goals (UNDP, 2019).

In addition to this, the present research paper will also comply with the OGM core value of diversity. The Cambridge dictionary defines diversity as "the condition or fact of being different or varied". It is important to recognize that everyone is different, deserves equal chances, and have their own perspective. This research study gains insight on perspectives of the parents of the clients of the MDT-VOV as well as the multidisciplinary team members, paying attention to a variety of perspectives.

### 1.4 Research questions

The main research question is: To which extent has the strategy of the Multidisciplinary Team Early Detection of Visual Disorders (MDT-VOV) resulted in early detection and early intervention of visual disorders of children in Aruba, addressing the needs of these children and parents, and how can it be improved? To be able to answer this question, four sub-questions are provided:

1. Early Detection 1 - What is the yield of the current detection strategy of the MDT-VOV in number of cases? RM: Desktop quantitative research: amount of detected children per year in the last 10 years and their age at detection.

2. Early Detection 2 - What are the challenges and (additional) recommendations for further improvement of the detection strategy of the MDT-VOV?

RM: Desktop and qualitative research: Based on sub question 1: Making use of the strategic plan of the MDT-VOV (SWOT 2018, goals and actions) and looking for challenges and improvement possibilities from parents before and after 2018 and team.

3. Early Intervention 1 - To which extent did the early intervention address the needs of children with visual disorders and  support their parents? RM: Desktop research per year (amount of children and early interventions) & qualitative research: interviews with parents from before and after 2018 and team.

4. Early Intervention 2: What are the challenges and (additional) recommendations for further improvement of the early interventions of children with visual disorders in Aruba? RM: Qualitative research: Based on sub question 1: Making use of the strategic plan of the MDT-VOV (SWOT 2018, goals and actions) and looking for challenges and improvement possibilities from parents before and after 2018 and team

### 1.5 Research method

The research method is a qualitative research. This method is chosen because it is an exploratory research and provides insights to help understand the opinions and motivations behind the answers of the participants. Desk research will also be performed to gather data to answer the first research sub-question, which entails the yield of the current detection strategy of the MDT-VOV. The research design is a case study. Bryman (2016) mentions that case studies tend to use qualitative methods such as participant observation and unstructured interviews because it is viewed as conductive to the creation of an intensive detailed examination of a case (p. 60). This research study makes use of both aforementioned methods. The unstructured interview questions include a topic list that is prepared in advance. However the researcher has the flexibility to develop questions during the course of the interview based on the interviewees responses. Furthermore,

observations are conducted to have a deeper understanding of the topic by attending the meetings of the MDT-VOV and the observation of the intervention of a "ambulant onderwijskundige begelijder" (AOB) at a school setting. The AOB is a member of the multidisciplinary team.

### 1.6 Research participants

The research participants are selected based on theoretical sampling. This involves selecting participants based on certain characteristics. Theoretical sampling is a defining property of grounded theory and this method is concerned with refinement of the theoretical categories that emerge during the course of analyzing the collected data, rather than boosting sample size (Bryman, 2016, p. 411). In total, 15 participants will be interviewed. The interviews will be divided between twelve parents of children with a visual disorder and three team members of the MDT-VOV. Six of the parents that will be interviewed have children with visual disorders that were detected in the period before the introduction of the 2018 strategic plan. The remaining six parents have children with visual disorders that were detected after the introduction of the new strategic plan. Age and gender were two criteria used to select the parents of the children. Two children selected for the present study between the age of 0-4 are, two children between 4-9 age, two between 10-14. The present research project aims for equal amount of boys and girls. These two criteria are used to contribute to a diverse perspective. For the interview of the team members,  one representative of each of the three organizations that form the MDT-VOV will be approached. This means that a representative of the FAVI will be interviewed, in this case, the director of the FAVI, as well as a representative of White Yellow Cross and Youth Health Care.

### 1.7. Research instruments

The instrument  used to conduct this research study  was a topic list. The questions of the topic list serves to guide the interview. Furthermore, a consent form is provided

to the participants prior to the interview to confirm that the participants agree and understand what the research entails. It also informs participants that the interview will be recorded by digital voice recording.

### 1.8. Analyses

The recurrent themes that are gathered in the research will be analyzed by conducting a thematic analysis. To search for each theme, the researchers looks for different criteria. According to (Bryman, 2016), repetition is probably one of the most common criterion for establishing that a pattern within the data warrants being considered a theme. Other criteria to identify a theme are similarities and patterns.

### 1.9 Ethics

Prior to conducting this research ethical guidelines were taken into account. The participants will be asked beforehand if the interview may be recorded for research purposes only.  They will be reassured that the recording will not be shared outside those involved in the research project. Furthermore, the participants will be approached with a letter to explain the research purpose and a letter to ask consent for their participation in the research study. The consent forms are signed by the interviewer and interviewee as written agreement. Two children with visual disorder will be observed in their school setting. The school that the child attends and the parent of the child to be observed, will be asked for consent prior to conducting the observations.

### 1.10 Expected results

It is expected to gain insight on the answers of the research questions. This entails understanding the objective of the multidisciplinary team, the yield of the current strategy and the challenges and recommendations for further improvement of early detection and early intervention strategies.

### 1.11 What the reader may expect

This research paper consists of six main sections to

explain the process and findings of the research project. The introduction makes up the first section. The second section includes the context that explains the history of the MDT-VOV and a few details regarding each of the organizations that make up the team. The third section presents the literature review, which entails definitions of visual disorder, impairment and disability, as well as the development stages, importance of early detection, early detection needs of children, parents, early detection challenges and recommendation. Furthermore, early intervention follows the same sequence of importance of early intervention, needs of children, parents, challenges of early intervention and recommendation. The section ends with the theoretical framework that is created after gathering practical data from the literature. The fourth section introduces the methodology. This consists of the research design, the data collection, the participants, and ethical considerations of the research project. The fifth section presents the results and the discussion, while the sixth section includes a recommendation and conclusion.

## 2. Context

The objective of this section is to provide a short history of the origin of the MDT-VOV and to introduce each of the three collaborating organizations that form part of the MDT-VOV.

### 2.1 Social relevance and history of the MDT-VOV

In the spring of 2007, the Youth Health Care (JGZ), the Fundacion Arubano di esnan Visualmete Incapacita (FAVI) and the White Yellow Cross (WGK) started a training course in VOV method, visual inspection and the implementation of the protocol for the early detection of visual disorders" (Strategic Plan MDT-VOV, 2018, p.5).

The aim is to detect children from 0-18 years of age and to bring them to the attention of all relevant professionals to

aid in the detection and intervention of the visual disorders. Professionals of the FAVI, JGZ, WGK all participated in the training and it was noticed that a follow up training was necessary and a structural process monitoring at VOV (Strategic Plan MDT-VOV, 2018, p.5). In 2008, the Multidisciplinaire Team Vroegtijdige Onderkenning van Visuele Stoornissen (MDT-VOV) originated, almost 11 years ago. It started as a joint venture that included JGZ, FAVI, WGK and the ophthalmology practice of Dr. Jacobs. "Due to busy schedule the ophthalmologist was present till 2011. Later on an optometrist from the practice took up the meetings in the years 2012 till 2014" (Strategic Plan MDT-VOV 2018, p. 5). However, since 2015 the three organizations mentioned kept attending the meetings once every 6 weeks to discuss about the clients that range from age 0 to 18 years..

When the babies in Aruba are born, they are referred first to the WGK for the standard checkup to ensure everything is in order. When the WGK notice that there is an occurrence with the baby's vision, they refer the parents to an eye doctor and they contact FAVI. The baby is tested to see if what he or she has is something that can be fixed in the future with glasses or if the vision is low enough to be considered visually impaired. If the diagnosis shows that a child does not have a serious problem, the monitoring process has finished for that particular child. However, if it shows that this particular client of the WGK, in this case the baby, has a vision disorder he or she is appointed to FAVI and becomes, immediately, a client. As the child grows, he or she receives guidance and is monitored at school by FAVI and the Jeugdgezondheidszorg. Together, these organizations form what is known today as the MDT-VOV.

## 2.2. Collaborating organizations.
### FAVI
As stated earlier, FAVI stands for "Fundacion Arubano di esnan Visualmente Incapacita", foundation that gives assistance and guidance to people of all ages who are visually impaired. Furthermore, FAVI's purpose is to also contribute to the clients' enjoyment in life and to provide them with personal development and integration. Besides the clients' personal guidance, FAVI also guides the parents of a child with visual impairment and the teachers so that the school materials are processed in a more efficient way. FAVI originated in the year of 1974 by a devoted group of people, stimulated by the Netherlands (FAVI, 2019). They established the "Stichting Blindenzorg Aruba". A year later in 1975, the name was translated into Papiamento to the name Aruba knows today (FAVI, 2019).

### Youth Health Service (JGZ)
Since 1986, the Health Service shifted to the Public Health Department (Arubaanse Overheid, JGZ n/a). A service that is part of this department is the Youth Health Care. The purpose of the Youth Health Care is to provide preventive health care services for children and teens ranging from 0 to 19 years old (Arubaanse Overheid, JGZ n/a). The Youth Health Care monitors the health of children 4 years of age and up by visiting schools for periodical medical research. Furthermore, they also give information to the schools, and administer vaccinations to the children. Currently, the Youth Health Care focuses its efforts on vaccination and nutrition because obesity in children has increased in the last couple of years. Thus, it is the Youth Health Care's job to identify overweight and obesity in children as well as intervene with it. Furthermore, they also monitor growth by keeping track of height and weight. In addition, another task of the Youth Health Care is to take notice of the psychological development of young people and the social and emotional aspects.

"One of the resent improvements that the Youth Health Care made is in data collection of the school examinations with a fully automated vaccination registration program in which all vaccinations administered even from the "Wit Gele Kruis" or elsewhere can be registered" (Arubaanse Overheid, JGZ n/a).

### Wit Gele Kruis
In 1957 the "Stichting voor Volkshygiëne het Wit Gele Kruis Aruba" was born (WGK Aruba, 2008), and since then the foundation kept growing. The building in Oranjestad was opened in 1964: later, other buildings in districts such as in San Nicolaas and Noord followed. At this time, the "Oranjestad building" is the main office of WGK. The vision of the WGK is to provide high quality and accessible non-hospital care for the benefit of Aruban society (WGK Aruba, 2008). WGK entails community care, parent and child care and maternity care. This service offered regarding maternity and parent-child care for infants are visual control, home visits,in-office consultations , vaccination, development screening and hearing screening (WGK, Aruba, 2008). For a toddler, the services also include home visits, vaccination, in-office consultations in addition to hearing screening

## 3. Literature Review
### 3.1 Visual disorder, Visual Impairment and Disability
### 3.1.1. Defining Visual Disorder
A disorder is defined as a "physical or mental condition that is not normal" according to the Merriam Webster dictionary. About four percent of all babies born in the Netherlands have a visual disorder (FAVI brochure, 2009). As was mentioned earlier, strabismus can be one of such visual disorders. Also, FAVI mentions that a lazy eye is pretty common (FAVI brochure, 2009). Alenezi et. al mentioned that a child with a squint may stop using the affected eye (2018). This can have serious consequences because it can lead to visual loss called amblyopia, which can become permanent unless treated early in childhood (2018, p. 298). According to both the sources of FAVI and the article of Alenezi, the chance of success in treating a lazy eye is greatest if intervention is started early on, in other words, well before a child is six years-old (FAVI, brochure, 2009).

### 3.1.2. Defining Visual Impairment
According to Oliver, Sapey and Thomas, impairment is "any loss or abnormality of psychological or anatomical structure or function" (2012, p. 41). Bakkar, Alzghoul and Haddad stated that the term "visual impairment" collectively refers to low vision and blindness (2018, p. 631). The categorization of visual impairment that is currently in use worldwide is based on the International Classification of diseases, 10th Revision 1st and 2nd edition (World Health Organization, 2007). The international statistical classification of diseases identifies different categories of visual impairment where the visual acuity is measured to identify the category of a person's vision. Vision impairment can be caused by different factors. The number of visual impairment for each country may vary with the causes of visual impairment (Bakkar, 2018). "These causes could be due to genetic factors such as retinitis pigmentosa (RP) or other retinal degenerations, or acquired, for example, as a result of systemic disease, such as diabetic retinopathy due to diabetes mellitus" (Bakker et al, 2018, p. 632). A second factor that affects vision impairment is age. At least 13 million children (aged 5–15) are affected globally with visual impairment (WHO, 2007, p. 2). In regard to age affecting visual impairment, Bakkar et al. argued that different reports throughout the world have suggested that the main causes of visual impairment in the younger age group of 0-15 years were genetic disorders such as albinism, congenital glaucoma, and congenital cataract (2018, p. 632). On the other hand, with older generations there is a pattern of other types of recurring visual disorders: "Age-related macular degeneration (AMD), acquired cataract, and diabetic retinopathy were reported as the main causes of visual impairment in older age groups" (Bakkar et al, 2018,p. 632). The WHO has stated that more than 82% of all blind people are 50 years of age or older, even though people in this age group represent only 19% of the world's population" (WHO, 2007, p. 3). It was mentioned in the article of Bakker that one of the reasons why elder patients with low vision in Jordan seek less help at the clinic is because they had a lack of awareness of low vision rehabilitation services and believed that disease is "God's will"(Bakkar, 2018, p. 635). They also think that the low vision appliances are not helpful

(Bakkar, 2018). However, it is estimated that 80% of all visual impairment can be either preventable or treatable and low vision aids and rehabilitation therapy are considered the primary methods of intervention in visually impaired patients (Bakkar, 2018, p. 632.).

### 3.1.3 *Defining disability*

Smart (2012) has stated: "Defining disabilities is complex, because it is not limited to the medical, and biological aspects of the condition" (p. 153). Researchers have struggled to find operational definitions of disability that are "complete", "global" or "stable over time" (Grönvick, 2009, p. 1). It has been argued that the problem with disability as a concept is its contingency because it can be defined in different ways that can lead to sometimes contradictory meanings and often different operationalization are used in different studies (Grönvick, 2009, p.1). There are different perspectives that can be used to define disability. Grönvick selected three definitions of disability: functional limitation, administrative definition of disability and a subjective definition of disability, while the researcher Bernell (2003) made use of functional, medical and sociopolitical approach. From all the aforementioned definitions, the functional definition is selected to elaborate on because it is the most used in research about disability and was chosen in the article of both authors. The definition of functional limitation "stems from a medical understanding of disability, where disability is understood as blindness, deafness or other kinds of changes in bodily structures" (Grönvick, 2009, p. 2). "Nagi (1965) introduced an understanding of disability as functional limitations in relation to which the effects of impairments on an individual's capacity to perform activities of daily living are regarded as disability" (Grönvick, 2009, p. 2).

### 3.2 Developmental Stages

This section will, firstly, elaborate on the effect that disability has on developmental stages. Secondly, it will also explain what is meant by early detection in visual impairment and why it is important. Smart (2012) identified six developmental stages of life. These are: pregnancy and infancy, toddlerhood and early childhood, school age, adolescence, adulthood and midlife, and as last the young elderly and old elderly. A discussion on how disability can affect each of these stages is included below.

### Pregnancy and infancy

According to Smart (2012), up until the 1960s it was assumed that a fetus was safe inside the mother's uterus because they are cut off from the outside world and from harm inside the mother's belly. This belief was demolished in the early 1960's when it was discovered that the drug thalidomide, that was given to women to prevent morning sickness resulted in the birth of deformed babies. These babies were born missing limbs because the drug was taken in the critical period of limb formation (Smart 2012). "Thus it was learned that the first trimester was the time of greatest development during which nearly all congenital disabilities occurred" (Smart, 2012, p. 197). What does this mean for children with congenital blindness? "Most infants with congenital blindness experience other disabilities such as cerebral palsy and intellectual disabilities" (Smart, 2012, p. 204). Smart also noted that because the blindness is present since birth or in early infancy, the children have no concept of what they are supposed to see and thus often develop by learning through other methods that sighted individuals take for granted. This works in their advantage and they develop a compensating ability to deal with the lack of vision early on. However, a downside is that the lack of vision can affect motor development, cognitive development and social development (Smart, 2012, p. 204).

An aid for the child is to make adaptations to the environment in a manner that motivates the child, encourages exploration, builds experiences, and meets the child's visual needs are key to the development of infants and toddlers with visual impairments, especially in the areas of motor skills, cognition, communication, and social interactions (Mindy, Michaeline and Ostrosky 2018, p. 233).

### Toddlerhood and early childhood

In this stage, toddlers and preschoolers begin to master their environment (Smart, 2012). This is the time when they learn to communicate, to improve their fine and gross motor skills, and to move around on their own. This is a critical period in the development of a child's life. Studies have proven that "enriching experiences during the toddler and preschool years have long term benefits and provide the building blocks for the rest of the child's life" (Smart, 2012, p. 237).

### School age

Smart stated that many children discover their disabilities during the school period. At this stage they begin to understand that other classmates do not experience the world the same way as them. In the case of vision loss and having to use extra equipment to be able to read (e.g. magnifying glass, TV loop), students become aware that other classmates do not have to use them. However, school age children can adapt easily and are flexible. "This helps them to respond to a disability and fully engage in medical and physical rehabilitation" (Smart, 2012, p. 295).

### Adolescence

The adolescence is considered the transition period between childhood and adulthood. In this time an individual develops an adult identity by exploring new identities and roles and initiating the task of obtaining a full time job (Smart, 2012, p. 317). The age range for adolescence is considered to be between 13 to 18, while emerging adulthood is considered to be between the ages 19 and 25. Body image is considered important in this stage and "individual's perceptions and evaluations about his or her body can affect social adjustment, interpersonal relationships and general well-being" (Smart, 2012, p. 331). The perspective the individual has on their disability in this stage is important because it will play a role when reaching adulthood.

### Adulthood and midlife

This is the period where many things are achieved (e.g. self-identity, autonomy, professional success, and family integration) (Smart, 2012, p. 361). Smart mentioned that sometimes individuals with a disability are seen as eternal children and are not treated as adults because they are being subjected to many behaviors that infantilize them (e.g. pats on head, having assistive device mobility). To have a job is important in this stage and contributes to self-identity. However, it is also mentioned that what can keep a person with disabilities from working are the prejudice and discrimination of employers (Smart, 2012, p. 371). There are people who acquire a disability during adulthood and midlife. While a person with a congenital disability has usually developed an identity during the previous stages, the person that acquires a disability will have to deal with this change.

### Young elderly and old elderly.

The developmental task of the elderly is "making decisions and choices concerning the use of free time and having to adapt to reduced responsibility and free time" (Smart, 2012, p. 409). In this stage an individual has to deal also with declining of the functions of the five senses. Thus usually these physical aspects include the decline in vision, hearing, balance and cognitive abilities.

### 3.3. Importance of Early detection
### Delay in skill development

It is important to detect visual disorders early on since they lead to a delay in developing skills (Dale & Salt, 2007).

"Children that are blind as a group, and to a lesser extent severely visually impaired children, show widening delay compared with sighted children from the end of the first year onwards suggesting particular difficulties with certain skill acquisition (e.g. Bigelow 1990) and/or a cumulative impact of earlier delays" (Dale & Salt, 2007, p. 685).

### Affect Senses

One of the aspects that the visual impairment may affect is

the senses. According to the article of Dale and Salt a baby of a few weeks or months of age will try to connect with objects by moving to reach objects or people that catch their interests. However, without vision, babies may not know that there is something to reach or how to reach it, and the hands may stay passive and lifeless in this developing stage (Dale & Salt, 2007, p. 685). "Ear-hand coordination and sound localization emerge later than eye-hand coordination and depend on object permanence Fraiberg 1977; Bigelow 1986 (Dale & Salt, 2007, p. 685). A baby with visual impairment tend to lie passively, unable to reach out to sound and unaware of their potential for movement (Dale & Salt, 2007).

**Affects Social behavior development in infant**
It is in the baby and toddler stage that the child begins to develop social behavior and eyesight plays an important role in this through maintaining eye contact by gazing at a parent or observing facial expression. In this way,ba baby may begin to connect with a parent. However, an apparent lack of responsiveness and passivity of the young baby with visual impairment seriously affect the spontaneity, enjoyment and reciprocity of the early parent–baby interactions (Dale & Salt, 2007, p. 685). Parents can still interact with a baby by doing vocal rhyme games and also games involving objects to give and take. However, Dale and Salt argue that this over reliance on repetitive vocal games, has been shown to be associated with poor outcome in the second to third year (2007, p. 685). Through eyesight a baby can develop understanding that their parent is looking at them. With eyesight they also discover other things that interest them. Through this, they can learn about visual referencing and joint attention or co-referencing, which is a foundation for developing shared understandings, communication and meaningful language. (Dale and Salt, 2007, p .685). When they are severely visually impaired they are robbed of this opportunity.

**Loss of cognitive and language skill**
One of the most serious effects for development are in the

children showing a "developmental setback" or regressive disorder. This means plateauing or loss of cognitive and language skills and increasing disorder of social communication skills. A third of children with profound visual impairment were found to show this pattern (Dale and Salt, 2007, p. 685). The earlier intervention takes place the faster a child can be helped to be able to progress in communication and social skills.

Early detection of visual impairment is the early diagnosis of eye disorder for a child usually in the baby to toddler phase. "Visual impairment caused by refractive error, amblyopia, strabismus, and astigmatism is a common condition among young children, affecting 5% to 10% of all preschoolers" (Calonge, 2004, p. 264). The method of test that is used to detect a visual disorder depends on the child's age and understanding. Below, some types of methods that can be used to test vision disorder depending on the individual's developmental stage are included.

*3.4 Early detection: needs of children*
**Medical diagnosis**
The first step for detection is to obtain a medical diagnosis of the eye. This is done by executing different types of tests, performed by an ophthalmologist or optometrist or optician. The optician is part of the eye care team and helps with aids such as glasses that are based on the prescription of an eye doctor. An optometrist is an eye doctor that examines eyes, to check if the child has a defect or abnormality to the function of the eye. The ophthalmologist is a medical doctor (MD) and specialist in ophthalmology. They diagnose, treat disease, prescribe eye medication and perform surgery. The types of test to detect if a child has a vision disorder depends on the age of the child. Some of the methods used to test are mentioned below.

**Screening tests**
Infant- Hirschberg test, follow object, photo screening Hirschberg light detection tests can be used to test an

infant's vision. This test entails shining a light in the infants' eyes and evaluate the corneal light reflexes for symmetry (Agency for Healthcare Research and Quality, 2004). It can be used to assess strabismus.

Another test examines the ability to follow an object with the eyes. A third test is the photo screening, which can detect amylogenic risk factors such as strabismus, significant refractive error, and media opacities; however, photo screening tests cannot detect amblyopia" (Calonge, 2004, p. 264).

**Toddler- Cover test, random dot e test**
A method used to detect visual abnormalities in a toddler is the cover test or random dot e test. An ophthalmologist may perform the eye cover test where one eye is covered while the toddler stares straight ahead while the doctor observes the uncovered eye. The random dot e test or Titmus Fly Stereotest can test stereopsis, which is the ability of the eyes to perceive depth. "Visual acuity can be assessed by tests such as the HOTV chart, Lea symbols, or the tumbling" (Sanker, Dhirani, Bhakat, 2004, p.2 64).

**School aged children and above - Visual acuity test, Ishihara test**
At this stage, a visual acuity test may be used to test how well a child can see a letter or symbol from a distance. Near and distant vision is tested. Furthermore, color vision test known also as the "Ishihara test" is used to check for color vision deficiency.

**Multidisciplinary Team**
**SWOT Analysis**
In order for the MDT-VOV to evaluate the team's position and to have a positive development in the team's growth, a strategic plan was made to identify the strengths, weaknesses, opportunities and threats of the team. This is known as the SWOT analysis. The SWOT analysis divides these factors between internal and external factors.

Strengths and weaknesses are the internal factors that may influence the team while opportunities and threats are the external factors.

**Internal factor (strength)**
A strength of the team is that it is small, consisting usually of four people, the director of FAVI as representative, an itinerant educationalist (AOB) from FAVI, a representative of the white yellow cross (WGK) and a representative of the youth health care (JGZ). The article of "McKendrick (1991) conducted a brief research on multidisciplinary teams and advised that the ideal multidisciplinary team should be composed of a small stable core group of a pediatrician, education psychologist, and advisory teacher for the handicapped" (as cited in Youngson, 2016, p.4). This is an advantage because a small stable core group of professionals can work more effectively, by making appointments to sit together for meetings, which can go by quicker. Also, since there are fewer people in the group, there is greater opportunity for cohesion. Furthermore, other strengths of the team are, availability of meeting room, availability of expertise of FAVI, white yellow cross and youth health care. Additionally, the group also has a defined specific target group that they work with and the data has been collected and stored since the group initiated in 2008. This facilitates sharing and analysis of past data and helps the team to make informed decisions in the future. Other strengths of the team are attention for guidance offered to the children with a visual disorder, the perseverance and participation of members of the MDT-VOV team that come together to work in the best interest of a child with visual disorder (MDT-VOV Strategic Plan, 2019, p. 6). The team members give and exchange information and support and learn from each other.

**Internal factors (weakness)**
The identified weaknesses in the functioning of the team are: Not hearing back soon enough from the ophthalmologists after referring a client (MDT-VOV Strategic Plan, 2018,

p. 7). This can be an obstacle for the team, because the information helps to know if there is a need to proceed with a client or if they need to be removed from the list, in the case of not having a visual disorder. Also, the SWOT analysis showed that the information of children above the age of four are discussed more easily compared to the target group of white yellow cross which is of zero to four years of age (MDT-VOV Strategic Plan, 2018, p. 7). A weakness of the MDT-VOV is that there is a lack of establishment of the following procedure: to register, take in, monitor, evaluate and maintain privacy. Furthermore, the target group of 12 to 18 years is not structurally examined by the doctors of the JGZ. The final eye examination takes place in the fifth year of primary education and if it is necessary a control takes place in the sixth year of primary education. Moreover, another weakness of the MDT-VOV is that that the objective of the MDT-VOV is not clear to all organizations and the MDT-VOV does not have its own funds for outreach (MDT-VOV Strategic plan, 2018, p. 7).

### External factor (opportunity)

One of the opportunities that the multidisciplinary team experiences is a generous cooperation with eye doctors and also involvement and expertise of orthoptists, such as cooperation with Yourainne Kelly, orthoptist at Aruba Vision Center (MDT-VOV Strategic Plan, 2018, p. 8). There is also cooperation of registration and information exchange with opticians. Furthermore, the MDT-VOV receives data from the other agencies that are working with this target group. Another opportunity is the increase of quality service to the children with visual impairment (MDT-VOV Strategic Plan, 2018, p. 8).

### External factor (threats)

A threat is that there is a shortage of staff in FAVI, WGK and JGZ. In FAVI, there is a shortage in staff that gives guidance for people with visual impairment, their parents, teacher and other educators. In WGK, the shortage of staff is a reason why the vision research is not done at the age

of three years and nine months (MDT-VOV Strategic Plan, 2018, p. 8). For JGZ, the shortage of staff results in a lack of vision research done in every school for children of five or six year of age (MDT-VOV Strategic Plan, 2018, p. 8).

### Mission, Vision & Goals of the MDT-VOV

The mission of the MDT-VOV is the following:

"The early recognition of visual disorders in children aged 0-18 in Aruba. The members of a team bring their own relevant expertise with regard to the early detection, referral, care and/or guidance of children with visual disorders. Furthermore, the objective is that these children are detected and diagnosed in a timely manner, and receive medical treatment and/or guidance if necessary. In addition, the team also provides parents, teachers and any other educators with the necessary information to receive advice and/or guidance. The team is responsible for the monitoring of these children during the detection/referral process and in this way helps to ensure that the risk of "falling out of the boat" is minimized. In addition, the team ensure that the data of these children are stored in such a way, and analyzed that they could serve as a source of information for improving the early recognition and timely referral of visual disorders in children. The MDT-VOV also wants to make society aware and inform it about the importance of timely diagnostics, care and services to children with visual disorders on the island" (MDT-VOV Strategic Policy Plan, 2018, p. 9).

The vision of the MDT-VOV is to have "a solid collaboration on Aruba to develop visual disorders in children at an early age and stage and to guarantee quality care and service in a timely manner" (MDT-VOV Strategic Policy Plan, 2018, p. 9).

### 3.5 Early detection: Challenges

As was mentioned above, early detection of visual impairment is the early diagnosis of eye disorder for a child usually in the baby to toddler phase. Section 3.2.2

mentioned different methods for early detection. This section will elaborate on the challenges for certain methods of detection.

### Child's age

As was mentioned in the early detection section (3.2.2), various tests are used to identify visual defects in children, and the choice of tests is influenced by the child's age and visual disorder. During the first year of life, strabismus can be assessed by the cover test and the Hirschberg light reflex test. According to Calonge (2004), when a child is being screened younger than age three for visual acuity, it is more challenging compared to screening older children and usually requires testing by special trained personnel (p. 264). Other methods such as photo screening can be used to test children. "Photos screening can detect amblyogenic risk factors such as strabismus, significant refractive error, and media opacities; however, photo screening cannot detect amblyopia" (Calonge, 2004, p.264). The age of the child may affect the accuracy of the cover test when testing for amblyopia.

The secondary outcome results suggest that even with orthoptists using cover tests and visual acuity tests, most cases of strabismus were not apparent until after the age of 25 months and most cases of straight-eyed amblyopia could not be identified until at least 37 months of age" (William, Harrad, Harvey and Sparrow, 2001, p.293).

### Unreliability/ ineffectiveness of visual screening results

Sometimes a child that is misdiagnosed with visual screening at school may be referred unnecessarily to the ophthalmologist. In a few cases, visual screening test result for children may be misdiagnosed. "With the present screening criterion, the majority of children identified have only slightly reduced visual acuity, which in some cases could be attributed to factors other than simply reduced vision, such as immaturity and poor ability to concentrate" (Hard, 2007, p. 417). Hard continued:

"It is desirable that the screening process should be able to differentiate between those who actually have reduced vision and those who fail screening because of other factors related to ability to cooperate. The retesting of preschool children who fail the first screening test has been found valuable in reducing the number of over-referrals and thus cost-effective" (Hard, 2007, p.417).

Vision screening can detect myopia very easily. Myopia is nearsightedness. However, it is the hyperopia and astigmatism which is farsightedness, that show a less specific result. The article stated that "screenings are best designed to detect problems with distance acuity and though that's important, myopia represents the less risk for reading and learning problems." (Review of optometry, 2010, p. 12). A child with hyperopia and astigmatism will have more problems reading and writing and the child may not be aware that it is caused by vision issues.

Sometimes school screenings may lead to unnecessary referrals to the ophthalmologist since it is a brief evaluation of the eye. According to Moskowitz (2010), "Screening for conditions and functional deficits has come under greater scrutiny in recent years, as more evidence as to the effectiveness and safety of screening measures begins to appear in the literature" (p. 47). Furthermore, more studies are needed to better understand effects of screening compared with no screening, to shed light if there are risk for potential unintended harms from screening (e.g. unnecessary treatments), and to define the best time at which to initiate screening for the child. "For a long time, we performed screenings because they just seemed like a good idea, said William T. Gerson, MD, an Infectious Diseases in Children Editorial Board member" (Moskowitz, 2010, p. 47). Now instead of just performing screenings, because it is assumed to be the best idea, more attention is put into analyzing the effectiveness of this method. However, it is noted in Moskowitz' article that no risks with vision screening is associated and the benefits still seem to outweigh the consequences (2010, p. 47). Moskowitz

stated that the panel "did not find any evidence that vision screenings resulted in improved visual acuity, but found fair evidence to suggest vision screenings have "reasonable accuracy" in detecting strabismus, amblyopia and refractive error" (Moskowitz, 2010, p. 47).

**Incorrect labeling**

Misdiagnosing of a child is yet another challenge. n "We've always been worried about screenings effectiveness and the consequences of a patient being labeled in a way that could follow them for the rest of their lives." (Moskowitz, 2010, p. 47). In the case of an adult, the person is not allowed to drive a car because the medical record states that the person is severely visually impaired when in reality, that may not be the case.

**Multidisciplinary team work challenges**

Often a multidisciplinary team focuses on the early detection of a visual disorder in a child, which can benefit and help a child greatly. However, sometimes challenges are encountered when having a team. These challenges can vary from team to team. Youngson, (1994)compared two anonymous teams, calling them A and B. Team B had problems when making appointments for the group and getting all the members of the team together at the same time. However, Team A had more problem areas. According to the author, first, two medical members did not have time for participation in team activities. Lack of time was limiting the team to reach their full potential.

Another problem was that the meetings were often scheduled at an inconvenient time and the ophthalmologist often could not attend due to clinical commitments. Thus, it led to the ophthalmologist lacking knowledge of what was going on in the team.

Team functioning was also a problem area. Team functioning refers to aspects such as communication problems in terms ofwhere the meeting will be held at or

at what time. Finally, another challenge was that members disagreed on what is a priority to manage at the moment, and what is not.

***3.6 Early detection: Recommendations***
**Screenings**

According to Chou, Dana and Bougatsos (2011) "direct evidence on effectiveness of preschool vision screening for improving visual acuity or other clinical outcomes remains limited and the evidence does not adequately address whether screening is more effective than no screening" (n/a).

> Regarding indirect evidence, a number of screening tests appear to have utility for identification of preschool-aged children with vision problems, and treatments for amblyopia or unilateral refractive error (with or without amblyopia) are associated with mild improvements in visual acuity compared with no treatment" Chou et al., (2011, n/a).

The article suggests that further studies on screenings are needed to better understand the effects compared with no screening. Further studies will serve to "clarify the risk for potential unintended harms from screening (such as use of unnecessary treatments), and to define the optimal time at which to initiate screening during the preschool years" (Chou et al., 2011).

**Multidisciplinary team**

A multidisciplinary team aids in the detection but also in the intervention with children with visual disorder. Above were mentioned some challenges that they may encounter. To avoid these types of misunderstandings in a team, Ionesco and Bințințan (2018) argued that there are a few factors that can lead to the success of a multidisciplinary team.

1. Firstly, it is believed that the objective of the team should be clear to all members.
2. Secondly, there should be efficient communication while talking, listening, but also evaluating each other.

3. Thirdly, all people involved should participate and put effort in the team. The benefit is cohesiveness of the team and proper service.
4. Moreover, the team should negotiate balance with each other and respect the opinion of every team member involved to make the best decision for the child.
5. If there are conflicts that arise in the team, the advisable course of action is to try to solve it immediately and to not harbor emotions towards each other. This can only lead to segregation within the team.
6. Team members should exchange important information related to the case of the client. Inefficiency at communicating and exchanging information can lead to a delays when helping the child and can also lead to an incomplete service if some members do not have the complete information.
7. Lacy (1988) mention that group culture should be applied, round tables can be organized so that all participants can feel important (as cited in Ionesco & Bințințan, 2018, p. 125).
8. Creating a comfortable ambiance within the group is important for the members to feel at ease working in the multidisciplinary team.
9. A last key factor that the article mentioned is that the team member should know his or her obligation towards the child and the team. This includes "knowing their role and responsibilities, conscientiousness and punctuality, manifestation of a cooperative and open attitude, flexibility and empathy, expertise in the field, prompt intervention in crisis situations, as well as in other actions" (Ionesco & Bințințan, 2018, p. 125)

The abovementioned factors can all aid in the improvement of a multidisciplinary team. However, researchers Cobben, Dongen, Bokhoven and Daniels (2016) pointed out that an interdisciplinary team has more advantages compared to a multidisciplinary team. Specific factors are taken into account by the interdisciplinary team to make cooperation successful (p. 7). An important feature of an interdisciplinary team is that they set up one care plan

with which the healthcare professionals will work together in a joint effort (Cobben, et al., 2016). Furthermore, the interdisciplinary team possesses nine elements that appear to be success factors. These are: motivation, professional complementary behavior, a clear vision and mission, get to know each other, a clear generic working model, that promotes communication, equivalence of the team members, process control, team appearance, and consultation facilities (Cobben et al., 2016. p. 8).

***3.7 Importance of early intervention***

"Early intervention refers to a variety of educational, psychological or therapeutic interventions provided for handicapped, at risk or disadvantaged preschoolers to prevent or ameliorate developmental delays or disabilities to provide support in cases in which these disabilities exist" (White, Bush & Casto, 1985, p. 418). When educating a child, the system of early intervention focuses in teaching the child to manage basic skills such as communication (e.g. learn to dress in the case of vision impairment). Fraiberg, Reynell, Sonksen mention that for several years, it has been proposed that congenital visual impairment can seriously disturb infant and early development and early intervention is therefore of paramount important (as cited in Dale and Salt, 2007). Early intervention also has benefits. IDEA provides evidence and also supports the significance that early intervention can have on financial as well as health outcomes for a person with visual impairment (Thompson and Merino, 2007). "With early intervention, the overall long-term resources an individual with a disability might need from the community are likely to be greatly reduced" (Thompson and Merino, 2007, p. 162).

**Early intervention: Needs of children**

The type of intervention services an individual receives depends on their disability and needs. For example, a person with mobility impairment may need physical therapy or a person with hearing impairment may need audiology services to treat hearing and balance disorders.

In the case of vision disorders, five methods of intervention are presented below.

## Medical intervention

To intervene early on with visual impairment, medical intervention is usually needed. A baby that is discovered to be visually impaired is soon referred to an ophthalmologist to diagnose the eye disorder of the baby. The baby will get corrective measures later on depending on the eye disorder and (suitable age) that he or she needs to be to receive corrective measures. Corrective measures can consist of a variety of things such as glasses, eye patches, medicine and, in some cases, surgery. An example of surgery to improve eye sight is when an infant is born with congenital cataracts. The cataract is removed and an eye test is performed again to check the vision of the infant. In other cases, surgery is done to also shorten the eyelid, in case the lid is too long and covers the iris and this in turn hinders the eyesight.

## Sensory stimulation strategy

Activities can be done to stimulate an infant's vision. This depends, of course, on the degree of visual impairment that the infant has either if the infant is profoundly visually impaired or if he or she still has some degree of sight, In this case, the vision can be encouraged. According Thompson and Merino (2016), a parent or caregiver can stimulate a baby during feeding by sitting near a window so the faces are lighten up and illuminated and more likely to be seen by the baby. Also, the parents or caregivers can make use of brightly colored utensils to allow the baby's visual tracking and fixation. "A third strategy for a toddler is to make use of colored contrasting placemat to focus on food" (Thompson & Merino, 2016, p. 164). This will help train the eye, according to the article, and will improve vision by "training" the eye to focus early. Other tips that were given include to use an object to shine light on the child's hand or feet while playing, in order to draw attention. Another suggestion given is the use of wrist rattles. The parent can put wrist rattles on the infant's wrist and ankles to encourage

fixation on his/her hands and feet (Thompson & Merino 2016, p. 164).

## Assistive technology

Another way of intervening and providing support is with the use of technology to assist a child in their development. Some of the technologies used are magnifiers to help enlarge words and image, visual aids with contrasting colors to be able to distinguish images, screen enlargements for computer, braille to be able to read texts, auditory technology such as listening devices to read a book out loud and talking calculators. Canes are also used to navigate spaces, as well as service dogs.

## Occupational therapy

This therapy assists the individual with a vision disorder to become more independent by learning different ways to do daily tasks on their own. They offer easier methods to be able perform activities, such as personal grooming, and hand and eye coordination to be able to perform easier at school. These methods can also be used for children.

## Education

Disabled children often have complex educational and child care needs as well as unique recreational and social needs (Reichman et al., 2008, p. 680). Depending on their age and disabilities, they may need special programs to help with developmental delays. The research of Reichman (2008) suggested that specialized education programs or facilities may be necessary (2008). When the child grows up to enter the stage of teenage years and adulthood, he or she may need transition programs and specialized job training. This can help many disabled individuals become independent, although supported employment on an ongoing basis may be necessary (Reichman, 2008, p.680).

### *3.8 Early interventions: Challenges*
## Staff numbers and training

The researchers of both studies Anthony (2014) and

Kesıktaş (2009), have stated that the number of specialists that do early intervention is low. The specialists that work in early intervention programs and come day to day in contact with visually impaired children play a very important role in their development. "Studies show that services for young children with visual impairments among developed countries run on a local basis rather than on specific guidelines and that personnel preparation program and the number of service providers are few in number" (Dennison, 2000; Dote-Kwan, Chen, & Hughes, 2001; Gray, 2005; Pogrund et al., 1996; Summers, Leigh, & Arnold, 2006)" (Kesıktaş, 2009, p.827). Furthermore, Anthony (2014) added that the programs are becoming inventive by offering paid opportunities to staff to cross-train. This means that "many early intervention programs that specialize in visual impairment have found success in hiring early childhood special educators and supporting them to become certified teachers of students with visual impairments" (Anthony, 2014, p. 516). The opposite also happens when early intervention programs hire teachers of visually impaired students and support them to become trained in early childhood special educators or to serve as direct consultants with early childhood special education personnel (Anthony, 2014). However, a challenge of this is that the cross-training can be expensive for the early interventions program.

## The focus and the content of the service

The focus and the content of the service that is given is as important as the person who gives this service. Anthony (2014), described this as the "who" that is the staff that gives service and the "what" which is the content. Both are the "who" and "what" are linked to each and affect one another. It is a challenge because a visual impairment child cannot receive an optimal care if the person who delivers it is not specialized in that area, the opposite is also true if the content does not meet all the developmental needs of the child.

It is essential to have an understanding of general child development needs within the context of daily routines

and other considerations related to visual impairment, such as a need for adaptive materials and equipment, books in braille, the use of sensory efficiency strategies, and family-centered activities tied to a developmentally appropriate expanded core curriculum (Anthony, 2014, p.516).

## The setting in which the service is provided

The setting refers to the location in which services are provided to families of infants and toddlers with visual impairments. Sometimes, early intervention services work with children and infants in natural environments or are center-based. Anthony (2014), explained that a natural environment, as defined by the U.S. federal government is the home and community settings in which infants and toddlers without disabilities participate in early learning and socialization activities (2014, p. 518). However, the natural environments model may exclude "Part C funding for center-based settings, which are most often designed exclusively for young children with visual impairments" (Anthony, 2014, p. 158). A challenge that is encountered with the center-based settings for children with visual impairment is the lack of funding and geographical location. The "geographical location" means that it can be sometimes too far for the families to bring the child to the center on a regular basis. However, families may prefer center-based services due to a preference of not having practitioners come to their homes, the need to meet with other families who have children with visual impairments, the desire to have access to more frequent or an abundance of onsite services (Anthony, 2014, p. 159).

## Mainstreaming practices

According to Kesıktaş (2009), the mainstreaming practices should be analyzed. Mainstreaming in the context of education is to switch a child with special needs from a special school with self-contained classrooms to a regular school with general education classrooms. Some researchers such as Richert believe that according to "the law, natural

environments are to be the least restrictive ones but that most mainstreaming practices lack the necessary physical and social conditions that make the environment natural for these children" (as cited in Kesıktaş, 2009, p. 827) While other studies showed that "although many participants had difficulty finding the right setting for their child, they did believe mainstream early childhood education services could be considered a beneficial form of early intervention for children with developmental disorders" (Blackmore, Aylward and Grace 2016, p. 16). The opinions about mainstreaming are mixed and vary in different studies. While Kesıktaş (2009) argued that mainstreaming needs time and effort to be successful and the practices should be questioned. Blackmore et al. (2016) pointed out that further research that examines the barriers of inclusive practices needs to be done.

### 3.9 Early interventions: Recommendations
**Staff and training**

According to Kesıktaş (2009), an alternative solution for having the staff up-to-date with the latest technologies or methods to provide for children with visual impairment is to do pre-service and in-service programs through distance education. "Studies show that distance education programs are effective in training personnel at both undergraduate and graduate levels Griff in-Shirley, Almon, & Kelley, 2002; Walker, & Bozeman, 2002" (Kesıktaş, 2009, p.827). Therefore, alternative options such as distance education should be considered in preparing the staff that work in early childhood special education programs for children with visual impairments. Furthermore, Anthony (2014), also explained that it is important to continue to gather strategies to improve referral processes from physicians, collaborate with organizations that cater to the same needs and find training for special education staff that is cost-efficient and that meets the family and child's needs.

**Family-centered practices that promote parent-child relationship**

Parents can help aid in the positive development of a child with vision impairment since they are part of their direct environment. According to Mindy and Ostrosky (2018), "practices that promote parent-child relationships are especially important, given the specialized needs for early communication and the development of strong social relationships" (p. 225). Not only does the infant and parent form a strong relationship by communicating in other ways but it might also help the vision loss in certain cases. "Researchers have suggested that incorporating these strategies into daily routines may help mitigate the effect of vision loss Chen, 2001; Ferrell,2011; Hatton et al., 2002" (Mindy, & Ostrosky, 2018, p. 230).

This coincides with the opinion of other researchers that have given tips for parents or caregivers to play and communicate with their infant by making use of color utensils and wrist rattles to stimulate the infant's vision and help mitigate vision loss. Hatton pointed out that when "interventionists focus their efforts on family priorities, family members are more likely to integrate strategies into their daily life" (As cited in Mindy, & Ostrosky, 2018, p. 230). Since it is easier for the parent to integrate these strategies in their daily lives, this might lead to slight improvements with daily consistency.

For the past years researchers have demonstrated that family plays an important role in the development of a child with visual impairment. According to Mindy et al. (2018) a shift can be seen in the approach of the studies that have to do with visual impairment in children. Past studies of Baird and Mayfield, Conti-Ramsden, Perez-Pereira, Dolendo, Sapp, and Troester used to focus on "the effect of the caregiver on development, or differences between dyads that included infants and toddlers with visual impairments and dyads in which infants and toddlers had typical vision (as cited in Mindy et al., 2018, p.231). However, recently more emphasis has been put on details that promote positive relationship outcome for children with visual impairment (Mindy, 2018).

"Certain studies of the last few years Lappin and Kretschmer , has reported of the positive outcomes of massage techniques that a parent provided to their child. Also a study Rattray and Zeedyk demonstrated prelinguistic communication strategies between parents and their infants with visual impairments using nonvisual behaviors including touch, vocalizations, and facial orientations. Furthermore, shared book reading between parents and child and music therapy have shown promote positive parent child relationship" ( As cited in Mindy et al. 2018, p.231).

**Quality team practices**

Besides finding the best strategies to train personnel, there are also quality practices that the team can implement to enhance intervention services. According to Mindy et al., (2018), research encourages the idea of forming transdisciplinary teams to conduct early interventions. Transdisciplinary team differentiates from multidisciplinary team. While in multidisciplinary team, professionals of different disciplines work together by extending their knowledge to each other, in transdisciplinary team unity is constructed of intellectual frameworks that is past the disciplinary perspectives. Research suggest that professionals who have a variety of expertise are able to address the myriad of needs presented by any individual family (Mindy et al., 2018). "Smyth et al. (2014) described a comprehensive model in which the speech language pathologist, occupational therapist, and vision specialist worked together with the family to help develop successful mealtime routines and strengthen the confidence of family members in this activity" (Mindy et al., 2018, p.235). Another example mentioned in the article is for professionals to conduct pre-service training models to broaden knowledge and skills on the topic.

**Benefits of mainstreaming**

In the challenges of early intervention section, it was mentioned that different studies have provided mixed opinions about mainstreaming. Mainstreaming was taken into account for the present study because in Aruba most children with visual impairment attend to regular schools with regular classes since there are no schools for the visually impaired on the island. However, in other countries where the option exists for attending a regular school or specialized schools, studies have been conducted on children with developmental disability whose parents opted to enroll them in a regular school (Blackmore, Alyward and Grace, 2016). The study showed improvement especially in the child's communication and behavior. The study demonstrated that there was less emphasis on improvements in child cognition, motor skills or self-care (Blackmore, et al., 2016). However, other areas of improvement were in vocalizing, babbling, talking and singing, as well as the use of eye contact, gestures and words, and language comprehension (Blackmore et al., 2016, p. 15).

**Research about developmental pattern**

Kesıktaş (2009) explained the guidelines of early special education programs, the problems and the solutions. "Despite their importance in programs for the visually impaired, studies like Hatton's have pointed the lack of these guidelines in service delivery" (As cited in Kesıktaş 2009). Some of the areas of concern were the following: developmental patterns of children with visual impairment, personnel preparation, developmental assessment and mainstreaming.

The article mentioned that some studies on the developmental patterns of visually impaired young children show that there are significant delays in all developmental areas compared to their peers while other studies proved that visually impaired children "on average pass through developmental milestones at or around the same time as their fellow peers" (Kesıktaş, 2009, p. 825). Because of this, Kesıktaş (2009) recommended that more research is needed to really determine the developmental pattern of children.

### *3.10 Early intervention: Needs of parents, challenges & recommendations*

### Information and knowing their rights

From the moment when a disability is discovered, parents need accurate information about the specific disability of their child. They need to understand what it is and what it means. This will aid in the positive growth of their child so that they are able to make informed decisions about treatments, therapies and in some cases, surgeries. Parents can receive accurate information about a disability from a doctor that is knowledgeable with that specific disability (e.g. ophthalmologist for eyes). Also, they can receive guidance from organizations and foundations that cater their child's specific disability. In the case of medical care, it can be financed by private insurance companies such as Medicaid or the State Children's Health Insurance Program (Reichman, 2008, p. 681). Furthermore, when having a child with a disability, aid might also be provided in the form of subsidy from the government.

### Emotional support, counseling and training for parents

When there is a disabled person in the family, the whole family experiences the impact (Oliver et.al, 2012, p. 54). Families that include a disabled person are more likely to lack emotional support (Oliver et.al, 2012). In an article of Reichman, Corman, and Noonan (2008) it was mentioned that a child with a disability can have a profound effect on the entire family. A profound effect can be positive or negative. A positive effect of having a disabled child is that it can strengthen the family ties.

It is a unique shared experience for families and can affect all aspects of family functioning. On the positive side, it can broaden horizons, increase family members' awareness of their inner strength, enhance family cohesion, and encourage connections to community groups or religious institutions." (Reichman et al., 2008, p.680).

On the downside, for parents, having a disabled child may experience increased stress depending on the type of disability. It can also take a toll on the mental and physical health of the parent, thus, emotional support is valuable for a parent. The aim of early intervention is to educate and to support. This can be done directly to help out a child with a vision disorder and it can be also done by helping the parents since they are part of the immediate environment of the child and have a direct influence on their development. In the case of a child with vision impairment, it is important that the parents are assisted with correct information to aid in the positive development of a child. The next section will elaborate on how parents can be supported.

### Practical support and health care services

In order to meet the needs of a child with visual impairment, health care service is needed to maintain and improve their health. According to Reichman et al.(2008), "The most obvious resource needs, involves health care. Disabled children require not only high quality primary care, but they often require multifaceted specialized care on a long-term basis" (p. 680).

### Financial support

The external economic and social pressures of family life need to be taken into account. "Families that include a disabled person are more likely to be living in poor housing, poverty, and lacking in emotional support social provision generally when compared to families where no one is disabled" (Oliver et al. 2012, p. 55). There are different factors that can lead a family with a disabled child to poverty.

One of the consequences of poverty and inadequate social service support, whether it is a result of insufficient funding, oppressive policies or poor social work, is that it will cause disabled people of all ages to be dependent on family and friends for personal assistance (Oliver, 2012, p.55).

When a parent and or family are not obtaining the practical help they need, it can put a strain on the family relationships. It also includes the romantic relationships between the parents of a child with an impairment.

### Better understanding by the community/ society as a whole

Parents might have to deal with the fact that their child is not socially included in regular schools and due to their visual impairment and they might need more understanding from the community towards their child. "Social inclusion qualifies participation in activities and relationships in this setting with a sense of acceptance or belonging Booth & Ainscow, 2002; Bossaert, Colpin, Pijl, & Petry, 2013; Prince & Hadwin, 2013" (Jessup, Bundy, Hancock, 2018, p. 91). Students with visual impairment have described as being constantly struggling to fit in and be regarded as "normal" by others in the school community (Jessup al., 2018, p. 91).

A recent study published by Jessup et al., (2018) explored the social inclusion of 12 students with vision impairment in a high school of Australia. The students age ranged from 13-17 years. Five themes contained the varying influences on school social inclusion in the research. "These were: 1) putting myself forward; 2) knowing me; 3) having control; 4) having a place to shine; and a negative influence 5) peer exclusion and rejection." (Jessup et al., 2018, p. 90). The results showed that not all students with vision impairment are flourishing at high school. Even though many students had satisfactory relationships in high school, one-third of the students struggled (Jessup et al., 2018). All the participants with vision impairments and additional disabilities had social challenges and these students comprise the majority of students with vision impairments (Jessup, et al., 2018). The authors found this concerning as there are established links between rejection and long-term mental health and well-being. The article concluded that the skills and knowledge expressed within the expended core curriculum (ECC) are crucial, yet the school environment needs to support these skills, and in particular, self-determination (Jessup et al., 2018). The research showed the lack of understanding sometimes from others that the students with visual impairment have to face.

### Parents need a break from the role of caretaker's

Oliver et al. (2012) identified a list of priorities that were important to keep the families socially stronger, and the need for leisure time for the whole family had the highest score. More than half of the families in the study responded that they had only a few opportunities to spend time with their spouse or significant other, away from the role of caretaker. Depending on the disability, some children require a significant amount of care and treatment day and night. Often, one parent is unable to work while simultaneously taking care for a child with special need. To be able to earn a living and be there for a child with special need, one parent might take the responsibility to work long hours to earn a living for the family. This may lead to separate social lives between parents. Other needs that were voiced by parents with children with a disability are:

- Specific play activities for disabled children
- To have unbroken nights
- Meeting with families that are in a similar situation
- To have a local children's center (Oliver et al, 2012, p. 67)

"Resources that assist family members directly include respite care, counseling, parent and sibling groups and support groups surrounding specific types of diagnoses often provided by foundations focusing on specific diseases" (Reichman, 2008, p. 681)

### 3.11 Theoretical framework

| Early Detection: Strategies, Challenges & Recommendations | | | |
|---|---|---|---|
| | *Strategy* | *Challenges* | *Recommendations* |
| Needs children | 1. Medical diagnosis<br>2. Screening tests<br>3. MDT | 1. Child's age<br>2.Unreliable/Ineffective visual screening<br>3. Incorrect Labeling<br>4. MDT:<br>- meeting each other<br>- lack of time<br>- absence ophthalmologist<br>- communication<br>- setting priorities | 1. Pre-school vision screening<br>2. MDT:<br>- clear, motivating objectives<br>- to take initiative<br>- being flexible<br>- respect for differences<br>- Open communication<br>- Shared responsibility |
| Early Intervention: Needs of Children & Parents, Challenges and Recommendations | | | |
| | *Needs* | *Challenges* | *Recommendations* |
| Needs children | 1.Medical Intervention<br>2.Sensory stimulation strategy<br>3. Assistive technology<br>4.Occupational therapy<br>5.Education | 1. Staff number and trainings<br>2. Focus and content of service<br>3. Setting/location of service<br>4.Mainstreaming practice | 1. Staff and trainings<br>2. Family centered and relationship based practices.<br>3.Transdisciplinary teams<br>4.Focus on benefits of Mainstreaming<br>5.Research |
| *Needs parents* | 1.Information and Knowing their rights<br>2.Emotional Support, Counseling and Training.<br>3 Health Care Service; long-term specialized care; financial support.<br>4. Understanding of community as a whole<br>5.Catching break from caretaker's role | 1. Health Care Service; long-term specialized care & treatment; financial support.<br>2. Increase stress<br>3. Understanding of community as a whole | 1. Inform, refer and support parents.<br>2.counseling<br>3.parent and sibling groups<br>4. Inclusive Community |

Figure 1: Designed theoretical framework for this thesis using the theories and concepts retrieved from Anthony (2014), Reichman (2008), Youngson (1994) Ionesco & Bintintan (2018)

The theoretical framework was created using different researchers' concepts, theories and opinions. Figure 1 shows the framework divided into the early detection needs of the children above and the early intervention needs of children and parents below. When a child is suspected to have a visual disorder, three strategies need to take place. First, he or she, needs a medical diagnosis to detect if there are any abnormalities to the eye. The child will also need an ag- appropriate screening test of the eye to ensure the most accurate results. As, a final step, a multidisciplinary team is needed to aid in the detection. Challenges may arise with the detection strategy of screening such as child's age, unreliable/ineffective visual screening and incorrect labeling. However, with the multidisciplinary team, problems may also arise within the team that can affect the quality of the services. Recommendations are given for pre-school vision screening and suggestions to optimize the collaboration within the team. After having detected a visual disorder, the next step is the intervention.

The section below presents the needs that a child with visual impairment may have, but also the needs that the parents face as they become an important caregiver. The child will need medical intervention, sensory stimulation strategy, assistive technology, occupational therapy and education. Challenges that may arise include shortage in staff of the intervention program. This can have an impact on the content of the service. The location of the intervention program may play a role if it is not easy to access with transport and a mainstreaming practice can also be a challenge for a child with visual impairment. The recommendations derived from the literature are the following: updating staff regularly on the newest methods, focus on family centered and relationship-based practices, transdisciplinary teams, the benefits of mainstreaming and research. At the moment of intervention parents need information and knowing their legal rights. The parents may need emotional support, counseling and training. Furthermore, health care service is necessary for their child. The parents also need the understanding of the community as a whole. Finally, , once in a time they need to take a break from their caretaker's role. Challenges that may arise are: problems with health care service, increased stress to deal with the situation and no understanding of the community. The recommendations derived from the literature are to keep parents informed and to support them. Counseling as well as parent and sibling groups may help by meeting families in the same situation. Lastly, an inclusive community aids in supporting the needs of a parent with a visual impaired child.

## 4. Research Design and Methodology
This chapter gives a brief description on the chosen research design and methodology and explains why it is relevant to this study.

### 4.1 Research Design and Method
A research design provides a framework for the collection and analysis of data. It also relates to the criteria that are employed when evaluating social research" (Bryman, 2016, p. 40).

### 4.2 Research instrument
This qualitative research will make use of unstructured interviews. This gives the researcher the chance to better understand the opinion and motivation of the participant by having the flexibility to ask questions along the way. To create the topic list for this interview, the literature, research questions and framework aretaken into account. Two topics list were created: one for the parents of the clients of the MDT-VOV and one for the MDT-VOV team itself.

### 4.3 Procedure fieldwork
The interview procedure is held in coordination with the

MDT-VOV team. The team and the director of FAVI will be interviewed at the FAVI facilities, which is where the meetings are usually held. The 13 participants can meet with the researcher for the interview at FAVI or at another location of their liking. After conducting the fieldwork, more will be elaborated on the procedure of the research.

### 4.4 Period of the data collection

Prior to conducting the interviews, the researcher began with observing 2 children with visual impairment in the school environment, one in October 2018 and the other one in April 2019. The aim was to gain a general understanding of the topic and have an insight to the experience of a child with vision impairment in a school setting. The interviews will be collected in a timespan of eight weeks.

### 4.5 The role of the researcher and ethics

Before conducting the interview, the researcher will verbally explain and answer any questions that the participant may have. Furthermore, a confidentiality agreement is made to ensure that any disclosed information of the MDT-VOV team and the 13 participants remain anonymous in the confinements of this research. The MDT-VOV is asked to help with a list of participants for the interview. However the answers of each participant will remain between the researcher and the participant. This will ensure that the participant remains as truthful as possible and will protect their rights. The MDT-VOV will know the result of the opinion of the clients as a collective at the end of the research.

Furthermore, a written consent form is given and verbal consent is asked a second time when digitally recording the interviews to be used for transcribing. In addition, ethical principles are taken into account. Pinciples in social research, regarding the work of the researcher can be broken down in four domains. Whether there is harm to participants, lack of informed consent, invasion of privacy and deception involved (Bryman, 2016, p.125). The

researcher is expected to carry him or herself academically and professionally in the field in accordance to the OGM guidelines. Equally important, the written research study needs to adhere to the APA guidelines that the researcher has learned during her Bachelor studies.

### 4.6 Chosen data analysis

By recording the interviews, the researcher will be able to transcribe the data. The transcription will then be used later to analyze and code into different themes. Coding is, according to Bryman (2016), "the starting point for most forms of qualitative data analysis ( 581). The different steps and considerations related to coding have been taken into account when conducting the research . A thematic analysis is done after coding the themes. This type of analysis is one of the most common approaches used in qualitative analysis (Bryman, 2016, p. 584). A theme :

1. Can be a category identified by the analyst through their data
2. It relates to the researchers' focus and the research questions
3. It builds on codes identified in the transcripts and/or field notes
4. It provides the researcher with the basis for a theoretical understanding for their data can make a theoretical contribution to the literature relating to the research focus (Bryman, 2016, p. 584).

There are different criteria for a researcher to identify a theme.This is explained in Social Research Methods and these are taken into account when analyzing the data.

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Keyla Reeder, University of Aruba

I first joined the Academic Foundation Year team as research assistant in December of 2017. Looking back, I did not imagine or saw myself in the field of research mainly because I was only a year 2 student in the Social Work & Development program and I did not know a lot about research. However, as soon as I saw the ad for a research assistant, I immediately reacted and applied for the position because if there was one thing I was certain of, was that I loved learning new things and I love a challenge. With time, I was able to learn more about what the Academic Foundation Year program was about and what added value and positive impact this had on the personal and professional development of our local students. As a future Social Worker and student research assistant, it was important for me to interpret the AFY student's experiences in a way that would make the general community aware of what are the outcomes of this program, and why initiatives such as the AFY program is a valuable contribution to the social and educational development of our future professionals. My proudest and best memories as a student at the University of Aruba is as a research assistant for the AFY program because it was through this opportunity where I learnt more about research and had the opportunity to work on my research skills alongside a team of dynamic lecturers and AFY team members who supported me and always made me feel part of the team.

It was with the same motivation and desire to learn more about research and other cultures; I approached Eric asking for more information about the UA-UCU program.

When we first met the UCU students, it was an instant click. In the beginning I hesitated if I would fit in the group, considering that I am the only year 3 Bachelors student who has yet to start with the thesis process. I grabbed the opportunity to be part of the amazing UA-UCU family with both arms because I believed in the added value that this wonderful initiative has for our community and the world of research. During the twelve-weeks I was able to learn so much about other fields I was not familiar with including sustainability and Caribbean heritage.

I would like to thank Eric Mijts for the opportunity, guidance, patience and the trust as AFY research assistant for two consecutive years. I hope that this research would serve not only as a conceptual framework for the Academic Foundation Year, but also as a model for other programs around the world with the goal of preparing students for higher education.

# From dependent student to independent pupil: the developmental impact of the Academic Foundation Year on Aruban students.

Keyla Reeder

## Introduction

In August of 2017, a total of 57 students started the Academic Foundation Year as the first cohort of the pilot program of which 27 students graduated with a certificate (47% of the total student population). From a community-based and developmental perspective, the program was designed with the goal of helping students who recently graduated from HAVO, VWO and MBO (such as EPI) make a motivated study choice, acquire and develop academic skills, and apply these in their next academic journey. After a successful first year, the Academic Foundation Year welcomed its second cohort that consisted of a group of 59 students of which 35 students successfully completed the program with a certificate. In order to measure the effectiveness of the program and confirm if the program is meeting its goals and objectives, several research initiatives were designed to help answer these questions and provide a conceptual framework for the program. The AFY Student Experience Research and AFY Alumni Research and Alumni Follow-up are observational cohort studies that provide the program with a conceptual framework that can be used to continuously improve the program and meet student expectations as well as better prepare students for higher education success. This report consists of a brief overview of the Academic Foundation Year program characteristics, outcomes, and general overview, and the research methodology, quantitative and qualitative data, analysis and results for cohorts 1, 2 and 3. Although each respondent's answer is individually , this research provides an insight in the effectiveness of the program in its totality.

Table 1 *Academic Foundation Year 2016, 2017, 2018 student population*

|  | 2016: Cohort 1 | 2017: Cohort 2 | 2018: Cohort 3 |
|---|---|---|---|
| Total students accepted | 65 | 63 | 85 |
| Total students enrolled | 57 | 59 | 78 |
| Total students withdrawal | 3 | 7 | 3 |

## The Academic Foundation Year

The Academic Foundation Year (AFY) is a certificate program that equips motivated students with the skills and capabilities to seek entry into higher education programs. It provides an academic entry pathway to first-year undergraduate study or its equivalent. The program offers learning opportunities that maximize student engagement and provides opportunities for regular feedback on student progress. The Academic Foundation Year has been created with the purpose of serving as a bridge between high school and university. This one-year program provides students with the tools and skills needed to ensure their success in university-level programs. Students develop their language and communication skills and are introduced to academic principles and working methods. Students receive coaching and guidance in choosing their further studies and career paths.

The program consists of a 40-credit core program and 20 credits for electives. Each course is 5 European Credits (EC). The electives allow you to experiment with your interests or discover new ones. An EC stands for 28 study hours and, for reading assignments, it is expected that students can read 4 - 6 pages an hour. The Academic Foundation Year is offered at a HBO propaedeutic level and has a study load of 60 credits.

## Curriculum Characteristics

The program is divided into four pillars: improvement of language proficiency, introduction to academic skills, orientation within higher learning, and guidance of students' academic careers. Students take language and writing courses in which they enhance their academic writing, speaking and critical thinking skills. In order to gain insight into different disciplines, students may choose subjects from the various study programs offered at the University of Aruba. Students are encouraged to create a curriculum for themselves that reflects their interests. Throughout the year, students are guided and coached extensively in order to assist them in deciding on future study plans.

Students that complete the program will have oriented themselves on their academic career and will be able to make a motivated choice for further studies. They will have acquired a knowledge base and skills in multi- and interdisciplinary thinking and will have acquired communication skills to such an extent that they are capable of presenting ideas in written and spoken form in a clear and effective way. Graduates of the program will have the ability to gain and apply new knowledge independently and will have the skills to work productively in teams.

The inverted or flipped classroom is the standard for the Academic Foundation Year. The flipped classroom is an instructional model and a type of blended learning that reverses the traditional learning environment. By delivering instructional content, for example a short video lecture outside of the classroom, students get the chance to work on exercises and carry out research at home. Classroom instruction will have more impact as it will be used as a moment to engage in concepts and discussion under the guidance of the lecturer (including guest lecturers). This model helps students develop the study skills they will need when entering higher education.

## Research Purpose

In order to measure and continue to offer high quality education which not only helps achieve the program's objectives but also meets the needs of the students, the Academic Foundation Year began to research the program outcomes by researching participants' experiences as current students as well as alumni students who took part in the program and are able to share how the program has helped them grow, develop, and prepare for higher education.

The main research questions for the AFY alumni research and follow-up were:

- To what extent does the Academic Foundation Year help or has helped students make a confident and motivated study choice?
- How was their overall experience as AFY students and now alumni?
- What impact did the AFY program have on the alumni's personal and academic experience?
- To what extend do AFY alumni apply the skills and knowledge acquired within the Academic Foundation Year program?

The main research questions for the AFY student experience research were:

- How is the satisfaction level of current AFY students within the program?

- What are the main motivations for attending the AFY program?
- How confident are current AFY students in making a motivated study choice?

**AFY Student Experience Research**

The purpose of the student experience survey is to gain a concrete idea of how the current and active AFY students are experiencing the AFY program, and after the second survey is administered in April, analyze what has changed during the course of their participation in the AFY program. This research aims to capture each individual AFY student's experience as well as collect data, ideas, recommendations, feedback and comments in order to continuously evaluate and adjust the program and to better support the students on their way to academic success. Online surveys, interviews and focus groups were used in this evaluation.

The student experience research survey was first administered in April of 2018 when current AFY students (cohort 2) were surveyed on their experiences during the program in order to measure its effectiveness. The data collection period was from December 10, 2018 to December 12, 2018 and the survey was administered during class hours; students were asked a week in advance to bring their devices (laptops, tablets, phones). The average time spent on the AFY Student Experience Survey was 7 minutes and 24 seconds. The survey consisted of 28 multiple-choice questions and comment boxes. It was divided into the following sections: respondent demographics, study choice, academic skills and orientation, satisfaction, impact of courses and motivated study choice after completion of the program. The 2018-2019 AFY class was the first cohort to complete the student experience survey, but the plan is to administer it every year from now on.

Six months after completion of the Academic Foundation Year program, students will be sent the alumni survey to gauge the link between the Academic Foundation Year program and their current studies.

**AFY Alumni Research and Follow-up**

In December of 2017, the first alumni research was conducted on the first AFY cohort, where all students who participated in the program were asked to complete an online survey through Survey Monkey; they also had the option to participate in a qualitative interview if interested. This research provided an indication of how the pilot program was received amongst the students and to what extent the AFY program helped them successfully transition to higher education. The first AFY Alumni Research took place from December 2017 to February 2018.

This assessment was designed, conducted and reported by Keyla Reeder (student assistant), Eric Mijts (program coordinator) and Kevin Richardson (program administrator) for the Academic Foundation Year. All Academic Foundation Years students who took part in the program (now AFY alumni) will continue to be researched on a longitudinal study-basis to follow their development, study choice and the challenges, if any, that they face after completing AFY and transitioning into higher education.

The AFY alumni of cohort 1 (2016 – 2017 academic year) participated in a follow-up survey consisting of 20 questions, which was administered from December of 2018 to February 2019 through Survey Monkey and titled 'AFY alumni follow-up'. The AFY alumni research differs from the alumni follow-up in that the respondents (cohort 1) might have a different perspective or outlook when reflecting on the connectedness of program and their current studies, almost two years after having been part of the program. The objective behind the AFY alumni follow-up is to research the long-term impact of the Academic Foundation Year Program on their current study choice, academic success, and personal and professional growth.

The data collection for the AFY alumni follow-up research took place from December 16, 2018 to January 20, 2019 through email, social media platforms such as Facebook, and personal communication with AFY alumni who stayed at the University of Aruba. Considering that a significant number of the first AFY alumni cohort are not resident in Aruba, one of the main challenges regarding data collection was contacting them. For example, some of these alumni are not on social media or have changed email addresses, making it difficult to stay in contact throughout their academic journey.

**Research Methodology**

Both the student experience research as well as the alumni research were a combination of quantitative and qualitative research in which students received an online link via email to complete the surveys on Survey Monkey and were invited to take part in an interview to further elaborate on their experiences in the program. One of the advantages of using a web survey is that it can "use a variety of embellishments in terms of appearance, color, formatting, response styles", in addition to the ability to track the number of respondents and "[having] all of the answers automatically programmed into a feasible database" (Bryman, 2016, p. 230- 31).

Furthermore, an online web survey is less costly, less time consuming to produce, gives the respondent a sense of confidence and anonymity, user-friendly (Survey Monkey) and "each respondent's replies are logged and the entire data set can be retrieved after the data collection phase" (Bryman, 2016, p.231). Apart from the survey, one-on-one interviews were conducted with current AFY students and alumni providing in-depth information which could benefit the program in the future. The respondents were selected on the basis of participation in the program, thus all students who participated in the Academic Foundation Year program from 2016 to 2017 received an invitation to take part in the research, even those who did not complete the program with a certificate.

Both the student experience and alumni assessment were designed, conducted and reported by Keyla Reeder (student assistant), Eric Mijts (program coordinator) and Kevin Richardson (program administrator) for the Academic Foundation Year. For any further explanation or questions feel free to contact them at afy@ua.aw.

**Results AFY Student Experience – Cohort 3**

The student experience survey for cohort 3 students consisted of multiple-choice questions that focused on motivation, satisfaction, and impact of AFY modules. Since the student experience survey had also administered to cohort 2, it was possible to make a comparative analysis between the two cohorts.

Results are presented below divided into the following sections: motivation, satisfaction, and impact of the modules. In each table, responses from cohorts 2 and 3 appear side-by-side for comparison.

Table 2 *Motivation to complete AFY program with certificate*

|  | 2016: Cohort 2 | 2017: Cohort 3 |
|---|---|---|
| Yes | 23 | 48 |
| No | 5 | 7 |
| Missing data | 8 | 2 |
| Total | 28 | 55 |

Participants were asked their reasons for attending the AFY program. Table 3 shows the main motivators for participation in the AFY program. The four choices from which respondents could choose were based on the four core objectives of the Academic Foundation Year program and thus measure if the program is meeting these objectives.

Table 3 *Reasons for attending AFY based on AFY Student Experience Survey*

| | Cohort 2 | Cohort 3 |
|---|---|---|
| To gain confidence about study choice | 18 | 41 |
| To gain confidence about study abroad | 3 | 21 |
| To develop academic competencies | 13 | 40 |
| To further develop language skills | 7 | 25 |
| Other | 14 | 12 |
| Total | 33 | 64 |
| Missing data | 13 | 2 |

## Motivation

Students were asked if they thought they would complete the AFY program with a certificate. Table 2 presents the results for cohorts 2 and 3.
Other reasons included:

- "At first it was to be more confident in my choice of study. As of now it's more of a polishing process through trial and error. I am getting to know my flaws and understanding what to do with that"
- "Parents, pressure, obligation"
- "To prepare to attend another faculty or program at the UA"
- "Did not know what to do after graduation from high school [HAVO/VWO/EPI]"

## Satisfaction

The level of satisfaction of the respondents was another critical aspect that was checked. To measure the satisfaction level, a Likert Scale was used ranging from 'extremely dissatisfied' to 'extremely satisfied'. Students were asked how satisfied they are up to now with their overall experience at the Academic Foundation Year. The weighted average answer for the AFY Student Experience Survey 2018 (cohort 3) was 3.50 whereas in the 2017 AFY Student Experience Survey (cohort 2), the weighted average answer was 3.09. We can observe that a significant number of respondents indicated that they are 'somewhat satisfied' or 'satisfied'. Furthermore, it should

be highlighted that their overall satisfaction level is based on the first two blocks of the AFY program. Thus, it will be only after the second AFY Student Experience Survey is administered that we can reliably conclude whether the overall satisfaction level for cohort 3 increased in comparison to cohort 2.

Table 4 *Level of satisfaction with program*

| Satisfaction level | Cohort 2 | Cohort 3 |
|---|---|---|
| Extremely dissatisfied | 18 | 0 |
| Not very satisfied | 3 | 6 |
| Somewhat satisfied | 13 | 26 |
| Satisfied | 7 | 26 |
| Extremely satisfied | 14 | 6 |
| Total | 33 | 64 |
| Missing data | 13 | 2 |

Some of the additional comments included:

- "The classes and lecturers are great, but the only problem is the time. The gaps between classes are a little bit too much, especially for the sciences. "
- "I am learning so many new things in just one year, it's very cool!"
- "Some courses were not what I expected"
- "It has given me a good perspective on what to expect when you're going to college-university"

Students were also asked to what extent they would recommend a friend to apply or join the AFY program in the next academic year. From the 64 respondents, a total of 82.81% (n=53) indicated that 'yes' they would recommend the AFY program, whereas 17.19% (n=11) indicated that they would not. The respondents were also asked to give specific reasons for their answers. Forty respondents provided a comment or reason to support their answer; some of the comments included:

- "You [stay] motivated to continue [your] education"
- "It's one year to get the feeling how higher education

feels like in terms of lectures and research"
- "The course can help students that are not sure what they want to study"
- "Because AFY is kind of like a VWO and you can use it to enter the Advanced courses that are available at the UA...and maybe for some other reasons as well"

## Impact of Modules

In order to measure the effectiveness and impact of the AFY modules and curriculum, students were asked to rate each course they had participated in, including electives, MOOCs, internships and apprenticeship programs. Considering that the first part of the AFY Student Experience Survey was administered immediately after block 2, only the courses taught in block 1 and block 2 were rated. In the scale, 1 was the lowest and 5 was the highest rating.

It can be concluded from the analysis of the impact of AFY modules and electives that a significant number of respondents' answers range between '3', '4' and '5'. In comparison to the previous AFY SES, there is an increased appreciation for Massive Open Online Courses (MOOCS) and research related courses. In the post survey interviews, it became clear that students are understanding more the importance and linkage between research and language skills as an added value when transitioning to higher education.

Finally, students were asked in what ways the program can better equip them for their next study choice and better their experiences. Some of the respondents did not know as yet or are still deciding on what they want to do and how to get there. Some of the recommendations included more freedom and opportunity to follow electives from other faculties as well as more applied science courses within the program itself. One respondent summarized his recommendation as "I am still preparing in the transition so I would not know, but preparing for the workload would be handy...it all depends on your study

choice. It is a very individual thing that you would need to work on".

For each student, his or her motivation and experience is a very individual and personal choice. Therefore, we can only determine and use the given data as pointers to continue delivering quality education as well as better equip students for higher education, taking into account that each student's experience is unique.

## Results AFY Alumni – Cohort 2

The AFY alumni survey was administered from December 9, 2018 to January 20, 2019; a total of 17 alumni from cohort 2 participated in the survey. The alumni survey, in its second phase, focused on the experiences of the second AFY cohort through a series of 23 survey questions on Survey Monkey. The questions covered demographics, motivation, and satisfaction, impact of modules and electives, motivated study choice and application of skills.

From the 17 (N=17) respondents, 76.47% were female (n=13), 17.65% were male (n=3) and 5.88% indicated 'prefer not to say' (n=1). All respondents indicated that they are currently enrolled in higher education as full-time students. Cohort 2 alumni were also asked in which country they are currently studying and living and which level of education they are currently enrolled in. More than half of the cohort 2 respondents answered that they are enrolled in a HBO level education (62.50%) whereas 37.50% said that they are studying.

## Motivation

Respondents were also asked if they completed the AFY program with a certificate and those who answered 'no' had the opportunity to further motivate their answer as to why they did not complete the program with a certificate. Table 5 illustrates a comparison between the two cohorts (cohort 2 and cohort 1) regarding respondents' completion of the program with a certificate.

Table 5 *Completion of Program with a Certificate*

| Certificate | Cohort 2 | Cohort 1 |
|---|---|---|
| Yes | 87.50% | 66.67% |
| No | 12.50% | 33.33% |
| Total | 16 | 33 |

As a follow-up question, respondents who answered 'no' as to whether or not they completed the AFY program with a certificate indicated possible reasons why they did not complete the program. More than one answer was possible and a total of 2 respondents answered. Possible answers included: "balance of work and school", "decline in grades", "program did not meet my needs", "lack of personal motivation" or "other". From the two respondents, one participant said the reason for not completing the program was due to "lack of personal motivation" and for the other respondent it was a combination of "lack of personal motivation" (100.00%) and "program did not meet my needs" (50.00%).

Respondents were asked to indicate one or more reasons why they chose to attend the Academic Foundation Year Program (table 6), and were also given the option to comment further on their answer.

Table 6 *Reason for attending AFY based on AFY Alumni Survey*

| | Cohort 2 | Cohort 1 |
|---|---|---|
| To gain confidence about study choice | 81.25% | 60.61% |
| To gain confidence about study abroad | 25.00% | 39.39% |
| To develop academic competencies | 68.75% | 54.55% |
| To further develop language skills | 37.50% | 21.21% |
| Other | 6.25% | 15.15% |
| Total | 16 | 33 |
| Missing data | 1 | 1 |

Comments and answers provided by cohort 2 students under the 'other' option included "to learn new things". For cohort 1 participants, comments included "to grow as a person", "pursue a gap year", and "unsure about future study choice". It can be observed in the last two years that students coming from HAVO, VWO and MBO are becoming more aware of what the program entails, what is expected of them as students and how the program differs from what is known as a "gap year".

**Satisfaction**
As far as overall satisfaction with the program, respondents were asked to rate their overall AFY experience using a Likert scale, ranging from "extremely dissatisfied" and "not very satisfied", to "somewhat satisfied", "satisfied" and "extremely satisfied". Table 7 illustrates a comparison between answers of cohort 2 and cohort 1 from the AFY alumni survey.

Table 7 *Level of satisfaction with program from Alumni Survey*

| Satisfaction level | Cohort 2 | Cohort 1 |
|---|---|---|
| Extremely dissatisfied | 6.25% | 9.09% |
| Not very satisfied | 0.00% | 6.06% |
| Somewhat satisfied | 37.50% | 6.06% |
| Satisfied | 31.25% | 45.45% |
| Extremely satisfied | 25.00% | 33.33% |
| Total | 16 | 33 |
| Missing data | 1 | 1 |
| Weighted average | 3.69 | 3.88 |

**Impact of Modules and Electives**
Respondents were also asked to rate each course they participated in, including electives, using a Likert scale from 1 to 5, with 1 being the lowest score and 5 being the highest score. For cohort 2, almost all of the general courses had a rating of greater than 3 and electives a rating of greater than 4. Regarding ability to make a confident and motivated study choice upon completion of the program, 87.50% of respondents indicated that 'yes' they were able to make a motivated study choice whereas the other 12.50% said 'no'

because "[I] thought I knew what I wanted to study but later on changed my mind".

**Application of Skills**
Cohort 2 alumni were asked if they still apply the communication skills they have acquired at AFY where 86.67% (n=13) said "yes" and 13.33% (n=2) said "no". A total of two respondents skipped this question. Next, students were asked if they applied the inter- and multi-disciplinary skills where 78.57% said "yes", and 21.43% said "no". Finally, students were asked if they applied the research design, practice, and reporting skills in their current studies. A total of 16 respondents answered and one respondent skipped. From the 16 respondents, 87.50% said "yes" (n=14) and 12.50% (n=2) said "no". It can be observed that students continue to apply the skills and knowledge acquired at AFY and that this varies per student according to their current field of study and program curriculum.

**Recommend AFY to friend**
Respondents of cohort 2 were asked if they would recommend the Academic Foundation Year to a friend after having experienced the AFY program for themselves. A total of 16 respondents answered and one responded skipped, of which 93.75% of the respondents (n=15) said "yes" they would recommend AFY to a friend and 6.25% (n=1) said 'no'.

Some of the comments that were shared in the survey as well as the interviews to support the respondents' answers included:
- "To gain confidence and new skills in which could be further used in their life"
- "Helped me (personally) a lot. Good preparation for any study"
- "It's a good opportunity to figure things out while still developing yourself and your career"
- "AFY makes it possible to actually think about the next step for your future"

**Discussion**
The results from the cohort 2 alumni survey illustrate that students experienced a positive transition into higher education and that the overall AFY experience was a positive one, contributing to their academic development and ability to make a motivated study choice. The second cohort will continue to be monitored and researched in the next research phase, which is the AFY alumni follow-up, scheduled to take place between the months of December 2019 and January 2020.

**Results AFY Alumni Follow-Up – Cohort 1**
The AFY Alumni follow-up was a community-based research that focused on all students who participated in the Academic Foundation Year program from 2016 to 2017, including those who did not complete the program with a certificate. From the (N=57) cohort 1 AFY Alumni who took part in the program including the 27 graduates, a total of (n=16) alumni participated in the alumni follow-up survey. The survey focused on the following sections: demographics, experience and connection, impact of program on life and current studies, and application of skills.

Upon completion of the AFY program, students are equipped to continue their academic journey in higher education. The results of the AFY follow-up survey show that 66.67% of respondents are currently pursuing higher education at a HBO level, whereas 33.33% at a WO level. The area and fields of interests of each alumnus/a varies by personal choice. Moreover, 80% of the respondents indicated that they were able to make a motivated study choice after completing the AFY program.

**Experience and Connection**
The respondents of the first cohort were asked if they were able to identify a connection between the AFY program and their current studies. Of the total respondents, 81.82% said 'yes' and 18.18% said 'no' regarding identification of

the connection between the AFY program and their current study program in terms of the skills, knowledge and overall program outcomes. It can be observed that a significant number of the respondents agree that they identify a connection between their current studies and AFY.

**Impact of Program on Life and Current Studies**
Respondents were also asked to rate their overall AFY experience using a Likert scale, which ranged from extremely dissatisfied and dissatisfied, to neutral, satisfied, and extremely satisfied. As shown in table 8 no respondent indicated that their overall experience was 'extremely dissatisfied' (0.00%), one respondent indicated 'dissatisfied' with the overall experience (6.67%), two indicated that they were 'neutral' (13.33%), four respondents were 'satisfied' (26.67%) and eight respondents were 'extremely satisfied' (53.33%). The weighted average for this section of the survey was 4.27.

Table 8 *Level of satisfaction of cohort 1 with overall AFY Experience*

|  | Frequency | Percentage |
|---|---|---|
| Extremely dissatisfied | 0 | 0.00% |
| Dissatisfied | 1 | 6.67% |
| Neutral | 2 | 13.33% |
| Satisfied | 4 | 26.67% |
| Extremely dissatisfied | 8 | 53.33% |
| Total | 15 | 93.75% |
| Missing | 1 | 6.25% |
| Total | 16 | 100.00% |
| Weighted average |  | 4.27 |

One of the core objectives of the program is to prepare students for academic success. Of the alumni respondents (table 9, 13.33% said the program prepared them "very well", 33.33% said "more than adequate", 46.67% of alumni respondents indicated that the program prepared them "adequately", whereas 6.67% said the program prepared them "less than adequately", and 0.00% respondents

indicated that the AFY program prepared them "very poorly" for their academic success.

Table 9 *Perceived AFY preparation for academic success of cohort 1*

|  | Frequency | Percentage |
|---|---|---|
| Very well | 2 | 13.33% |
| More than adequate | 5 | 33.33% |
| Adequately | 7 | 46.67% |
| Less than adequately | 1 | 6.67% |
| Very poorly | 0 | 0.00% |
| Total | 15 | 93.75% |
| Missing | 1 | 6.25% |
| Total | 16 | 100.00% |
| Weighted average |  | 5.26 |

**Application of Skills**
In the last section of the AFY alumni follow-up survey, respondents were asked to indicate whether or not they apply the knowledge and the following skills acquired in the Academic Foundation Year: communication skills, multi- and interdisciplinary thinking skills, research design, practice and reporting. One of the program learning outcomes is that students would be able to apply the knowledge and skills throughout their academic journey and it is through the AFY alumni research that we are able to confirm if this is the case. Almost two years after participation and completion of the Academic Foundation Year program, 93.33% of AFY alumni from cohort 1 indicated that they apply the communication skills in their current studies while 6.67% said that they don't.

Regarding application of multi- and interdisciplinary thinking skills, 73.33% of the AFY alumni said that they do apply these in their current studies; on the other hand, 26.67% said that they do not apply these. Lastly, respondents were asked if they apply the research design, practice and reporting skills in their current studies. Of the total respondents, 93.33% indicated that they apply the acquired

research skills and knowledge in their current studies while only 6.67% said 'no'.

**Challenges**
Respondents were also given as a final question to share if there were any challenges that they have experienced during the transition to higher education. Although this question is very individual and varies by respondent, it gives an indication of what are some of the challenges students' experience and thus the program can prepare to better meet needs of the student populations to come. Some of the challenges quoted by the respondents of cohort 1 included:
- "I had a different idea of the program and turns out that I truly did not want to do that program"
- "The amount of work assigned"
- "In nursing, I kinda missed getting classes in English, and the feel of togetherness"
- "Less contact between teacher and student"
- "First study was lame, and I was demotivated. My current study suits me more and I don't have any challenges until now"
- "Adapting to the environment of a new country"
- "Getting used to the level of education of my university"
- "The workload and managing time"
- "Working in groups"

**Discussion**
It can be observed that students of the first cohort were able to make a motivated study choice after completing AFY and were also able to identify and connect the AFY program to their current studies. Students reported a positive connection between the AFY program and their current studies, even two years after completion of the program. Although these results cannot be generalized for the entire AFY population, it can be observed that the pilot group of the Academic Foundation Year (cohort 1) successfully made a motivated study choice. The students were able to apply the skills and knowledge, and experienced a positive impact from the program on their academic and personal life.

**Conclusion**
Three years after the official start of the program, the success and development of AFY alumni and students can be observed and appreciated. This student experience research illustrated a comparative insight on growth of appreciation through the years, especially with the changes in the curriculum including: MOOCs, RAPs, and added electives. Additionally, key curriculum components such as the course Personal Development was re-designed in order to better match the needs of the student population. This was also recognized by students in the results from this research.

For three consecutive years, the AFY program has continued to strive for quality education to support and help students transition into higher education. The three-pilot period has received great appreciation from the students for the results of that effort. Although each student's experience and motivation are individual, the outcomes of the surveys and interviews confirm the added value of the program as a stable and indispensable tool for Aruba's student population on their way to academic success.

**References**
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## Appendix
**Student Experience Interview Questions**

1. Did you fill in and complete the AFY Student Experience online survey?

2. Did you know before you started the AFY program in August of 2018, which study you wanted to do?

3. If yes, did you change your mind about your study choice after starting the AFY program?

4. If you changed your mind, what was the reason(s) for that change?

5. Why did you choose to attend AFY

6. Do you plan on finishing the AFY program with a certificate? Why yes/no

7. What type of education will you be enrolled in after you leave AFY?

8. In what way does AFY help you prepare for the next step?

9. Do you expect your next educational study to be more demanding than AFY?

10. What should AFY improve to be able to make the connection to your new study better (what could change, what could be added)?

11. What are the top 3 things you liked about AFY?

12. What are the top 3 things you did not like about AFY?

**Interview Questions – AFY Alumni Research and Follow-Up**

1. Did you fill in and complete the AFY Alumni online survey?

2. Did you know before you started the AFY program in August of 2017, which study you, wanted to do?

3. If yes, did you change your mind about your study choice after starting the AFY program?

4. If you changed your mind, what was the reason for that change?

5. Why did you choose to attend AFY?
   - To gain confidence about my study choice
   - To gain confidence about studying abroad
   - To develop my academic competencies
   - To further develop my language skills

6. Do you plan on finishing the AFY program with a certificate?

   Why yes/no?

7. What type of education will you be enrolled in after you leave AFY?

8. In what way does AFY help you prepare for the next step?

9. Do you expect your next educational study to be more demanding than AFY?

10. What should AFY improve to be able to make the connection to your new study better (what could change, what could be added)?

11. What could AFY do or improve to meet your needs better?

12. What are the top 3 things you liked about AFY?

13. What are the top 3 things you did not like about AFY?

Nina Gribling, University College Utrecht

sitting under the tree with some people from the Village, it was 11 already and seeing me she said: Girl, why didn't you yell my name? We went into the Village, but before getting to her uncle, we first greeted her aunt, gossiped with a neighbour, and we finally arrived at Marcelino's house two hours after our initial appointment. It is in precisely this way that I look back at my stay in Aruba: with a different conception of time, guided by the people around me, and with continuous changes on the way.

That is maybe what I learned most of all: Aruba time suits me. Therefore, I first of all want to thank my fellow research students, for having to share a car with me, and having to keep up with all my last-minutes. I have learned a lot from all our differences: from research that took me into the mangroves and Arikok, to listening to your music and all your crazy stories. With the six of us in a small car, our heads stuck out of the window, driving over bumpy sand roads off to another sunset that we more than deserve. This program has given me the freedom to explore, but also the friendships, support and frame of mind to do so in the right way. Without all the people I met along the way, who took me climbing, and taught me their love for pastechi, Aruba wouldn't have felt like home. I am especially grateful to all the people of San Nicolas, who showed me around their town, and shared their stories with me. To Nyohmi, Ingrid, Leon and Edward, without whom that would not have been possible.

When you take the bus from Oranjestad to San Nicolas, there is a certain point where it feels like you have crossed an imaginary boundary. That is at least what I experience every time while crossing the bridge, until at last the refinery comes into sight. Although I already miss the beautiful green gardens of the university as a place to study, I was always excited for my trips to "the other side" of the island. Now, after more than two months, I finally understand some of the "Sanny English", but I haven't had Johnnycake once. There is still much to explore, and I am lucky to have a few more weeks of living in San Nicolas.

The first time I was going to meet Ingrid to visit one of her uncles, I didn't know "Aruba time" yet, or other cultural codes that would slowly become more self-evident. So, when we said to meet at 10, I didn't know how to reach her, and waited in front of her house, sometimes looking over her yard to see if she was already there. By the time I saw her

# Sharing stories *bou palo*: the making of heritage in a Caribbean oil town.

Nina Gribling

## 1. Introduction



The heart of San Nicolas, Aruba, is the predominantly Afro-Caribbean neighbourhood right in the centre of town, which came to be known as the Village. Contrary to what one might expect from a place called the Village, this community has been profoundly impacted by global migration flows and industrialization processes due to the presence of one of the largest oil refineries of the mid-20th century. The Lago oil refinery drew migrants from across the wider Caribbean to the east point of Aruba, most of whom settled in the Village, and together created a patchwork of many different religions, nationalities, languages, and cultures. Despite all these differences, the Village has a distinct identity that sets it apart from the rest of the island. After the Lago closed in 1985, many migrants went back to their countries, and the local economy suffered as businesses moved to Oranjestad, leaving behind many derelict buildings and rather empty streets. However, behind the surface of this "ghost town" still exists a rich cultural melting pot. It is a community that tries to reconnect with its past through diverse creative practices. Those practices emphasize the cultural heritage on this part of the island, and in doing so, aim to expose, and perhaps in some ways contest, the way in which the period of the Lago is being remembered.

The memories about the Lago period that are transmitted within families and told "bou palo" (underneath the tree) are now being canonized into heritage. Family pictures are being digitalized and archived, oral history is being documented, and objects from home are put on display as artefacts in the museum. This entails a process in which things that used to be only valuable within a familial context become meaningful within the larger community. During my fieldwork in San Nicolas, I have spent time with both the local museums and with local residents, to explore how they understand and use notions of heritage in their community to create a sense of belonging. This led to the research question: what stories are being told about the Lago period, and how are they becoming materialized in the heritage practices in San Nicolas? I am looking at processes of memory and forgetting, by asking what people choose to remember (and what they "choose" to forget) and how these memories are shaped within the present.

The Community Museum and the Museum of Industry have opened a few years ago. They are the first museums to focus on the history of 20th century Aruba, specifically representing the cultural heritage that was left on this part of the island because of migrations, and the industrial heritage. Besides the museum's exhibitions and program of activities, there have been multiple other efforts to revive the community of San Nicolas through creating awareness of its cultural heritage. These range from walking tours through the town, to discussion events and workshops.

On the other hand, there are multiple individual acts of memory present everyday. According to Laurajane Smith (2011), "Heritage is a cultural process or embodied performance, which occurs at a number of different levels and contexts" (p. 24). In what follows, I will explore the community heritage of the Village as it is embodied by the social relations that produce it. This includes the memories of some of the elderly residents of the Village, specifically focused around a family whose family-history is tied to the history of San Nicolas. I shall also connect the stories I collected to the professional aims of heritage institutions such as the two museums to gain a better understanding of how they relate to each other. In doing so, I will show how the local heritage practices (the social actors in relation to the images and objects they use) might function as mediators of memory, as a bridge between generations, between the personal and the public, and between different experiences of the Lago's past.

As I am still in the middle of my research, I will just give a fraction of the stories I have collected and will still collect. They include multiple short fragments from two elderly people from the Village whom I have come to know. I have mapped them in order to give an idea of the memories that are present in the Village and how they link to certain spaces. First, I will present the way in which I have approached fieldwork in San Nicolas, what my expectations were and how I had to rethink some if the implicit assumptions. I will then discuss some of the main literature on heritage and memory, in order to discuss how they differ or are similar to my encounter with heritage practices in San Nicolas. Moreover, a brief context of the "Lago period" will help the reader to understand the stories and heritage practices that will eventually be discussed.

### 1.1 Methodology
**Expectations**
Before coming to Aruba, the research exchange program that has made this research project possible provided a course on Caribbean Studies. This was my first encounter with the Caribbean. Besides learning about the Caribbean, and Aruba in specific, we learned how to think from the Caribbean. This does not imply that I disregard my own positionality, to ignore my position as a Dutch, female student. It does, however, mean – and it seems a simple thought - that the way in which one uses, talks about, and perceives things the way they are, are not the same at places where such practices are the result of different histories, different experiences of space and time. To me, this is the basis of "community-based research": trying to understand the way in which a community understands itself. Without this thought in mind, there is no need for collaboration, for listening or for sharing.

When I decided to explore the place of the oil refinery through cultural memory, it was just a lucky guess, for I did not know then the extent of its place in Aruban collective memory. I was even luckier to find out that people were actively engaged

in practices to remember the refinery and the impact it has had on Aruban society. Thus, I immediately reached out to those people, as my research would only be worth something in relation to the practices that were already happening. They provided me with insights into the history and culture of Aruba and with a social network, and their interests and reflexions have led to a research process with continuous adjustments. It might take more time, because I am not looking for data or expect to stumble upon certain answers to be "found" or "collected" in the field. What I looked for was not already present, but made in the interactions and relationships that were formed. Therefore, the research process was first of all a social engagement with the place – San Nicolas – manifested in participation in activities, and everyday conversations and experiences. I expected to collaborate with the museum. By collaboration I mean that I tried to reach out as much as possible, be guided by their experience, and in turn engage in their practices. What I did not expect, but what arose out of certain interactions, was a focus on the Village in specific, to document the stories of people who have lived there all their lives.

I came to "the field" with preconceived thoughts about the place, formed by the literature and my (academic) experiences. My background in Cultural Memory and Anthropology of Power had made me sensitive towards the way in which heritage can be used as a vehicle for control, embedded in power relations or narratives about who belongs and who does not. From the literature, I knew that the Lago has profoundly impacted Aruban society, positively, but also created a kind of apartheid, segregation based on race and class. I thought that this part of the Lago history was not part of the collective memory, at least not to such an extent, because history is always written from a certain perspective. However, being able to collaborate with the museums as well as talking to elderly local residents, I realized that the process in which this happens (the forgetting of parts of history in the interest of the present) was much more complex and often very contradictory. They

involve stories of happiness as well as sadness, and cannot be disconnected from the present social context in which they are formed. At the same time, instead of exposing underlying structures of power, I looked at what people do when they talk about heritage. I realized heritage was used to reconnect people with their community, and with their own past, and became more interested in the material forms in which this is being done than in the discourses surrounding the concepts of "heritage" and "identity" that are quite empty signifiers even if every bit of literature about it is read. Thus, contrary to what I had expected from researching the literature, I became less critical, or more critical of the critical. Instead of departing from a historical or theoretical framework, I used the stories that people shared with me as a starting point of inquiry.

**Collaborative visual research methods**



'The Village in 1944, in the background the refinery': http// bibliotecanacional.aw/digital

I based a large part of my research on collaborative (and) visual methods. Marcus Banks' (2001) outline of a methodology on "visual methods in social research" was mainly valuable. It discusses a variety of ways in which to encounter and use the visual, the making of images and the use of archival photography, as well as the ethics and the collaborative aspects that are implicit in this research method. Moreover, it presented many different fieldwork examples, some of which might be similar to the context in which I am working. However, because collaborative visual research is a broad and overarching methodology, not a framework, I had to learn by practice what tools or operationalization worked in my case, and which did not.

First of all, I collected archival photographs from the Lago period, especially from the years 1940-1960. I did this by approaching the local heritage practices. The Museum of Industry uses many photographs; collected from people's family albums, as well as taken from the photo collection of the American photographer Nelson Morris who was asked by Lago to take pictures of the refinery. There are around 400 pictures taken by him in 1944, and instead of only photographing the refinery and the work practices, he was asked to illustrate daily life, the general Arubans, Americans, and many migrant groups who lived and worked around the refinery. When the curator of the Museum of Industry found this photo album in the archives, it increased his interest in the cultural or "human" aspect of the role of the oil industry on Aruba. It resulted in a separate section in the museum where the photographs are used to represent the cultural mosaic of San Nicolas. I could use many of these photographs, as they are part of the collection of the Biblioteca Nacional Aruba – Departemento Arubiana Caribiana and have recently been digitalized with the launch of their online platform (archive. org/bibliotecanacionalaruba). Here, I also found other photographs, some taken by professional photographers, others obtained from private albums. Besides the archive, I also asked around for people's personal photo-collections.

In this way, I received images made by Arthur Meines in San Nicolas around 1950.

The context in which the images were produced, and which make the story that these images tell understood, is what Banks calls the "external narrative" of the image. It asks why the image was made in the first place, and with what gaze (who took it). This points to the selection of the content: what is the viewer finally able to see? Visual documentation is already a selection (or snapshot) of a moment or place (selected by the interests and context of the photographer or developer). Whether the specific photograph will be seen and by whom, is yet another selection that takes place over time (Banks, 2001). In the case of the Nelson Morris' album, it is a renewed interest in the history of the oil refinery and specifically the migration history of Aruba what has been taken these images out of the dark, into a digitalized version accessible to anyone. In the case of images I received through personal collections, the images were selected based on the conversation we had about my research project. The photographs are considered valuable because someone specifically selected them, which is also part of the external narrative of the images.

While some images were more descriptive in content (what Banks calls "internal narrative"), for example, landscape images, portraits, or of daily live (e.g. the Nelson Morris' collection), I also found photographs from particular events. Most notably, there is an album of images of the strike of 1951, when Lago employees were on strike for two weeks to get better payment and working conditions. The internal narrative, together with the external narrative, shapes the possibilities of the viewer to interpret or "read" an image in a certain way. Although images do not have a language as such, they have meanings ascribed to them that come from specific sociocultural understandings. Thus, Banks notes, there is a story implicit in an image, which is not inherent to the materiality or content, but depends on

its history and context (Banks, 2001). Images can, thus, be very useful as a method to collect stories.

According to Banks, the message or story of an image does not lie within the object, but is created by the interactions of people with the images, and among people discussing it. As the task of social research is not to collect objectifiable data, but knowledge is thought of as always contingent, and arising from human interactions, collaboration between researcher and informant is "not merely required but is a recognition that they are actors and shapers in the research process" (p. 45). Although there was also more willed and active collaboration present during my research fieldwork, according to this notion, it is "inadvertently present in all" (p. 45). In the case of image making, this collaborative undertake sometimes occurred when I was directed by the person I was with (either during an oral history interview, or during participant observation) to take pictures of specific objects. The content of the picture would be shaped by the conversations and the perspective and values of the informant. On the other hand, there would be times when the taking or showing of images would be hindering the process.

Although the concept of photo elicitation as such was new to me, the idea of triggering memories through photographs is something that many people know from their personal lives, looking through their family pictures. For the use of photo elicitation, the selection of the particular images had to be considered as well as the circumstances of the interview. There was an obvious reason for the use of archival pictures, namely to bring people back in time and to enable them to speak about the past. Oftentimes, descriptions of events in the past can be difficult to express, and can be stimulated when confronted with an image rather than merely with language (Banks, 2001). Moreover, photographs might not only trigger memories, but also stimulate emotions to be relived, which is the affective quality of objects in relation to memory. The affect of photographic objects (not only their

content, but also their materiality) has been investigated by Elizabeth Edwards (2012). Unfortunately, I was not able to use actual archival photographs, but had to use photocopies of them. However, in response to the pictures I showed, my informants would sometimes look for their own photo albums or point to the pictures that were present in the house.

When researching the topic of memory, the use of archival photographs is particularly interesting because they are reflections of the past. They elicit memories, and not only conversations about the internal narrative (what do we see in the picture), but also about the social relations that were part of the history of the community. Thus, when showing pictures of buildings or streets during the Lago period, the elderly people I talked with were prompted to talk about change. On the one hand, it often aroused a sense of nostalgia. A sentence that would come up regularly to conclude a story was: "it used to be real nice". However, at the same time these pictures triggered emotions that were more complicated or contradictory. According to Banks (2001), the use of photo elicitation during interviews has proven specifically helpful in contexts where elderly inhabitants have experienced "cultural disintegration", which I belief has happened to some extent in the Village. In his discussion about photo elicitation methods, Banks (2001) mentions the research of Paolo Chiazzi (1989), which deals with social memory in a city where disintegrated had taken place after the war. Showing his elderly informants pictures of their city before much of it had been destroyed, not only elicited personal nostalgic sentiments, but also made them aware of the transformation that had occurred in the community.

The awareness of this transformation is also present during my fieldwork, and often do such issues become more evident when confronted with images. They can change the path of a conversation and interaction, deepen them but also confuse them. Photo elicitation is an iterative

practice. When people talk about something, I look for an image to support what they are saying, which not only triggers more details but also makes them happy because they can visually recognize something that was previously only a part of their personal memory. At times, specific events are being mentioned but remain rather vague, which encourages me to find archival photographs that I could show them later.

**Participant observation**

The basis of anthropological fieldwork is "participant observation", but there are many different understandings of this method, that again have been criticized and are continuously recontextualized. According to the famous anthropologist Clifford Geertz in his collected essays Interpretation of Cultures, culture is like a sticky web of meaning that captures our lives, and it is only through a deep interpretation that anthropologists can grasp the elusiveness of it (Geertz, 1973). Understanding cultural practices, then, requires a restless engagement with the culture, in order to reconstruct the implicit text behind every contingency (what he calls "thick description" (Geertz, 1973). What follows is that it is not enough to observe cultural practices, but to be a participant in them, as you would not understand the meaning behind certain cultural codes from an outsider perspective. From this standpoint, many anthropologists have moved towards a more critical analysis of their own positionality.

At the core of the discipline is the question of how to approach another culture and what happens in the process of "observing" the "other". Such criticisms were formed in response to the early anthropology and how this was embedded in colonial power structures, where boundaries between "us" and "them" were clearly constructed (for example, in the work of Malinowski, 1922). Although participant observation is required for the bottom-up approach that anthropology is, namely, to understand particularities in order to say something

about universalities, it can also emphasise a certain difference or hierarchy between researcher and research subject. The people that I met during the first weeks of my fieldwork have not only been extremely helpful as informants but also guided my research study through their own observations and reflections. Therefore, rather than giving information they let me "participate" in their lives. This implies an interaction that sometimes diffuses the boundaries between researcher and informant. I, thus, consider participant observation a collaborative effort, where the process of gaining knowledge is "… an intentional one, and those intentions are bi-directional" (Ashkenzai, 1997).

In order to get an insight into the role of the oil refinery in heritage and memory, I had to gain access to these heritage practices, to understand what role they play and how they are being understood. There are various things going on in San Nicolas in the field of heritage, firstly, on an institutional level, through the museums. There are two museums in San Nicolas. However, both are part of the same organization (Fundacion Museo Arubano) and closely related. It is because of the enthusiasm of the people who work at the museums that I could almost immediately become acquainted with their practices. Nyohmi van der Biezen, the manager of the museums, set up a focus group session with people that she knew who might be of interest for me already during our first appointment. My connection to her would also lead to my access into the community, as she has a very broad social and professional network. Perhaps more important to me was the fact that she and the other employees accepted my presence at the museums, and that I could spend time at the office of the Museum of Industry, which allowed me to be closer to the community (as I did not live there).

By being present at the museum, I learned more about the history and culture of San Nicolas from their perspective. Besides just observing, listening or reading about it, I would

engage in conversations with the museum employee and tour guide. We spend much time together, which allowed me to better understand what message is implied in the museum narrative, and also how the professionals working in the museum understand them, and why they are being told in a certain way. Besides hearing his stories, he would also ask about my own perspectives and the stories that I heard from other people. Through these conversations he would rethink his own role in the heritage practices, and the narrative that is implicit in it. They have been valuable interactions both for my research project and on a personal level.



Traditionally anthropological fieldwork means to immerse oneself in a culture by living around the studied community, which might be a requirement for participant observation. Although I did not live in San Nicolas, I spend quite some time in and around the neighbourhood through the social network I had built. The reason why I chose to focus on the Village specifically, apart from its evident connection to the Lago period, is because of Ingrid Doran. She took part in the focus group organized by Nyohmi in my first week here, as they are very close friends. Ingrid's family has lived in or close to the Village already for five generations, as the land belonged to her great-grandfather. Therefore, walking with her through the Village has been part of becoming accepted into the community. I became acquainted with different people, her aunt and uncles, their friends, or the people sitting under the tree next to Ingrid's house. Although the Village is a small neighbourhood, it is a different experience to walk through it if you are new and do not know the people. The first time that I walked there by myself on my way to meet her uncle Esteban, someone yelled to me "Girl, what are you doing here?" It was a young boy who was just wondering why someone clearly not from there would be walking around by herself. The rest of the morning, I experienced this a few other times, which is part of the research process.

Ingrid is also a volunteer at the museum. Thus, the participant observation within the heritage practices and in the Village sometimes intertwines. Where the museum aims to reconnect people from the community with their past, Ingrid is (rather unconsciously) trying to do the same. The fact that I got to know both perspectives has shaped my research study because I want to understand both worldviews. Moreover, Ingrid is very much invested in the social situation in the Village, as she feels (just like many others) that there are recently more problems, perhaps also as part of a national "social crisis" that is not exclusive to the Village. This perspective made me more aware of the present situation and how it might shape the memories of the past.

My fieldwork has not finished yet. I will be in San Nicolas to document more stories, while staying at Ingrid's house. The old pink shack next to the water tower already feels a bit like home. I remember the early morning on Arubadag, when I was supposed to help her make the pastechi and kroket for the museum activities that day. She had already been up for a while, making pastechi in her pyjamas, while I listened to her stories and gossiping about what happened in town. It is through these informal moments that I learned the most.

**Oral history**

I have been doing oral history interviews with elderly people from the Village to whom I was introduced by Ingrid and Nyohmi. They are mainly the family members of Ingrid, and their friends. I have also met one woman through a group that organizes activities for elderly people. As I am still in the middle of my research project, I will do more interviews with these people, as well as interviews with others. Because my main informants are all related to each other, I continuously hear stories about them, or get tips to talk about a certain topic with a specific person, which increases my network.

The methodology of oral history is used to gain knowledge about the past through people's memories. Memory is something very subjective and selective, and shaped by many different factors such as past experiences and the social context of the present. While this might limit the validity of oral history for social or historical methodology, the very nature of memory can also contribute to research. A critical interest in oral history as a methodology in social research points to its relevance as a "voice from the past" (Thompson, 2017). As a "voice", oral history challenges some of the assumptions of the processes of writing history by "bringing recognition to substantial groups of people who had been ignored" and by emphasising the affective and performative character of the spoken as opposed to the written (Perks and Thomson, 2015, p. 3). Rutger van den Hurk (1993), researching the life of migrant women who came to San Nicolas between 1940-1960, found out that these women had often not been included in the written records he got from the archive. Using oral history was, therefore, not only relevant in giving them a voice, but also necessary for the research he conducted.

During my literature research on the Lago, I found a lot of "voices" from the community of the Lago Colony, as these were American expats who had left the island again, and had been active in sharing memories (such as the website lago-colony.com, or the Wikipedia page on the Colony). The heritage practices in San Nicolas, specifically the Community Museum, aim to create such a space where memories can be shared. However, there are many stories from the Village that have not yet been documented, and therefore, are not part of the voices about Lago. In the records, the Village is merely a shantytown. Through oral history, it becomes a tight community that shaped the Lago period as much (or more profoundly) as did the Lago Colony.

The reason why I have used oral history is precisely because it does not only say something about the past, but also about the present in which this past is being remembered. Oral history, then, is not a mere document of the past (such as found in the archive), but a representation of the past in the present that is being continuously performed (Vansina, 1985). As time passes, stories are being told over and over again, changing the meaning according to the listener or the context in which they are being told. Sometimes, memories are fragments of the past frozen in time, and they might limit possibilities to engage with the past in different ways, specifically, when the present is a very different place (for example within diasporic communities, see Hirsch and Miller, 2011). A person carries a thousand-and-one stories, but only a few are being told. What should, thus, be kept in mind is that "all stories tell one story in place of another story" (Helène Cixous, 1997, p. 178). This selective process is similar to heritage practices, but on an individual level.

In his book *Doña Maria's story: life history, memory and political identity*, Daniel James looked at a twentieth century Argentinian working-class industrial community through the testimony of one woman. Her oral testimony is "more messy, more paradoxical, and more contradictory

[than other forms of autobiography], and perhaps because of this more faithful to the complexities of working-class lives and memories" (2000, p. 242). In their contingencies, memories can reflect the tensions between personal and public memories, the way they are framed socially (through race, class and gender) and culturally (through communal myths). I will draw upon James' work because it is in various ways similar to what I encountered in San Nicolas, as he considered the importance of memories "embodied in cultural practices such as storytelling", but also "poses the problem of memory making in working-class communities faced with deindustrialisation and the destruction of sites for social and collective memory" (Perks and Thomson, 2015, p. 9).

The settings in which I have up until now talked to people were always rather informal, and sometimes Ingrid would be there, which made it a conversation in which she would also ask questions (to her family members). The times I spent with them ranged from one to three hours. It was an iterative process (that is still going on) in which the stories trigger new stories (combined with the photographs that also trigger new stories and new photographs). The use of photographs often, but not always, made the interviewees feel more comfortable, as they had something to hold and look at while talking. Often, they would still look at it a long while after the topic had changed.

I had a list of possible topics that constitute the community, pertaining to the material and immaterial heritage, as well as gender and family structures, work, religion, and free time. I was mainly interested in the way in which the Lago had affected these issues and life in the Village in general, and how memories about that time were formed within a town that had in many ways lost its former services and communal ties. Talking to an elderly woman would often result in different stories then when talking to a man, and this was being considered as well. Although there has been written quite extensively about feminist oral history,

I have not (yet) taken this perspective (but see e.g. Berger Gluck and Patai, 1991). I, however, consider gender as an important aspect of life in the Village, precisely because the female stories are often "forgotten" (Hurk, 1998).

**Mapping spaces**
Can places become the agents or bearers of memory? Even if they cannot actually remember, places are "endowed with a mnemonic power that far exceeds that of humans" (Assman, 2011, p. 281). Just as photographs elicit memories, so do objects and spaces. Our capacity to remember is often linked to places, and to the people who resided there, which makes places strong carriers of memory. Therefore, I will "map" the memories as they are remembered from and linked to particular houses, shops and other places in and around the Village. These range from the homes that people lived in, to stories about the Colony. At the same time, these stories tell something about the present, as some places are no longer there and point to transformations and cultural disintegration. Lastly, they expose different larger themes, tied to social issues such as integration, race and gender, unconsciously hidden in the anecdotes about daily life.

Doing walks through the neighbourhood, tracing back memories and mapping the "urbanscape" together with residents were some of the methods I used. This happened naturally, when walking around with Ingrid, who would point to the houses that were still original, or to other things she observed. I also planned a walk with Leon, who is a tour guide at the Aruba Tourism Association in San Nicolas and with whom I established a close relationship; his doors are always open. The tours he gives are part of the heritage practices in San Nicolas that aim to show (to tourists as well as locals) the beauty behind some of the derelict buildings. At the same time, Leon grew up in San Nicolas and carries a wealth of information about the places that he still remembers from the Lago period. During our walk together, he specifically addressed the

Lago period and the heritage that came out of the mix of people that settled in San Nicolas. For example, he pointed to the places that have been important for the history of steel band music.

The stories that I collect will become part of a map in which some of the places are marked as "valuable" by my informants, and will thus show how the residents of the Village look at their town. What places are not there anymore? What abandoned buildings used to be full of life? The result of this map will not only show memories of "forgotten" places, but will also show how people use, move about and sometimes contest spaces through the different memories or histories that are inscribed into them. The map is still incomplete, and I will only use two storylines for this book.

**Other perspectives**
A variety of people who are active in the field of heritage studies or otherwise valuable for their expertise have supported my research project. These include the employees of the museum, such as the curator, whom I interviewed about their perspective on their own heritage practices. In order to contextualize my research study, I talked to multiple other experts, who were not difficult to approach because of the small and rather colloquial professional field in Aruba. Besides looking for specific information through interviews, there have been other conversations that brought different perspectives to the research. I always tried to link the conversations back to my informants. For example, the meeting with Monumentsfund was initially to get a broader perspective on institutional heritage making, but we also talked about the state of Ingrid's house, as it is very old and needs to be renovated. Hopefully, my input can support the process of identifying something as monumental, and renovating it. Moreover, I met with the director of the Veiligheidshuis (part of the Public Prosecutions Office), a meeting that was arranged by Ingrid because she works at the ministry. To my surprise, the conversation was very

helpful, as it put the Village in a social perspective. Ingrid's own interests and reflections on my research work guided me to be more involved with the present context. I consider the different perspectives a part of my overall stay in Aruba, which will help me contextualize the specific focus to the wider Aruba. Furthermore, I hope that this research can give something back to the different fields (cultural as well as social), and will stimulate interdisciplinary knowledge (something in which both Monumentsfund and the Veiligheidhuis are interested).

*1.2 Literature review*
**Heritage, identity and forgetting**
The past is integral to our sense of identity. It is this notion of the importance of the past for the present, put forward by David Lowenthal (1985), that is the point of departure for much thinking about heritage. If our identity is formed by the transmission of our history in the present, then what places, objects, stories, and imageries represent or re-present the past in order that it makes sense to people and communities, and constitutes a sense of belonging? Consequently, what narratives of that history are being told, and what parts remain hidden in dusty archives? There is an extensive body of literature that has related such questions to issues on "who own's the past", often tied to nation-building processes and national identity (see, for example, Lowenthal, 1989; Nora, 1998, Graham and Howard, 2008). The present research paper departs from the idea of "heritage" as a commodity that can be owned, but rather looks at it as a relationship between people and objects that is continuously performed (Sansi, 2007; Smith, 2011). Before attesting this idea, I will briefly explain what heritage has meant in relation to identity, memory, and forgetting.

What people "choose" to remember is constructed in cultural and social interactions, it is not just something personal (Halbwachs, 1994). While the process of commemoration happens on an individual level, it is

increasingly the specifically designated heritage institutions, such as museums and archives, which carry out the role of memory on a local, national or even global level (Huyssen, 1995). What is included in the practices carried out by these institutions has developed over time, and different understandings of "cultural heritage" have been put forward in academic literature as well as within professional organizations.

The concepts of tangible and intangible heritage as defined by UNESCO and other Western organizations aim to create a holistic and conceptual approach to "cultural heritage" in order to support the preservation of world heritage. The 2003 Convention for the Safeguarding of the Intangible Heritage marked the development of merely thinking about heritage sites to heritage as the 'totality of tradition-based creations of a cultural community, expressed by a group or individuals and recognized as reflecting the expectations of a community in so far as they reflect its cultural and social identity' (UNESCO, in Kirshenblatt-gimblett, 2014, p. 165). Heritage is, thus, inextricably related to identity, making this identity explicit through different cultural forms such as language, music, rituals, customs, and arts.

The division between intangible and tangible heritage is, however, rather arbitrary, as every object put on display tells a story, and would, otherwise, be mere inert matter. In the same way, intangible heritage, which are cultural manifestations (such as knowledge, skills, and performance) are always embodied, "inseparable from the material and social world of persons" (Kirshenblatt-gimblett, 2014, p. 171). For a community to be a community, intangible heritage or the knowledge about its shared traditions, are continually enacted, transmitted and reproduced. They are, therefore, inextricably linked to persons that pass things on and through the material artefacts they leave behind. Although the emergent debate on intangible heritage has mainly asserted a third category of heritage (knowledge

and traditions besides nature and culture), it has also sparked some rethinking on heritage practices and the interrelatedness of the material and immaterial (Smith, 2011).

In Aruba, this rethinking is visible in the way in which heritage institutions, primarily Monumentsfund, have started to preserve monuments together with the stories that are inscribed in those material spaces. For instance, for the restoration of the "Uncle Louis store" in the centre of San Nicolas, an oral history expert is documenting stories about the store to explain its value within the community. The raising of awareness about cultural heritage has become part of the "vision and mission" statement of the foundation, besides the initial statement that aims to restore monumental buildings (Monumentsfund).

Intangible heritage is considered particularly vulnerable (as opposed to objects and places), according to UNESCO, and therefore, an emphasis is put on recording and documenting these practices and forms of knowledge (Kirshenblatt-gimblett, 2014, p. 171). The effort to define and manage something that is intangible can be seen as a response to the fear for a "cultural amnesia", in which oral traditions and folklore would disappear through modern technology and globalization. Huyssen (1995) discusses the paradoxical relationship between memory and forgetting, in which a cultural amnesia has been accompanied by a kind of public obsession with memory. Modernity has speeded up the sense of time, and in response "heritage interventions attempt to slow the rate of change"(Kirshenblatt-gimblett, 2014, p. 170).

Commerton (2006) has pointed out that the "memory boom" is visible in museums of local identity and everyday life that have multiplied in the past decades. The tendency within the preservation of tangible heritage has moved from the monument as an ideological glorification to an attention to the everyday life.

The monument as a category is unloosed from its reference to the privileged objects of the cathedral, the castle and the stately home, to embrace also the vestiges of the agriculture, industry and habitat of the nineteenth century and the first half of the twentieth century. (p. 316)

Within Aruba's identification and preservation of monuments, there has been a shift from merely preserving colonial buildings in the city, to the cunucu houses. The fact that people want to preserve not just what is seen as impressive architecture, but rather the way of life, and the working practices of general Arubans, can be seen as part of the formation of a national Aruban identity (Monumentsfund).

The increasing attention to memory shows the role of heritage in the political arena, as different community groups, with their own histories, started to voice these differences – often in response to a repression of memories. The multiplication of museums that focus on local identity, or on community heritage, may, thus, be seen as a consequence of the wider phenomenon of a "politics of recognition" (MacDonald, 2008; Fraser, 2000). Through memory inscribed as heritage, diverse groups claim legitimacy or a sense of belonging, crafting self-narratives that might have been overshadowed by more dominant groups. According to MacDonald (2008), this has led to an awareness of the contingencies of the concept of heritage itself:

Usually, heritage is perceived as settled – as a sedimented, publicly established and valued distillation of history. Memory inflation, then, may not only challenge specific existing memories but may also unsettle the traditional view of heritage itself, making it more likely to be regarded as contestable and contingent. (p. 93)

There is then a specific distinction between heritage and memory, where heritage would be the canonized and

materialized forms of memory. While the past is being transmitted over generations through every day acts of remembering, "heritage is a highly political process, malleable to the needs of power and subject to contestation" (McDowell, 2008, p. 37). Heritage is, after all, an institute (Harvey, 2008), while memory is a human capacity. It is in this sense that memories are able to contest what is being canonized as heritage – but also what is traditionally understood as cultural heritage: a "thing" intrinsic to identity.

**Heritage making: the relationship between people and things**
As Harvey (2008) has explained: "Heritage itself is not a thing and does not exist by itself – nor does it imply a movement or a project. Rather, heritage is about the process by which people use the past – a 'discursive construction' with material consequences (see Smith, 2006, 11–13)" (p. 19).

Western conceptions of cultural heritage might have emphasised the interrelatedness between the tangible and the intangible, but most of this thinking still looks at heritage (be it tangible or intangible) as a thing from the past and as "found" at certain places that should be preserved as monuments. In fact, heritage is something vital and alive. Heritage can be seen as an experience generating affect, a cultural performance that produces and continually reproduces a sense of identity. As Laurajane Smith (2011) has put it: "Although heritage is something that is done at places, these places become places of heritage because of the events of meaning making and remembering that occur at them" (p. 23). The idea of intangible heritage as an embodied practice, manifested in performance rather than text (Taylor, 2003), criticises a more static notion of the relationship between heritage and identity. If the performative and processual nature of heritage is dismissed, it is likely that measures intended to safeguard particular cultural practices will be folklorizing it, freezing

it in the past, and in this way, limiting possibilities to perform identity as it is shaped in the present. With Smith's reflections on the practice of heritage, as a "discursive construction" in which heritage is itself a cultural and social practice, heritage becomes a vehicle of power but also allows for agency, where networks of people work out, reject, embrace and transform understandings of the past and the present (Smith, 20211).

"Heritage making" shifts the focus from heritage as an object, to the relationship between people and their objects of heritage, the way in which these objects are understood and materialized, and to the feelings that are aroused by them. Instead of seeing the persons who practice heritage as mere guardians of their culture (often referred to as objects such as living "archives"), keeping it save for future generations, they are actors who by practicing heritage change how people understand their culture and themselves (Kirshenblatt-Gimblett, 2014). Smith (2011) has pointed out three levels of such heritage making, namely institutional, professional, and individual. The latter one focuses on the meanings that are created in the encounter between museum visitors and the heritage objects in museums. This perspective raises more questions about different worldviews, between professional workers and local actors, and between the global notions of "cultural heritage" that are adopted by institutions, and their particular understandings in local contexts.

Roger Sansi (2007), in his research on the Afro-Brazilian practice Condomlé, has observed that for a notion of cultural heritage there needs to be an understanding of heritage as a common good. Instead of being valuable within ones's family, an object of heritage is endowed with meaning that transcends the individual to become meaningful for a community. This leads to a specific thinking about the relationship between people and things (and the attribution of agency in this process), in which

an objectification of the practice as cultural heritage takes place. This may be the result of specific Western histories of "culture" that might differ elsewhere. Objectification does not just imply the imposition of certain narratives about the past (an "invention of tradition", see Hobsbawm, 1983), or issues of ownership and commodification for present purposes. Instead, this process of objectification or what Sansi calls "synchronism of culture", takes place among the spaces, people and things that Candomblé is. Because of specific understandings of the relationship between people and things, a practice might differ from the notion of cultural heritage as a "common good" (if, for example, the practice is exclusively performed by certain people and in certain places). Sansi proposes to take into account the way in which particular forms of relations between people and things are deployed: how does a practice become "cultural heritage"? This perspective criticises the taken-for-grantedness of identifying something as cultural heritage, and proposes to actually investigate how individuals constitute a particular relationship between them and the object of heritage, by gathering stories, artefacts and images.

Thus, while heritage might be intangible, it is constituted by very concrete practices surrounding it that result in material consequences. Oral history is often seen as more likely to disappear because it depends on a system that the Western world is not used to anymore. However, "intangibility and evanescence - the condition of all experience - should not be confused with disappearance. … Conversations are intangible and evanescent, but that does not make the phenomenon of conversation vulnerable to disappearance" (Kirshenblatt-Gimblett, 2014, p. 170). At the same time, for a conversation to be held, there needs to be certain values attached to its word, which depends on various social actors, both professional and local. In what follows, the specific context of San Nicolas will be laid out, in order to gain insights into the heritage making of a Caribbean oil town.

### 1.3 Contextual framework
**The Lago period**
Aruba's modern history is marked by the presence of the Lago Oil Refinery, as it shifted the economic, social and cultural dynamics on the island. Before the arrival of Lago in 1924, Aruba counted 8,000 inhabitants, most of them small-scale farmers. In 1960, there were over 55,000 Arubans who mainly lived around the town of San Nicolas (Alofs & Merkies, 1990). Even though the demographics have changed even more drastically with the arrival of the tourism industry, the presence of the oil refinery is very much inscribed into a collective memory. This can be the result of its profound impact on Aruba's industrial development, as well as the layer of creolization it brought to the island (Alofs & Merkies). The refinery drew migrants from all over the Caribbean, making the "oil town" of San Nicolas a multicultural community with a large English speaking Afro-Caribbean community. The mixture of cultures and languages on Aruba are a consequence of these migrations, as is for example the celebration of Carnival and other musical traditions. The impact of Lago on Aruba has been discussed from multiple perspectives. While Jorge Ridderstaat (2008) has written the most recent historical account, there have also been studies on the effect of the migrations on Aruban identity processes (see Green, 1969; Alofs and Merkies, 1990). The present research looks specifically at the community of the Village from a heritage perspective. I will begin by giving a short historical overview of the Lago and its impact, based on the existing literature and my own research.

The arrival of the refinery came at a time when Arubans, who were mainly living from the land, were facing a lot of difficulties due to a draught that lasted for many years. The few industries that had been on the island, namely, gold, aloe, and phosphate, had all stopped by that time. Therefore, a lot of men went away to work on the cane fields in Cuba. Between 1917 and 1920, around 5,000 workers went to Cuba from Aruba and Curacao (Oostindie, 1988).

Life on the cunucu was austere, doing hard work in the sun for low wages. Most people worked in agriculture or fishery, and they were less skilled in other jobs (Ridderstaat, 2008). This era, right before the economy of Aruba shifted so dramatically, is important for the way in which the Lago refinery is still being remembered as bringing prosperity, knowledge and development.

The situation changed when the Lago Oil and Transport Company started building its refinery on the natural bay of San Nicolas. The company had looked for a place near the Maracaibo Lake in Venezuela, where the oil was extracted. The decision for Aruba was soon made, and the first oil was refined in 1929 (Ridderstaat, 2008). The refinery grew out to become one the biggest refineries in the world. As the global interest in oil only increased, the refinery continued to grow and so did the number of employees. The Second World War increased the activities of the Lago because it provided fuel for the American planes. At its peak in 1948, the Lago employed 8,300 people (Alofs and Merkies, 1990). From the 1950's onwards, things started to slow down as the refinery automatized, and many people who lost their lobs moved back to their countries of origin. It finally closed down in 1985, after which a period of re-opening and closures followed. The site of the San Nicolaas Baai became filled with pipelines and tanks. It became part of San Nicolas, which after a century can hardly be disconnected from the presence of the refinery, whether it is working or closed.

It was through the refinery that Aruba started to become part of global networks. While Aruba was long seen as an "isla unitil" (useless island) despite its various early industries, it now proved its usefulness because of the oil bonanza – even though Aruba itself does not have oil (Museum of Industry).

**A cultural mosaic? Migration and segregation**
Migration processes had already been part of Aruba since

colonialism and the earlier industries. In fact, the language Papiamento is a Creole language and so is the Aruban culture. However, the Lago changed the compilation of the population even more drastically and this is said to have caused another layer of creolization (Alofs and Merkies, 1990). While the Lago employed the Aruban population, they soon decided to bring workers from English speaking Caribbean islands, as this would improve communication at work, but also because Arubans were not specifically skilled for certain jobs and were thought of as "undisciplined" (Alofs & Merkies). This decision is the main reason for the settlement of different ethnic groups on Aruba, and the high number of "British subjects", who came from the British West-Indies (see table 1). The other large groups came from the Dutch Windward islands (Saba, Sint Maarten and Sint Eustatius), because they had a Dutch nationality but also the fortune of speaking English. The economic development that the refinery brought about drew immigrants from various places to come to Aruba to work in different sectors. These included Curacao, Bonaire and Surinam, but also people who were drawn by trade. Besides the Afro-Caribbean groups, there was a considerable number Colombians and Venezuelans, as well as a Chinese population. The people who came to settle in San Nicolas were not only men who found work at the oil refinery. Also many women came to work in the domestic sector or set up their own microbusiness (Hurk, 1998; Egers, 1989).

While most (but not all) of the migrants from the Caribbean islands worked in the low paid jobs, the Lago hired American workers for the higher functions. The American employees settled in the Lago Colony, which was part of the American territory that the Dutch government had given to the oil company. These "expats" settled with their families in the Colony. They did not mix with the Aruban or Afro-Caribbean population because the Colony provided in all their services: there was a school, a club, sports amenities, private beaches, and a hospital (open to all Lago employees).

These services, except for the hospital, were exclusive to Americans, especially in the first decades. Almost all of the Americans left when the Lago automatized. Despite its exclusivity and distance to the town, the Colony has had a big impact on the imaginary of people from San Nicolas.

The phosphate industry had already created a small settlement near Seroe Colorado, where the phosphate was extracted, called San Nicolas. Besides a few houses, much of it was still wasteland. When Lago came, San Nicolas grew out to the second city of Aruba after the main city Oranjestad. Because the Lago divided its workers alongside race and class, the town of San Nicolas became separated into different neighbourhoods. The first neighbourhoods that were built by the Lago Home Building Foundation were for the higher educated employees (Alofs and Merkies, 1990). The Colony and Lago Heights were built first, further away from the centre of town. Other neighbourhoods such as Essoville and Lagoville followed when the population increased. While these neighbourhoods housed employees such as teachers, the low skilled migrants build their own houses. They chose a plot of land close to the gates of the refinery and the centre of town, near the Main Street (Alofs and Merkies, 1990). This part of San Nicolas became commonly referred to as the Village. The houses were initially made from lumber and kerosene tins, materials they at first received from the Lago.

The Lago period gave in total rise to 56 nationalities, most of who settled in San Nicolas (Museum of Industry). All these groups had their own specific cultural traditions, activities, and even "ethnic clubs". However, despite this differentiation, there was a particular integration process that made for a tight community and transcended the various ethnicities. San Nicolas was in the first place an Afro-Caribbean town, and all the other ethnic populations, such as the Chinese, Arubans, and Jews were more or less included in the community as separate groups (Alofs & Markies). This caribbeanness gave San Nicolas the name

"chocolate city", which it is still sporadically referred to by residents.

The racial unity and the shared afro-Caribbean background did to a certain extent blur the ethnic differences between the wider populations of San Nicolas, but was (and still is) not a definitive factor. Although the main group in the Village was from the British West Indies and Dutch Windward islands, it also included Venezuelans, Chinese and other ethnicities. Therefore, perhaps more importantly than race was the creole English that was formed through the interaction of so many different ethnicities present in the Village. Although this is often referred to as specifically belonging to the Village ("Village English"), it is also part of San Nicolas ("Sanny English"). Today, Papiamento is widely spoken as well and even said to take over the English, which is a result of an increased integration compared to the past century (Richardson, no date). Evidently, it is difficult to point to the specific identification processes happening within the Village and San Nicolas as they are continuously changing, and as "culture" and "identity" are fluid constructs in themselves. It becomes even more complicated if compared to a national identity, a topic that has recently been investigated by Artwell Cain (2017).

When talking to my informant Esteban Vorst, some of the contradictory ideas of identity and identification in San Nicolas become apparent. Although he lives in the Village, he does not consider himself as part of the afro-Caribbean group that "belongs" in the Village because they arrived as migrants to work at the refinery. This is because the Vorst family lived in San Nicolas already before the Lago came. He was born in Aruba and, therefore, considers himself Aruban. Besides that, he grew up next to the Village, and later moved up the hill with his family. He has a mixed background, as his family is from Curacao, Bonaire and Venezuela. Therefore, he speaks Papiamento (coming from Curacao). This language is a big barrier to his identification process with the Village:

I was living by my mother and my father. But I lived in Curacao. I went to school in Curacao. That's why, when I came back, I couldn't go outside and play with the other children from the Village. They speak English and I couldn't speak English. Marcelino and them [Esteban's brothers] could but I couldn't go. I had to go all the way and play with the Arubian people. ... I learned English through the books, I used to buy them and practice, practice, practice. Then, my grandmother, I tell her what is what and then she bought me English books. So I learned by myself. ... But here [in the Village], up till now you hear them like crazy, they say 'ayo'. I say 'ayo', what do you mean by that? You don't say 'ayo' you say 'you all'. Eh boy then they crazy. They don't wanna understand that 'ayo' is 'you all'. 'Where ayo going.'

On the other hand, when for example talking about Carnival, he does identify with the afro-Caribbean population because of the specific heritage of carnival (which to him "belongs" to San Nicolas), but also because here he differentiate between Arubans and himself in terms of race:

We the black people, don't need a thing [he probably refers to the parade trucks]. ... The Arubian people are most in the carnival now. Yeah! We started that! And plenty of them [Arubians] they can't dance the carnival. I have a son, the other day he dance in the group, and he told them how to dance. You don't jump up and that, you go with the flow. We used to dance carnival Saturday. The night we eat, drink! And go dance the next day, Sunday in town. Now some of them they dance Saturday and they tired, and then you drink when you crazy. Yah, you have to know how to drink. You kill you self Saturday and then next they you can't... no, you have to know how to move!

These two fragments show two particular aspects of the "Lago heritage" (language and carnival) that came to Aruba

through the migrations. Although much of it started in the Village, they have become part of a collective heritage, either locally within San Nicolas or on a national level. The fact that many ethnic boundaries became blurred through living together has resulted in the narrative of Aruba as a "cultural mosaic", which started with the Lago heritage (Museum of Industry). Despite this, heritage is, or can become, an inclusion and exclusion mechanism to create a sense of who belongs (and who does not). In both cases put forward by Esteban, he deployed certain understandings of heritage to differentiate between different groups of people. The way in which he does this changes according to the context and is thus very contingent. Because of the migrations and segregation that the Lago brought (in specific because of the residence pattern), the stories that will follow from and about the Village often implicitly deal with the way in which people's lives were affected because of cultural construct such as race and gender. At the same time, an emphasis is put on the way in which people themselves deploy an understanding of heritage to talk about their community.

Table 1.
Demographics of Aruba based on nationalities in 1948

| Nationality | Number |
|---|---|
| **Dutch:** | |
| Dutch-Antilles | 27.312 |
| Europe and Indo-Dutch | 1.946 |
| Surinam Dutch | 1.134 |
| Subtotal | 30.712 |
| | |
| **Foreigners:** | |
| American and Canadian | 2.197 |
| British subjects | 9.442 |
| French subjects | 794 |
| Portuguese (Madeira) | 139 |
| Other Western-European | 135 |
| Eastern-European | 122 |
| Venezuelan and Columbian | 3.083 |
| Dominican and Haitian | 594 |
| Other Latin-American | 79 |
| Chinese | 271 |
| Lebanese and Syrian | 17 |
| Subtotal | 16.875 |
| | |
| Total | 44.585 |

(Alofs & Merkies, 1990)

## 2. Mapping Memories

## Village Stories

When Lago came, people came from St. Vincent, Trinidad, Grenada, and all those places. So they, in the places where they lived, let's say, together, they used to call it 'the Village' in their countries. When they born here, they say, We live in the Village. You know automatically where they live, where to find them. 'Cause they built up the Village. They built up this place. If it wasn't for they, you would find nothing here. Cause it was wasteland. So when Lago came, they start to build. … They was from the English islands, they know more about what they call the Village. Here, people hear about the Village and come to know that it is a town! Otherwise it is a town, but they call it the Village. Because it is a set of people, they come and they make it. That's how the Village then came.
*- Esteban*

### 1. 'That's older than everybody!'
There are five generations of the Vorst Family on Aruba. My grandfather, he came from Curacao, he came to Aruba. He built that house that you see there. That's older than everybody! Because it was build for my aunt and father. Yeah the owner of that house, is my grandfather. He built it for his children, my father, my aunts, all of them. They had an old mine up Seroe Colorado, he worked there. After that, when that closed, they came down here. At that time they lived up there. Afterwards, his family, all of his family used to live up Seroe Colorado. When that closed they had to come out so they went first to Savaneta, from Savaneta they got one quarter of the Village to buy. From the phosphate industry he got the money to buy the land, and he bought one quarter of the Village because that was just bare. The Village was just bare land. At the beginning, yes, it had only a few houses. But when Lago came they brought people from outside and they started to make houses in the Village.
*- Esteban*

### 2. Chela's Store
We used to have a lot of small businesses but… now we only

have one. Chela, it's on the way down the street. Now all the shops are only in the other parts of town. But in the Village there used to be a lot of shops. And the people used to make little things to sell. You know, in the bottles and so on… Just in their home and then they would sell it to the people. Cookies and so on…
*- Constance*

### 3. Caya Saint Maarten
Most of the houses in the Village were from lumber. And most of those lumber was big boxes that came to Lago… you want it, they ask and take it. At that time it was all the boxes from Lago. Then afterwards, they had a few small companies that established at that time. Zink, okay, a few houses were built out of this big tin of kerosine. So they cut it and they make the houses and just put it to save them from the rain and the sun. But after that okay the people in the Village … they went to the other side, in the back they went and build their house. Some of the people from the Village went up 'cause that was the easiest place to get a house. … In the Village they had wood houses, but afterwards a few people … because in the beginning the government they didn't give permission to build wall houses. After a good many years, you had a house of wood you could make it out of block. Okay, that's when a plenty people build a house in Village. Some of them decide to get a piece of land outside. All those places over there you had people from the Village living there. Okay, right, in the beginning plenty people left because most places was sand road, and when it rained it wasn't easy. Plenty mud and things like that. Over there it was mostly different kind of road. Afterwards they started making roads, like asphalt. But in the beginning, the roads in the Village was, oh boy, a mess!
*– Esteban*

### 4. Main Street
Lago was a blessing to this island. It was a blessing, it was everything. It was a very good time for the island but once the refinery closed everything changed. And the island was

blooming. The beauty of it is that the people that immigrated from the British islands to come to work in Lago, they invested and there were many business, stores and so, in San Nicolas. Right now there is one of those stores still functioning. Liberty store. That's the only one, but the others…
*- Aurelia*

You had a lot of people going through the village. All the time you see people going through the village. Yeah they had nice clothes. They had all stores. All the stores closed and some moved to Oranjestad. But we had many stores. All the stores that closed up were nice stores with all kind of things in them. And then they moved slowly to Oranjestad. Then they build bigger stores in town. And now in town they have all the stores closed.
*- Constance*

### 5. Lago Gate
#### 'You had to be a brave woman o!'
When you go down by Lago gate, you meetin' them on the ground. Stone drunk! In the evening time. The police used to come with the van, they used to call it the dog catcher, open the back and they just put them in the cell to sleep. Some women used to have to go and collect. When they getting paid, go by the gate to collect the envelop, if not they getting' no any money. Cause the man taking the money and going with it. You had to be a brave woman o! [laughs]. They go and collect the money when the husband had to get paid, they know today is payday, they go by the gate, they used to pay them I think by the gate. And they go and [laughs] collect the money, the envelope. I know how much they used to give them, 'cause they had to give them something to go drink! But the women take it because people used to get a lot of children longtime, you had women who had eleven children, ten children, twelve children! People longtime had a lot of children! Yeah, if you're a brave woman you go and look for the money. But if you are not brave then you are gonna do it via the eh… the law no!
*- Constance*

I had a grandmother, from my mother's side, who was Venezuelan. My grandfather was Curacaolean. They were from different sides. My mother's father is a Bonairian. My grandmother never was married. That Venezuelan never married. She was by herself. My sister had a big picture of her. Tall woman, strong. Okay, she had her own business over there by the gate, she cooked. For the people who came from Lago. She used to cook, and my uncle used to sell beers on the other side. But she wasn't married.
*- Esteban*

Loli [Lolita] used to sell peanuts, loterij, vruchten… She would sit. By the Lago gate or by the, ehm, Arubabank. You would see her by Arubabank, sitting down. She used to sit.
*- Constance*

### The strike
People was underpaid but, what you do? The government … they don't say nothing. You had to take what you got. In those days the American was the richest man. In the company, you couldn't open your mouth, cause a yankee man tell ye '***' Shut your mouth! And all that. But then, afterwards things changed … Marcelino could tell you more about that because he was an apprentice at that time. I was in the second one, with the FTA. The guy came from Venezuela, … guy from union came over, and he tried, guy from Trinidad too, that's how we got back inside otherwise … otherwise you couldn't get back inside you know! The guy talk and so that the people have rights! Then okay they took us back, send us home for two weeks, then we came back. But I live! I didn't die. No.. yeah! The guy from Trinidad explain, cause they had union over there. Aruba at that time they had no kind of union. Nothing. You just go to work and that's it. The first strike, because the people see that they got no money, then the other guy he afterwards became the governor, one of the big man in Grenada. He is one of them that talked in the first strike, he and a few more people, they were working for the company and they decided to go forward and ask … Then the company men

self brought the yankee man to speak about the 52%, tell the people they say yeah, you all have rights! You all are underpaid 52%. Before nobody knew. No you just work, and that's it, you had nobody to represent you or nothing.
- *Esteban*

**6. The Colony**
The Colony is not the Colony it used to be man. It used to be pretty. All the houses, with all the plants, and grapefield with all the big trees. All those trees died out. Because they throw a lot of things out there that kill 'em. They used to have a lot of grapes, nice sweet grapes! Nice grapes…
- *Constance*

We couldn't go in the colony! They had this thing that when you do go, you have to know how you're going and where you going. Cause the Colony wasn't just like you could walk in, because they had a watchman by the gate. If you going you had to tell him I'm going by so and so, by misses so house. And they let you pass. But yo say you could go by the Colony how you want… no. Afterwards when the Americans left, you could go in the Colony. That's why some people went and lived in those houses. When the Americans left. At the beginning you could go to the beach neither! It was for the Americans. Then afterwards, through the fisherman them, they started tie their boats there. They gave them permission to have the boat, and people could go there and buy fish. Only to buy fish. Well, they could do it no, who is you? That time the government was in favour of the Americans. Yeah, there where many here, you gotta take a lot of things from them, you can't hate them, you can't do nothing. Because that was God. Yeah that was the way we used to put it. Till when the Arubian guy came, but he got punished then because he, the American guy … and he stabbed him. … An American, yeah. Because every day he come and the American pickin' at him and he pickin' at him and he pickin' him, till one day he decided Well this gotta stop. So he had to follow the American again, then the American turned, and … That's why the judge punish

him. He said he did wrong. If he stab him in the front, he wouldn't have punished him. Because the witness… he had enough witness that could show the judge that this man had everyday comin' in and getting all the things, yeah, you understand? He just gave the punishment because he stabbed him in the back. If you stab him in the front you wouldn't get punished cause you have enough proof that this guy is harassing you every day. No if you stab him in the front. But he stabbed him in the back so the judge punished him. Locked him up for that. Then things start to change a bit. Because they see that the people them start to … yeah it was too much, too much! You walkin' in there, ah… Okay… if you had a good foreman, an Arubian or English, from the British islands, you had it very good. But when the big Yankee man come, and you had Yankee man boss of different groups. And that's what the trouble came, because they want to talk to you like… you're nothing. And you're a big man already and, what you think, it isn't easy! No they wasn't the people, that you could say, well, Conjo… But then after that things started to change. It changed because most of them they lay off. Only a few stayed. So people went in their houses. So what they had to do was you, if you were working in the company, if you wanted to rent one of the houses you could go and rent it. You had plenty, but I tell them, Not me!
- *Esteban*



*Constance* at the house she has lived all her life. It is one of the only monuments in the Village



*Esteban* Vorst



*Chela* in her store, looking at family pictures

## 3. Conclusion

### From bou palo to compartimi

While the refinery is at the brink of being closed down for good, the Village is still there, with its own distinct identity. This identity is constituted through every day acts of memory, not only in the museum but also when people share stories bou palo. Through the oral history interviews I conducted with elderly people from the Village I could form an idea of the way in which they remember the Lago period based on certain narratives. What do people "choose" to remember, and in doing so, what do they "choose" to forget?

Memory of the Lago often entails stories of migration and the cultural mosaic that came with it. This dominant narrative could be a response to the deindustrialization and cultural disintegration that has erased much of the cohesion that was once part of the Village. But there are also stories of segregation that might be hidden under sentiments of nostalgia for a more prosperous past. The wall that secluded the American employees from the rest of town triggers different memories. On the one hand, the wall, which has become a ruin just like much of the Colony, shows decay and nostalgia for something that used to be intact and beautiful. Constance, for example, recalls: "the Colony is not the Colony it used to be. It used to be pretty. All the houses, with all the plants, and Grapefield with all the big trees…" On the other hand, the wall represents mechanisms of exclusion. Esteban remembered another story tied to the wall: "We couldn't go in the colony! … At the beginning you could go to the beach neither! … Well, they could do it, who is you? That time the government was in favour of the Americans." Every place that reminds of the past thus bears multiple memories, of sadness and of joy. The memories that people attach to the wall, the Lago gate, or their own house expose, and sometimes contest, the way in which the Lago period is being remembered by the dominant narrative of cultural cohesion.

While topics such as gender, race and class come up during oral history conversations, they are hardly ever the main storyline. When Esteban mentioned that he used to go to school without having breakfast, he said that at least there was "bush tea" every morning. He remembers the bush tea, not the empty stomach. The fact that San Nicolas is an upcoming but still struggling "ghost town" makes that people define themselves through a past that includes certain memories and excludes others. This might be a conscious choice because certain topics are taboos, but more often is the result of the way our memory works. Both local residents, and those working in heritage institutions emphasise the importance of their part of the island for Aruba, and in this way stories of cultural cohesion are often chosen to be told over stories that complicate that narrative. This "forgetting" does not simply imply a loss of certain parts of history, but is a constructive practice in the formation of identity, and demarcates a sense of belonging to the community.

This research continues to analyse the heritage practices as they are taking place in the museums, and around San Nicolas, to see in what way those stories are becoming part of a heritage narrative. One way in which this is being done is through "compartimi", the storytelling events that Nyohmi and Renwick organize every month. Elderly people from the community are asked about their lives, and their stories are underlined with archival photographs. Compartimi's are concrete examples where stories bou palo are made accessible to a wider community. In this way, parts of Aruba's history that might have been forgotten by the collective memory are shared with people who have no direct connection to the history being told. At the same time, oral history remains a lived practice. Every Saturday, some people from the Village come together and sit down underneath the tree next to the water tower. They drink whiskey, eat Johnnycake, play dominos and they share stories underneath the tree. The museums and the local actors are creating spaces in which to share, represent, and

sometimes contest, the Lago past. This process of heritage making asks for an interaction on multiple levels, bringing different perspectives together, in order to translate the stories bou palo to the museum space.

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I remember when Eric first came to talk about UAUCU with us, I was very excited to hear about UAUCU and the opportunity to take part in such program. I was immediately intrigued to participate.

I found the UAUCU program very interesting because I had the opportunity to meet new individuals. During the introduction week we had the opportunity to interact with each other while having fun. The field trips were all related to the different research topics. The field trips were very informative and for the international students it was a great opportunity for them to get to know Aruba more profoundly.

The program provided us the opportunity to receive different point of views on our research. This was very interesting because during these sessions I remember receiving different interesting aspects I could use for my research. I found the feedback sessions very important because the dialogues would later help contribute to an improved research.

The great thing about UAUCU is that you create a bond with the other participants. We became friends who were there for each other and offered help and support when we felt that it was needed.

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# The import costs of fruits and vegetables on Aruba: mitigating the volatility of prices to ensure sustainable supply.

Nicolette Andreina Habibe

## 1. Introduction

The Department of Economic Affairs, Commerce and Industry (DEACI) of Aruba, under the lead of the Minister of Economic Affairs, decided to reevaluate the process of imports to the island after the Venezuelan president Nicolas Maduro decided to close the borders between Venezuela and the ABC islands on January 5, 2018. The effects of the closed border were rapidly felt due to the island's dependence on imports from Venezuela. Currently, Aruba imports fruits and vegetables from Venezuela. Therefore, during the period the border was closed, Aruba was forced to import from other countries. The Aruban community quickly noticed the steep rise in prices for fruits and vegetables during this period. As a result, the minister decided to initiate a research study on the current "Canasta Basico". The "Canasta Basico" is a list of eleven products that have a price ceiling and a price floor imposed by the government. Some of the protected goods are regular rice, oil, butter, milk, baby food and baby formula. The purpose of that study was to examine how the inclusion of fruits and vegetables in the Canasta Basico could provide the Aruban community with an affordable and stable price level for these items.

Later, from April to June 2018, DEACI held meetings with different stakeholders to address the issue of the island's dependence on imports of fruits and vegetables. One of the biggest concerns that came up in the meetings was the efficiency level of the port, which was further narrowed down by specific concerns. The factors stated by the stakeholders included the time slots system, which indicates that if one ship misses its slot it should go to another island and then return to Aruba ("Het pakket gereguleerde basisproducten", 2018, p.20). Another factor presented was the operating hours of the port, indicating that a port operating 24/7 could lead to a higher efficiency level ("Het pakket gereguleerde basisproducten", 2018, p.20). Lastly, the port infrastructure was declared as a concern because researchers indicated that there are several factors that could hinder the process due to the port infrastructure. For example: the proximity to shipping lane, the human skills (the skills of the service providers and the quality) and lastly, the level of regulation (excess of regulation could start to reverse these gains).

The main purpose of this research is to identify the internal and external factors that hinder or stimulate the prices of fruits and vegetables on Aruba. The internal factors are controlled by the port and, if needed, can be altered. The external factors are several swaying factors, which are not controlled by the port but will influence pricing decisions (Haron, 2016, p.1). Identifying internal and external factors creates an opportunity for the governmental departments, alongside the stakeholders, to work together to benefit the Aruban citizens with lower import prices for fruits and vegetables. Furthermore, the purpose is to accentuate the impact that the steep import prices have on the Aruban citizen and the importance of promoting the island's own agriculture to lower the dependence of importing fruits and vegetables. Another goal of this research is to involve the local community to find possible solutions to lower the prices of fruits and vegetables on Aruba.

The paper is organized as follows. Section 1 introduces the research questions and the expected outcomes. Section 2 describes the context. Section 3 consists of the literature review and recommendations. Section 4 describes the theoretical framework, methodology, research framework, research participants and research ethics.

### 1.1 Research questions

The main research question is "*What factors influence the import costs of fruits and vegetables on Aruba, and what actions can be undertaken to mitigate volatility of prices and to ensure a sustainable supply of these products to the benefit of consumers?* The main research question is supported by the following three sub-questions:

1. *Which factors stimulate or hinder the fluctuation of import prices on Aruba?*
2. *What actions can be undertaken to help mitigate the volatility of the prices?*
3. *How can the promotion of agriculture on Aruba contribute to a sustainable supply of fruits and vegetables?*

### 1.2 Expected outcomes

It is expected that this research project will yield several outcomes. Firstly, to define and comprehend which factors stimulate or hinder the fluctuation of the import prices on Aruba. Secondly, to differentiate between internal and external factors, and thirdly, to explore how these factors could be modified to lower the import prices on Aruba. Furthermore, to identify what factors can help mitigate the volatility of the prices and lastly, to gather recommendations from the different stakeholders to create the possibility of a more efficient port on Aruba which would in turn result in lower import prices.

### 1.3 Social Relevance

With limited arable land, Aruba depends largely on imported food, and keenly feels the impact of current circumstances in Venezuela. Therefore, the purpose of this research is not only to identify the factors that influence the import prices of fruits and vegetables on Aruba but also to also explore the possibilities for promoting local use of agricultural possibilities on the island, possibly by offering incentives, in addition to broadening the field for import and trade agreements. This research intends to contribute to knowledge that can help make safe and healthy food more affordable for Aruban society.

## 2.0 Context

The Department of Economic Affairs, Commerce and Industry Aruba (DEACI) is a government agency that falls under the Minister of Economic Affairs. The objective of DEACI is to advise the minister on domestic macro- and micro-economic policy and international trade issues, as well as support investments and exports (Aruba Economic Affairs, 2019). The vision of DEACI is to provide the government, local and international companies and Aruban citizens with top quality and effective service. Furthermore, the mission of DEACI is to contribute to a healthy and sustainable socio-economic development of Aruba (Aruba Economic Affairs, 2019). During the period of April until June 2018, DEACI held different meetings with different stakeholders regarding the prices of fruits and vegetables. The stakeholders included Aruba Stevedoring Company (ASTEC), DEACI, the Department of Social Affairs, Central Bureau of Statistics (CBS), wholesalers, retailers and representatives of the Ministry in question. The meetings were held in response to the sudden increase in price of fruits and vegetables after the border between Aruba and Venezuela was closed. The intention of the meetings was

to assess the feasibility of including fruits and vegetables in the "Canasta Basico". The "Canasta Basico" is a list of eleven products that have a price ceiling and price floor imposed by the government. Price ceilings and price floors are measures of price control imposed by the government. A few examples of items subject to such price controls in Aruba are: rice, milk, baby formula, cooking oil and butter.

Aruba Ports Authority N.V. (APA) oversees maintaining and exploiting the Oranjestad and Barcadera harbors (Aruba Ports Authority, n.d.). Furthermore, APA is responsible for the corresponding waterways and roads. The goal of APA is to provide a safe, efficient, accessible, and inter-modal transportation system that ensures the mobility of people and goods (Aruba Ports Authority, n.d.). Additionally, APA intends to enhance and/or preserve economic prosperity on Aruba. The Aruba Stevedoring Company (ASTEC) was later founded under a concession agreement with APA to assist in the formalization of the cargo handling services on Aruba (Aruba Stevedoring Company, n.d.). ASTEC has helped to upgrade the port to accommodate further containerization of cargo. ASTEC is currently undergoing the transformation from stevedoring company in Oranjestad to a fully equipped and modernized Multi Cargo Sea Terminal Operator in Barcadera ("Aruba Stevedoring Company", n.d.).

## 3. Literature review
### 3.1 Stimulating and hindering factors influencing the import prices on Aruba
This chapter will firstly elaborate on the internal and external factors influencing the import prices of fruits and vegetables on Aruba. The internal factors are controlled by the port and, if needed, can be altered (Haron, 2016, p.1). Internal factors can be further divided into physical environment and the human-built environment. The external factors are "a number of swaying factors, which are not controlled by the port but will influence pricing

decisions" (Haron, 2016, p.1). In addition, the influence of the port will be discussed, followed by a discussion of how modifying the internal and external factors may lead to lowering import prices. Furthermore, the importance of agriculture production on islands will be elaborated on. Lastly, the cause and results of inflation will be discussed, followed by recommendations and the theoretical model (Wilmsmeier & Monios, 2016).

### Internal factors
As previously stated, the internal factors are controlled by the port and, if needed, can be altered. There are numerous internal factors that affect the fluctuation of import prices. According to McCalla, these internal factors can be divided into two sub-factors: the "physical environment" and the "human-built environment" (McCalla, 2008, p. 441). The physical environment refers to the land and water circumstances, while the human-built environment refers to the human skills of the service providers. Additional fundamental factors include a flat, well-drained, structurally strong and open space for modern port facilities. Organized and well-structured infrastructure aids the import process making it more efficient and thus less costly. Therefore, it is remarkably important to have an efficient port to lower the import prices. An ideal port should contain a harbor and approaches with deep water, shelter, and limited tides. One factor that can also help with the efficiency of the port is the proximity to shipping lanes. A port with a close proximity to shipping lanes is essential when considering the success of the port.

This is especially essential in case of possible transshipment of cargoes. The second sub-factor is the "human built environment" which refers to the human environment and/ or skills of the service providers. The components that are considered human built environment are the port support, the skill of port and terminal management, the quality and productivity of the labor force, and the port services available to handle, store and manage cargo. In this case the

success of the port is mainly based on the strength of the economy and the financial resources available to support the port, the quality and productivity of the labor force, skill of port and terminal management. Port management is an important factor because it is highly correlated with port efficiency. In order to maintain low import prices, it is necessary to have a port working optimally which is the responsibility of the port management. Port inefficiencies lead to additional costs such as higher handling costs. This is because port inefficiencies lead to congestion, delays and increased costs for port users which results in higher handling costs. Therefore, it is necessary to have good infrastructure. In addition, good infrastructure leads to lower seaport costs. Lower seaport costs and handling costs have a direct influence on the import price.

Another internal factor is the port regulations and/or policies. Policy variables reflecting regulations at seaports affect port efficiency in a non-linear way. This indicates that having regulation increases port efficiency. However, an excess of regulation could also lead to avoidable inefficiencies. One example given by Clark is "In many countries' workers are required to have special license to be able to provide stevedoring services, and in general these restrictions imply high fees and low productivity" (Clark et al., 2004, p.26). The fees could be due to monopoly and/or inefficiencies due to anti-competitive practices caused by the increased restrictions.

The last internal factor that should be considered is directional imbalance. The directional imbalance implies that many carriers are forced to haul empty containers across countries. This results in more expensive import and/or export costs. Fuchsluger stated that this phenomenon is "observed in the bilateral trade between the US and the Caribbean" (as cited in Clark et al., 2004, p.5). The directional imbalance should first be researched to determine whether the possibility exists on Aruba and to what degree it could be applied.

### External factors
As previously mentioned, the external factors are "a number of swaying factors, which are not controlled by the port but will influence pricing decisions" (Haron, 2016, p.1). Exchange rate pass-through is one of the external factors that can influence the import price. The exchange rate pass-through refers to the correlation between the changes in the exchange rate changes and how they are further reflected on the destination currency price of the traded goods. Another important external factor is high petroleum prices. High petroleum prices affect the cost of transportation, which has a direct effect on the import price. Unfortunately, current petroleum prices are steep internationally, which indicates that this factor will not change for the time being.

### 3.2 Influence of the port on the import prices
It is important to have good port management in order to maintain and/or improve port efficiency. "Functioning port infrastructure- more precisely, the services it provides – is essential to economic welfare in modern societies" (Wilmsmeier & Monios, 2016, p.27). An efficient port facilitates trade, integrates transport modes and connects producers and consumers in different markets. Port size can also assist or hinder the import process. A bigger port can increase the possibility of lower port price which can lead to more demand. The bigger port can use the spare capacity to operate without causing congestion. However, size is not the only aspect considered when evaluating a port. A port is usually selected based on the physical characteristics, geographical location, port efficiency, strategic carrier considerations and hinterland access.

As previously stated, a well-organized and efficient port aids the import process by making it better. It is necessary to obtain advanced and integrated hinterland connections. This is a common issue across Latin America and the Caribbean (LAC), as is a lack of integrated transport and logistics policy (Wilmsmeier & Monios, 2016, p.28). The lack of integrated transport and logistics policy leads to

insufficient landside infrastructure which in turn leads to congestion, delays and increased costs for port users. Thus, the upgraded terminals will not be enough to aid the import process sufficiently to be efficient.

Countries such as Panama, Colombia and Chile have opted for port privatization. The results of a research study conducted in 2000 on the perceived success of port privatization indicated that the experiences in Panama, Colombia and Chile were the greatest achievements at that time. The purpose was to decentralize port governance from the national level by involving the local or regional port authorities and the private sector. The privatization was done with the purpose to improve the efficiency of the port(s). Some of the effects of poor management by a private operator include congestion and labor strikes. Labor strikes can result in a closed port which threatens the national economy.

### 3.3. Actions that can help mitigate the volatility of the prices

Several actions can be undertaken to mitigate the volatility of the prices, such as the introduction of the roll-on and roll-off ships and container ships. Innovations such as roll-on and roll-off ships and container ships are essential when attempting to reduce import costs. Secondly, increasing the port size can also lower the port price which in turn leads to lower costs for the wholesalers. As previously stated, a bigger port can set a lower port price to attract more demand as it is more likely to have spare capacity and hence less congestion. Additionally, the handling costs and seaport cost can be lowered by enhancing the port efficiency and improving the port infrastructure.

The infrastructure of the port is essential when evaluating the import price. This is because the import price is directly affected by the efficiency of the port. The efficiency of a port can be generally improved by first building a flat, well-drained, structurally strong port with open space for

modern port facilities Second, by selecting a deep water, sheltered and limited-tides harbor. Thirdly, by creating close proximity shipping lanes. Furthermore, by training a highly productive staff which includes an efficient terminal management, and a high quality and productive labor force (McCalla, 2008, p.441). Lastly, port efficiency can be improved by balancing regulations to avoid excess regulation. Excess regulations could lead to reverse gains which would hinder the efficiency of the port.

By adjusting the previously mentioned factors, the congestion, delays and increased costs for port users can be reduced. Countries with inefficient seaports have higher handling costs, indicating that countries with good infrastructure have lower seaport costs (Clark et al., 2004, p.19). Thus, it is important to have good port management to ensure the port efficiency to lower and/or avoid unnecessary extra costs. Furthermore, the port efficiency can be increased by decentralizing the port from governance at the national level, to one that involves local or regional port authorities and the private sector. The purpose is to avoid possible congestions and labor strikes which threaten the national economy.

Furthermore, it is essential to assure enough supply alternatives. This can be done by ensuring fair competition and stimulating volume/economies of scale. Fair competition entails the possibility of stevedoring competition. This can result in a cost-effective market outcome where market players are not able to make too much profit. This is due to the competition that forces them to act dependently on their competitors which results in an efficient business operation. Additionally, supermarkets, hotels, and restaurants can stimulate volume by bundling/coordinating various large purchases.

Lastly, it is also possible for Aruba to explore the possibility of avoiding directional imbalance. This could be done by researching possible ways to prevent hauling empty

containers across countries. Hauling empty containers across countries causes the costs of the products (fruits and vegetables) to be higher. "In 1998, for instance, 72 percent of containers sent from the Caribbean to the US were empty, this excess of supply in the northbound route implied that a US exporter paid 83 percent more than a US importer for the same type of merchandise between Miami and Port of Spain (Trinidad and Tobago)" (Clark et al., 2004, p.5).

### 3.4 The impact of higher food prices

Higher food prices affect society significantly. Poor households, middle and upper-class households, profit and non-profit organizations and governments are all affected when food prices increase. However, higher food prices impact population groups with limited resources more severely. Due to their lack of resources, minorities' purchasing power will be directly affected. According to the article *The Nature of Rising Food Prices in the Eastern Caribbean* "Many households have been forced to reduce their nutritional intake and defer expenditure on other essential items – such as health and education – in order to cope". (Joseph, 2009, p.4). This is because their financial resources are diverted. A transition in the household diet will include less expensive staples instead of fresh fruits and vegetables. Furthermore, Joseph continues by stating that "Efforts towards eradicating poverty will be significantly affected by persistent high food prices as this situation will push more people into poverty". (Joseph, 2009, p.4). Thus, higher food prices indicate that the purchasing power of the people will be affected, and this will cause more poverty.

### 3.5 The importance of agricultural production on islands

Historically, economic activity in many Caribbean countries has been driven by a few sectors, usually agriculture and/or tourism, or light manufacturing (Walters & Jones, 2012, p.3). Tourism has been the economic pillar for Aruba for decades. Throughout the years Aruba has always focused on imports due to its circumstances. As a small island, Aruba is not self-sufficient, and is heavily dependent on

imported goods arriving by air or sea cargo. Due to the lack of knowledge on agriculture and best practices, it continuously appears as if importing is more feasible than growing. However, according to the article Agriculture for development "Agricultural production is important for food security because it is a source of income for the majority of the rural poor" (World Bank, 2008, p.3). Each island/country has its own limitations. However, "The way agriculture works for development varies across countries depending on how they rely on agriculture as a source of growth and an instrument for poverty reduction" (World Bank, 2008, p.4). Therefore, it is important to raise awareness surrounding agriculture on Aruba. DEACI organized a meeting to define the most promising sectors that can encourage economic growth on Aruba. "Organic fruits and vegetables" production was categorized as one of the most promising sectors. To encourage economic growth, "Iniciativa pa Desaroyo di Empresa Arubano" (IDEA) was created to stimulates investments by providing free consultations, organizing workshops and organizing presentations to educate business owners and potential investors. A few examples of the workshops are: From Farmer to "Agripreneur", Farmers' Cooperative Society and Awareness on Good Agricultural Practices.

### 3.6 The causes and effects of inflation

According to Joseph, "High petroleum prices affected the cost of transporting food commodities to markets, machinery operations and the price of fertilizers" (2009, p.6). As previously mentioned, high petroleum price is an external factor that directly influences the import price. "During the first quarter of 2008, Barbados and St. Lucia registered increases of 11.6 percent and 11.5 percent respectively" (Joseph, 2009, p.6). The inflation was due to the higher fuel surcharge following an increase of 80 per cent in oil prices between 2007 and 2008. According to *Caribbean Food Import Demand*, "The fruit and vegetables category was the most responsive (least inelastic) to price changes, with an own-price elasticity of -0.902, implying

that a 10% increase in imported price of fruits and vegetables would decrease the quantity of imported fruits and vegetables demanded by 9%" (Walter & Jones, 2012, p.11). This implies that people would buy less fruit if there was a price increase. Thus, the demand would decrease due to the increase of the import price. One example would be: if the import price of apples would increase by 10%, it would cause the demand to decrease by 9% due to people buying fewer apples.

### 3.7 Recommendations

It is important for Aruba to consider reducing its dependence on imported food. This can only be done by promoting domestic production of selected agricultural products. This can be done by understanding possible Small Island Developing States (SIDS) specific constraints and exploring the possibilities. IDEA provides workshops and presentations for those who are interested in growing their own fruits and vegetables.  A few examples of the workshops are: From Farmer to Agripreneur, Farmers' Cooperative Society and Awareness on Good Agricultural Practices. The purpose of the different types of workshops is to provide networking opportunities to farmers, assist and establish the United Farmers Aruba (UFA) organization, raise awareness on good agricultural practices and organic fruits and vegetables. One example could be to promote the UFA and the workshops given at DEACI to raise awareness of the possibilities and challenges of growing fruits and vegetables on Aruba and the benefits of growing your own produce.

The government could also analyze possible incentives for the people who choose to grow their own produce. The incentives should especially be considered for the farmers so that they could reap the benefit sooner. As higher food prices impact the population groups with limited resources more severely. Due to part of this group's lack of resources, their purchasing power will be directly affected. Therefore, it is important for the government to promote agriculture

more on Aruba by offering incentives. Another possibility could be for the government to encourage schools to teach the children about growing their own produce.

Additionally, Aruba could consider stimulating fair competition and volume/economies of scale. It is very important to avoid a monopolistic situation on Aruba. Therefore, it is necessary to introduce stevedoring competition. This will help reduce and/or maintain a fair import price on Aruba. Competition will result in a cost-effective market. Furthermore, Aruba could consider broadening the field for import and trade agreements to make Aruba less dependent on specific trade partners. Moreover, Aruba could consider bundling/coordination by supermarkets, hotels and restaurants to lower the per unit price. Lastly, Aruba could also explore are the possibilities to avoid directional imbalance. As previously mentioned, this should be researched. Aruba could reduce the import price significantly by introducing return freights.

### 3.8 Theoretical model

The framework illustrates the process of how the import prices of fruits and vegetables are influenced by various factors. This framework is based on the literature, mostly inspired by an article written by McCalla. The framework identifies the two main types of factors (the internal and the external factors) that influence the import price. The first category, internal factors, includes: port management, roll-on and roll-off boats, port infrastructure, port efficiency proximity to shipping lanes and directional imbalance. McCalla elaborates on "physical environment" and the "human-built environment". The physical environment refers to the land and water circumstances and the human-built environment refers to the human skills of the service providers. The second category, external factors, includes distance between markets, petroleum price and exchange rates. According to McCalla, the import price can vary depending on the physical environment and the human-built environment depending on the efficiency of the port.

**What are the internal and external factors that influence the import prices of fruits and vegetables on Aruba?**
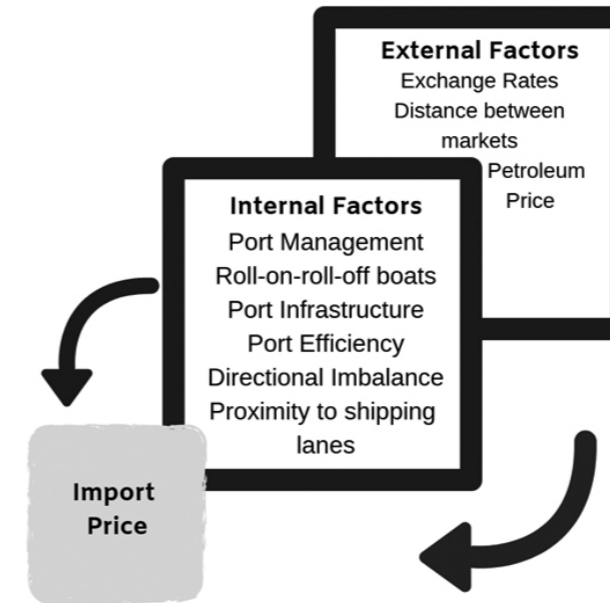


**Source: Wilmsmeier & Monios, 2016**

The framework illustrates the import price, which is affected by the internal and external factors. The internal factors are placed near the import price due to the ability of the port to alter these factors. As for the external factors, they are not controlled by the port but will influence pricing decisions. Higher import prices can be due for example to: an inefficient port and poor port infrastructure. This is due to the extra costs of, for example: handling costs and seaport costs. As previously mentioned in the literature review, "Port inefficiencies leads to congestion, delays and increased costs for port users which results in higher handling costs. Additionally, countries with good infrastructure have lower seaport costs" (Clark et al., 2004, p.19).

Lower import prices are due, for example, to the introduction of roll-on roll-off ships and container ships, reduced distance (geographically), efficient physical and human-built environment, efficient proximity to shipping lanes, and reduction and/or avoidance of directional imbalance. Port management, also referred to as the physical environment in the literature review, is an important internal factor. This is because the efficiency of the port is highly dependable on the port management. A port can only work optimally if it has a highly productive staff. As previously mentioned in the literature review, it is also important to introduce calculated regulations to avoid excess regulation which could lead to reverse gains (Clark et al., 2004, p.3).

### 4. Methodology, research instrument & research participants

This chapter addresses the methodology, the research instruments and the research participants. The chosen research design will be elaborated on in the methodology. Additionally, the research instrument will be discussed. The research instrument sub-chapter will also address the compliance with the ethical code of conduct in this research. Lastly, the research participants will be also elaborated on.

### 4.1 Methodology

The research design chosen to conduct this research is qualitative research. One-on-one semi-structured interviews will be conducted with the stakeholders. The intention is to interview all the stakeholders to have a proper representation of those involved with the import process on Aruba. This research will be conducted based on a main research question and three sub-questions that will be answered by different means.

**Main research question:**
*"What factors influence the import costs of fruits and*

*vegetables on Aruba, and what actions can be undertaken to mitigate the volatility of prices and to ensure sustainable supply of these products to the benefit of consumers?".*

The main research question has been formulated to comprehend the prices we pay for fruits and vegetables in our daily lives and to explore the possibilities to ensure a more sustainable supply by promoting agriculture on Aruba. To be able to answer the main research question three sub questions have been formulated.

**Sub-question 1:**

*"Which factors stimulate or hinder the fluctuation of import prices on Aruba?"*

The first sub-question has been formulated to delve deeper into the factors that influence the import prices on Aruba. The purpose of this sub-question is to identify the factors and their presumed effects. The first sub-question will be answered by the means of the literature review in addition to the interview responses.

**Sub-question 2:**

*"What actions can be undertaken to help mitigate the volatility of the prices?"*

The second sub-question has been formulated to aim at possible solutions to help mitigate the volatility of the prices for the Aruban community and tourists visiting Aruba. This sub-question will be answered by the means of the literature review in addition to the interview responses.

**Sub-question 3:**

*"How can the promotion of agriculture on Aruba contribute to sustainable supply of fruits and vegetables?"*

The third sub-question has been formulated to elaborate on the possibilities of growing fruits and vegetables on Aruba. This last sub-question will be answered by the means of the

interview responses. The purpose of this sub-question is to get a better view on the farmer's impact on food security in Aruba.

**4.2 Research instrument**

The research method is qualitative research. Eleven individuals will be interviewed. The semi-structured interviews will consist of thirteen questions. Semi-structured interviews imply that the questions may change during the interview, which means that the interview process is flexible. The semi-structured interviews with the stakeholders will provide a better understanding of the prices of fruits and vegetables on Aruba as well as the opportunity to comprehend the process of importation and future possibilities on Aruba. The interviews will also provide the opportunity to discuss port efficiency on Aruba. Furthermore, the possibilities and challenges of growing fruits and vegetables will be discussed.

The framework illustrates the process of how the import prices of fruits and vegetables are influenced by various factors. The framework is based on the literature, mostly inspired by an article written by McCalla. The framework identifies two main types of factors (internal and external factors) that influence the import price. McCalla elaborates on "physical environment" and the "human-built environment". Both are considered internal factors that influence the import price. The physical environment refers to the land and water circumstances and the human-built environment refers to the human skills of the service providers.

Lastly, the interview responses will be compared to each other. This will contribute to a conclusion for the interview phase. The research conclusion will be drawn from the literature review and the interview responses, supplemented by desk research using data from the Central Bureau of Statistics regarding the import and prices of the fruits and vegetables.

This study complies with the ethical principles (Bryman, 2016, p.125) required in all research that involves human participants. Ethical principles are applied to assure the

protection of the participants in the research. The first principle, "informed consent," indicates that prospective research participants should be given as much information as might be needed to make an informed decision about whether or not they wish to participate in this study" (Bryman, 2016, p.129). As previously mentioned, all participants will be given a brief explanation of the research and the purpose of the research. The participants are guaranteed confidentiality. The findings of the research will be solely used for this research paper and all participants will remain anonymous. The second principle, "anonymity", is essential for the participants because by remaining anonymous they are more willing to participate. Anonymity complies with the ethical principles to avoid harm to participants (Bryman, 2016, p.127). The ethical code of conduct is complied with to assure the quality of this research.

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