NISULA RACASBAA

DEVELOPMENT VISION JULY, 2022





Gobièrnu di Kòrsou



Curação Tourist Board





Colophon

CLIENT: WOPC- WERKGROEP ONTWIKKELING PENINSULA CARACASBAAI

MANAGEMENT: Curaçao TOURIST BOARD

FINANCER: KORPODEKO

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ProGaya means that our work is based on the PROfessional approach to finding the balance between the needs of our society and Gaya (ancient Greek for Mother Earth).

For Peninsula Caracasbaai this balance is especially important because the natural and historical qualities encountered in the area are one of the main urban assets.

The impact of the necessary infrastructure, buildings and activities can be managed to achieve win-win opportunities as well as adding value for the socio-economic development of Curaçao, while enhancing the value of the environment.

PROGAYA URBAN DESIGN ARCHITECTURE CONSULTANCY







Abstract

The island of Curaçao offers a unique natural setting. Surrounded by crystalline water and enriched with coral reefs, mangroves, and terrestrial biodiversity. One of these unique natural settings is the Peninsula of Caracasbaai, a peninsula island blooming with nature, beaches, and historical buildings. Located between urban and touristic areas such as Jan Thiel and Santa Barbara, the future development of the Peninsula requires a strategy that creates a synergy between our society's demands and that of the environment.

Throughout the current urban analysis, the values were emphasized along with the bottlenecks encountered leading to future risks or opportunities. Primarily, the zoning plan in the Island Development Plan (EOP) demonstrates that for the Peninsula Caracasbaai the designation of land for development activities is related to tourism and the conservation of the natural area. Hence, this research aims to analyze these designations and how an urban development vision can be formulated for Peninsula. One of the main economic pillars of Curaçao is the Tourism Master Plan outlines that Curaçao is trailing its regional rivals in the Caribbean tourism market. This indicates a level of structural barriers within tourism that must be addressed if it is to provide desirable trading returns. Some of these barriers include branding, regulatory bottlenecks along with urban development. These barriers to the tourism segment are also barriers for other businesses and further socio-economic development on the island.

To predict the future the research uses scenario planning, it became evident that scenario 2: diversifying tourism, and scenario 3: adapting tourism, both create winwin situations between economic, social, and environmental aspects. This results in spatial planning with a gradual decrease of the building density from the north to the south and from the west to the east in the touristic area. Furthermore, the experience of an eco-friendly built environment will gradually increase coming from the north into the Peninsula area. By merging these two scenarios the urbanistic vision for Peninsula becomes more attainable. These scenarios are related to existing examples in the Caribbean region, such as St. Barths which focuses on quality tourism instead of only the quantity of mass tourism, and Costa Rica which is a pioneer in eco-tourism.

To reach these balanced scenarios and realize the urban vision, requirements need to be set in place. These requirements serve an important purpose in aligning various stakeholder interests. The development strategy is made up of the following elements: control 'development & densification' and stimulate 'sustainability & circularity. Hence, the urban development vision for Peninsula consists of striking a balance between economic growth from tourism, local's interests, and environmental conservation. This is possible by offering a unique location bursting with diverse activities and connecting back with nature; a place for all to enjoy ranging from attracting quality and sustainable tourism groups to creating an inclusive community with locals.

Introduction

Image 1.2 View of Peninsula from Caracasbaai with natural and historical values (source unknown)



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Introduction

The Peninsula Caracasbaai is characterized by both a unique natural environment and historical monuments. The history of Curaçao is still visible today in the monuments of Fort Beekenburg and the Quarantine building. From more recent history remnants of the occupation of the area by SHELL can be found, such as the mooring facilities still present for large ships.

There has been a desire to develop the area for years. Various plans and ideas developed have mapped out the potential of the area for the government. Unfortunately, these plans have not been implemented. The government aims to achieve a good balance between natural values and tourist development opportunities.

In the Island Development Plan, the EOP, the western part of the area, is designated for Tourist Development. The eastern part is intended as a Conservation Area with the aim of preserving natural and landscape values. To achieve a coherent development, a clearly defined development vision is needed.

It was also indicated that the area lends itself perfectly to tourist and recreational functions while preserving the unique and authentic character of the area. That character is seen as very valuable. This can make a significant contribution to the socio-economic development of Curaçao. The development vision will be both a source of inspiration and a testing framework for the projects to be developed.

The development vision has been set up by the Peninsula Caracasbaai Development Working Group (WOPC), in collaboration with various government agencies, under the chairmanship of the Curaçao Tourist Board, CTB. The working group shared knowledge and information that is necessary to achieve the desired coherence in the development. Additional information has been obtained from other agencies that have conducted specific research in the area, such as Carmabi.









Values of Peninsula

The concept of quality is seen as a container concept that describes the quality, and the values of an area. Throughout time it has become evident which values are stronger and which have fewer strong points for the urban development of the area. Since 2000 years ago, the Roman master Vitruvius distinguished three types of values that are still used to describe spatial quality: the use-value, the experiential value, and the future value. It is recommended that the historical value and the natural value also be added to this list given their growing importance these past few years. In addition to this quality description, other descriptions have been made that come into play with this vision. This then concerns:

- energy supply and transformation
- climate resilience and adaptation
- health and safety
- mobility
- circular economy
- area history and identity
- greenery, biodiversity, and landscape

The enumeration does not pretend to be complete, but from the perspective of 'planet' and 'people', this enumeration achieves a high degree of coverage and allows the urban planning and vision development to be used as a benchmark by linking the strategy to a global framework for sustainability such as the United Nations SDGs (Sustainable Development Goals).

The Qualities

Together, these values indicate which valuable characteristics (socioeconomic assets) the area has, and they also provide the framework with which well-considered decisions can be made about the desired adjustments to the area, so that an appropriate socio-economic added value can be created.

Historical value

The storytelling and education of The authentic and unique past moments defined the urban landscape both on land and water development of the island. enriched with biodiversity that offers a home to diverse animals.

Functional value

The use value, also called functional value. Is the physical situation and the regulations that apply to the area.

Future value

The sustainability, the climate resilience, the adaptability of the area regarding both climate change and other changes (design, construction, and use) in the area. Environmental quality and qualities for health.

The current area offers limited economic value due to a lack of development. Yet, a formal economic value is industrial docking. Also, some informal economic values are tours and activities offered in the area like rock climbing and kayaking.

Natural value

Experiential value

The aesthetic aspect receives a lot of attention. Sounds (or silence), smells and materials also have a major impact on the experience.

Current Economic value





2.1 Introduction Urban Analysis

2.1.1 Macro:

Urban Development Curaçao

The urban development of cities and countries can stimulate social inclusion and better livelihoods by creating jobs and increasing economic growth while protecting local and regional ecosystems. The urban development of Curaçao has played an essential role in creating distinct locational qualities, offering various natural, historical, and cultural values forming together the identity of the island.

Throughout time the rural areas and coastline of Curaçao have seen a significant increase in developments, which influences the social, environmental, and economic aspects. Yet, these developments lead to various tradeoffs between short-term socio-economic benefits at the cost of nature and the long-term resilience of the island. It is essential to understand and analyze Caracasbaais's past and current urban development to envision and improve future developments.

The report aims to provide an overall urban vision and strategy that seeks to strike a balance between tourism and nature by minimizing tradeoffs. Especially, in a globalized world presenting challenges such as the COVID-19 pandemic and climate change. This leads to rethinking the long-term spatial opportunities that lay in the Caribbean, with regards to being the fifth richest hotspot for biodiversity on earth (1).

The island of Curaçao, enriched with coral reefs, mangroves, and terrestrial biodiversity offers a unique natural setting (1). One of these unique natural settings is the Peninsula in Caracasbaai, a peninsula island blooming with nature, beaches, and historical buildings. Located between urban and touristic areas such as Jan Thiel and Santa Barbara, the future development of the peninsula requires developing a strategy that creates a synergy between our society's demands and that of the environment. Therefore, the report further researches the peninsula through an in-depth urban analysis of the area as well as investigating various possible scenarios based on current market trends.

The Ministry of Health Environment and Nature. (2014). National Report of Curaçao.

Horne, B. (2021, March 7). Caribbean Economic Recovery – Impossible without Nature Conservation.

Image 4: Map of Curaçao location of Peninsula on the coastline

Urban Development & Densification

Past

The strategic location of Caracasbaai and the Peninsula has played an important role throughout history. There are archaeological sites that date back towards the first primitive settlements from the Caquetio native Indians. It wasn't until colonial times (1703) that the first official urban settlement was built on the peninsula, Fort Beekenburg. In 1805, the Fort played a significant role as a military defense when the English invasion took place (3). Today, this essential monumental building is still visually in its original state. It wasn't until 1874 that another historical landmark was built, The Quarantine House. Designated as a quarantine station for people with infectious diseases. In 1925, SHELL's interest in Curaçao's geopolitical position meant Peninsula would serve a new purpose as a strategically positioned fuel station. This fuel station consisted of 48 tanks and a bunker park which was closed off to the public. It wasn't until the 1980s after SHELL's departure that the property returned to the government (3).





Figure 2-6 Urban evolution & densifcation throughout time source own illustration based on national archive Curaçao & google earth



Present

According to the EOP 1995, the area of Caracasbaai has been designated as a tourist area and a conservation area (see the relevant map). The government aims to make the area more attractive to the local population as well as stimulate tourism developments and improve infrastructure. The potential of the Caracasbaai area and Peninsula has inspired many, presenting various ideas and scenarios of what could become of this unique urban area. In 2006, after 80 years of being closed off to the public, the government reopened the Peninsula Caracasbaai to the people. Since the reopening, the area has rapidly, but in a completely unstructured manner, developed into a recreational area for locals and tourists, offering outdoor activities both on land and at sea.

The close proximity of Peninsula to growing touristic areas such as Jan Thiel and Santa Barbara has increased its value given its potential to serve as a connecting point for both tourists and locals. In recent years, several plans have been presented for the tourism development of the area, including the construction of a cruise terminal with a village. Now after the pandemic, the need for short-term economic growth and job creation has placed more urgency on developing the area for tourism. Despite this added pressure, the government has taken steps to stimulate sustainable development by providing developers with a research-based framework that pushes for a shared goal. The framework aims to realize the urbanistic vision for the area by requiring developers to understand the past, analyze the present and think about the future.



Peninsula Caracasbaai Analysis

Goal

This section of the research aims to do an in-depth analysis of Peninsula by looking at which values can be currently found in the area. The values are those things that allow a place to immensely impact the environment along with the human experience (5). Hence, urban development focuses on the importance of diverse values to enhance the human experience. The objective of this section is to analyze the evolution of Peninsula through a holistic lens, showcasing the spatial environment and socio-economic context and the dependencies that shape them. This holistic lens looks at the three main dimensions that shape any urban development: environment, economic and social aspects.

Challenge

The Peninsula offers a unique natural setting surrounded by urban and tourist areas. However, the increased and rapid demand for tourism poses a challenge to conserving the natural setting of the area. One of Curaçao's largest economic contributors is tourism and thus expanding the tourism sector, is an obvious opportunity. In recent years an increase in cruise and airborne tourism has led to various urban developments, such as the expansion of the international airport for the largest carriers and new mega-piers. These developments, though necessary, were sometimes developed for economic benefits and often tend to tradeoff the natural habitat of the coastline. Hereby casting a shade on the natural value of these areas. Nevertheless, this increase in airborne tourists has also brought niche groups that seek a more local experience. As a result, the urban landscape has increased by a rise in boutique hotels and vacation homes or Airbnb rentals throughout the island, mostly along the southern coast (6).

The pandemic has presented unprecedented challenges to the tourism sector. UNWTO calls for financial and political support for recovery measures aimed at tourism, and to include support for the sector in the wider recovery plans and actions. Tourism has several limitations such as highly seasonal demand and a high vulnerability to external economic shocks such as the current COVID pandemic (7). The challenge that Peninsula faces is to find a balance between the negatives and positives of tourism and find a way to continue to develop the area sustainably while stimulating economic growth. As the pandemic wades off and travel starts to pick up again, the opportunity to improve and redirect presents a promising outlook toward a balanced development.

- 5 Adams, D. and Tiesdell. S. (2012), Shaping Places: Urban Planning, Design and Development.
- 6 UNOPS. (2019, May 8). Transforming Urban Curaçao Community & Expert Visioning For Localizing The New Urban Agenda
- World Tourism Organization (2020), UNWTO Briefing Note
 Tourism and COVID-19,

Curaçao is complemented by attractive natural areas, with restored and preserved unique natural and cultural heritage. The rural area consists of a functional network of sustainable urban and rural settlements, combined with ecotourism, is the key to economic resilience.'- (UNOPS, 2019)

Strength

- Historical & Cultural Value
- Natural scenery & beaches
- Outdoor Activities & Sports
- Development value

Weakness

- Industrial Docking (Clashes with tourist function)
- Illegal Settlements
- Polluted soil
- Low-quality infrastructure & accessibility

Opportunities

- Proximity to Touristic Area & Necessities
- National Park: Conserved Natural Area
- Watertaxi: Connectivity Transport
- Sustainable Development

Threats

- Climate Change: Flooding & Drought
- Unsustainable Development
- Increased Volume of Visitors
- Conflicting Interests

2.4 - SWOT Analysis

This section used a SWOT (Strength, Weakness, Opportunities, Threats) analysis to explore and assess the suitability of the Peninsula. Overall, SWOT can be divided into two parts: the first part is SW (Strengths and Weaknesses), mainly used to analyze the internal conditions; the second part is OT (Opportunities and Threats), mainly used to analyze the external conditions. This method allows us to identify advantageous factors that are worth promoting and avoid the disadvantageous ones. Identifying an area's potential and advantages helps to maximize the strengths and opportunities of the project. While identifying its threats and weaknesses minimizes optimism bias. Mapping out these attributes allows for a more complete analysis and thus more accurate decision-making.

Peninsula's main strengths are its natural and historical value. The abundant and untouched ecosystem provides a unique place for outdoor activities. These activities are vital in attracting locals and tourists to the area. Fortunately, this increase in activities has not affected the natural value of the area as studies conducted by Carmabi have shown that nature continues to develop in Peninsula. Nonetheless, the EOP (zoning plan) tries to depict a boundary between tourism areas and nature conservation areas. However, due to its uninhabited character, there are no walls or fences in the area, making the borders of this zoning plan hard to detect. To protect the current natural values, a lot of attention will have to be given to the way the border zone is designed.

The area's main weakness is its industrial past which has jeopardized the eco-system of the area and limited its potential by prohibiting access to the area. This lack of public accessibility has contributed to informal settlements being built in the area.

The main opportunity lies with its natural resources. The area's proximity to the sea means tapping into sustainable energy sources like wind and sea, which is highly feasible. Creating a National Park for Banda Ariba that runs on sustainable energy is an opportunity to balance nature and tourism. Furthermore, the location's accessibility by sea allows for a water taxi route that connects the touristic areas along the southern coastal line such as the inner city, through a more sustainable method of transport that will mitigate future traffic jams on Caracasbaaiweg and offers tourists a breathtaking experience.

Not surprisingly, climate change poses the largest threat. The threat is especially urgent for coastal developments which are sensitive to the rise of sea-level leading to flooding and destruction of the built environment.

Strength

• Historical & Cultural Value

1. Fort Beekenburg

- 2. Quarantine Building
- 3. Colonial Freedom Battle (In 1805 under the direction of Pedro Luis Brion)
- Natural Scenery & Value
 - 1. High Landscape Value (including vegetation on the Kabrietenberg)
 - 2. Rare Plant Species
 - 3. Beaches & Vegetation (Coastal vegetation ; Strumpfia maritima)
 - 4. Mangroves
 - 5. Birds (Breeding & Resting places; Prikichi, White tailed hawk, Barn owl)
 - 6. Snails & Insects
 - 7. Coral reef
- Outdoor Activities & Sports
 - 1. Windsurfing
 - 2. Rock climbing
 - 3. Hiking & Biking
 - 4. Snorkeling & Diving
 - 5. Yoga
- Development Value
- 1. Relatively undeveloped and unencumbered providing more freedom for new and modern concept
- 2. Proper zoning in the EOP which facilitates the development





Figure 7 Map of current strengths found in the area images illustrating activities & landscape



Industrial Docking

(Clashes with tourist function) 1. Offshore Oil Platforms 2. Barges

- Illegal Settlements 1. Piers 2. Hut/ Beach Club
- Polluted Soil 1. Shell Tanks 2. Waste & Plastic
- 1. Damaged Roads 2. Lack of Walking & Biking Routes 3. Increase Traffic Caracasbaaiweg



Figure 8 Map of current weaknesses found in the area images illustrating problems & unattractive aspects



Low-Quality Infrastructure & Accessibility

Opportunities

- Proximity to Touristic Area & Necessities 1. Hotels & Resorts: Sandals, Papagayo, Chogogo, Livingstone, Boca gentil, Morena resort and Bed & Bike 2. Supermarket & Shopping 3. Peninsula provides exceptional opportunities to create a self-contained image and brand
- National Park: Conserved Natural Area 1. Awareness Flora & Fauna 2. Activities in Nature
- Watertaxi: Connectivity Transport 1. Peninsula-Santa Barbara 2. Peninsula- Janthiel 3. Janthiel- Mambo 4. Mambo-Willemstad
 - 5. Willemstad-Piscadera
- Sustainable Development





Figure 9A Map of future urban development opportunities in area images illustrating innovative and sustainable approaches



- Climate Change: Flooding & Drought
- Unsustainable Development: 1. High density of buildings

 - 3. Invasive projects & Informal Settlements
- Increased Volume of Visitors • 2. Noise disturbance for animals such as birds
 - 3. Increase traffic and CO2 emissions
- Conflicting Interest 1. Stakeholder Private vs Public 2. Target groups Mass Tourism vs Sustainable 3. Locals vs Tourist



Threats

1. Flooding: Increase rise of sea-level & extreme Hurricanes 2. Drought: Increase temperature leads to drought and heat

2. Increased Waste, Energy & Water demand

1. Physical impact leading to degradation of natural area



2.2 – Market Analysis

The pandemic has brought about a challenging few years for the island, both economically and socially. For Curaçao, the two main economic pillars, the oil refinery and tourism have been significantly impacted leading to unemployment and a negative effect on the socio-economic status of the island. Yet, by the end of 2021, the island is well on its way to a speedy recovery in the tourism industry. The Curaçao Tourist Board (8) is reporting 265,000 stayover visitor arrivals for the year 2021. With these arrivals, the year 2021 achieved 57% of the pre-pandemic arrivals of the 2019 year-round arrivals (8). The tourism sector is one of the few industries in which the Caribbean has a competitive advantage, especially now in a pandemic people seek to visit places less densified and populated and escape into nature and beaches. It is time to turn the pandemic into an opportunity to redirect the current toward sustainable tourism. This tourism focuses on tourist-oriented developments that simultaneously stimulate the conservation of existing resources. Like other forms of tourism, it also seeks to stimulate local employment by establishing linkages with traditional sectors such as tours, arts & crafts, commerce, and nightlife (9).

The current tourism market in Curacao can be categorized into the three main international markets; Europe, North America, and South America. Considering the data acquired in 2019 by CTB the European market is the largest at around 53% and also has the longest stayover of around 10 nights (9). To emphasize the growing interest of tourists for the sixth consecutive month, arrivals from the Netherlands in 2021 are surpassing arrivals in the same months in 2019. Information gathered from the Immigration Cards shows that European visitors stayed 12.5 nights on average in December 2021, while the average night spent in December 2019 was 10 nights. Of these European visitors, 56% stayed in resort hotels in December (9). This showcases that the other 44% look for different types of stays, such as vacation homes or Airbnb rentals. The home-sharing community such as Airbnb is a growing contributor to Curaçao's local tourism industry, as well as an important asset to the island's wealth (10). With over 1,900, the rental platform is playing an increasingly significant role there. Airbnb is aiming to make traveling to Curacao more affordable and accessible and is connecting global travelers to local communities where they can have authentic experiences (10).

Based on overall tourism growth trends and continued worldwide interest, it is safe to infer that the ecotourism industry is also experiencing growth. The industry's main allures are the economic benefits that are well distributed throughout the local economy, as well as the associated environmental and social benefits. This makes the ecotourism industry an attractive sector for Caribbean countries. The eco-tourism market belongs to a larger group of Sustainable tourism, which is predicted to significantly increase over the decades. It is estimated that global spending on ecotourism will increase at a higher rate than the average industry-wide growth. The ecotourism market size was valued at \$181.1 billion in 2019 and is expected to reach \$333.8 billion by 2027, registering a Compound Annual growth rate (CAGR) of 14.3% from 2021 to 2027 (12).

Airbnb. (2019, 28 juni). Airbnb and Curaçao sign agreement. Airbnb Newsroom. 10



Mass Tourism

Figure 11 Conceptual model of Tourism market based on (Eriksson, 2003)

⁸ Curaçao Tourist Board. (2019, November 28). Curaçao: Building on the power of the past Tourism Master Plan 2015–2020.

Curação Tourist Board. (2019) Curaçãos Tourists' profile & economic impact 9 Insights Report 2019

2.3 – Curaçao Tourism Industry

The necessity to recover from the challenges brought by the pandemic on the tourism sector of Curaçao should consider how and to whom Curaçao may best provide a memorable experience. Enhancing the ability of tourists to freely encounter locals and interact with the pristine nature and scenery encountered on the Island, is an important instrument to achieve this.

As showcased in the CTBs report, there are various land and water activities which tourists enjoy throughout their stay. For land activities, tourists mostly visited Christoffel Park (24%), Hato Caves (16%), Shete Boka park (15%), the Ostrich Farm (13%), and the Aloe Farm (11%) as part of their land activities (9). On the other hand, of the related water-related activities the beach is the most visited activity with (53%), followed by snorkeling (48%), sea aquarium (17%), sailing (16%), boating (12%), scuba diving (11%) and watersports such as kite surfing & windsurfing (5%). These statistics show touristic interest in nature-based activities. Unfortunately, a lack of promotion is hiding the true economic value of these activities. More adversely, it is impeding tourists from having a more enjoyable stay. Another reason behind this untapped potential is the lack of outdoor activities such as National Parks (8).

There are several reasons for the rise of interest in sustainable tourism. According to Booking.com tourists report(11):

- Being impressed by natural sights during their travels (60%);
- Noticing a visible impact of tourism at the destinations they have visited (54%).
- Seeing the positive effect that sustainable tourism can have on locals (47%). •
- Seeing the unsustainable effects of tourism in their home country (42%). •
- Feeling guilty about the impact their vacation has had on the environment (32%).

The European tourists of Germany, France, and the Netherlands have the biggest share of outbound trips with nature as the primary motive (13). Also, a growing interest in the North American market, around one-third 29% of tourists plan their holiday around nature-related activities and sightseeing (13). The specific activities that were enjoyed the most by tourists in the order of desired activities are: guided wildlife tours, viewing decks, rock climbing, bird watching biking, exercise trails, art exhibits, and meditation stations. The International Ecotourism Society describes the typical 'eco-tourist as having 'more' of everything, being more aware as well as willing to stay longer and spend more on activities. The average tourist visiting Curaçao is 43 years old, 37% of whom enjoy an income of over US\$50,000 (9). Since 2018 an average of 38% of tourists visiting Curaçao are between the ages 25-44, also known as Generation Y or millennial. This is aligned with the age demographics of most eco-tourists, showcasing the potential to further expand on this target group (12). These global economic and sustainable trends demonstrate an opportunity arises to target a more diversified group, which is willing to pay more in long-term stay along with enjoying local and nature-based activities (12). Helping the local economy as well as contributing to conserving and maintaining the natural environment.

- 11 Sustainable Travel Report. (2021, 3 juni). Booking.
- Vig, H., & Deshmukh, R. (2021, January). Ecotourism Market Size 12 Share & Demand | Research Report 2027
- 13 Drumm, A., Moore, A., Singer, A., Alex C. Walker Foundation, UNDP (2005). Ecotourism Development: introduction to ecotourism planning
- 14 CBI Netherlands Ministry of Foreign Affairs. (2020, January 8).

Socio-Cultural Tourism

Ecotourism

Adventure

Tourism

Sustainable Tourism

Scenario Planning

Scenario planning emerges as a practical application as it is not focused on accurately predicting the future, but instead on producing a number of alternatives that are credible yet uncertain (15). Thus, due to the unstable nature of the COVID-19 pandemic, scenario planning arises as the best match for the theoretical development of plausible futures for Peninsula Caracasbaai. Furthermore, from these possible scenarios, strategies will be later developed in order to raise awareness and better prepare stakeholders for an unclear future. In other words, the aim of scenario planning is to create a framework for discussion from which multiple strategies can be developed instead of forecasting a single unreliable future (16).

Given the unstable nature of urban development and the challenge of balance of tourism and local interests, scenario planning stands out as the most suitable research approach. This scenario planning will identify drivers & trends.

- Keough, S. M., & Shanahan, K. J. (2008). Scenario Planning: Toward a More Complete Model for Practice 15
- 16 Schoemaker, P. (2016). Scenario Planning



Figure 11 Scenario planning matrix based on economic and sustainable trends inspired by (Keough et al., 2008) source own graph

Drivers & Trends

The drivers and trends highlighted in this scenario planning are derived from the market analysis conducted in the previous section. The main trends identified belong to the economic and sustainable sectors. These drivers and trends are further categorized into urban development and tourism (17).

1) Urbanization drivers: high economic development in cities; growing middle class; lower transportation costs; commuting & travel facilitation.

2)Tourism drivers: increasing numbers of online accommodations; growing cruise industry; tourists looking for authentic experiences; disproportionated consumption of natural resources; absence of managerial strategies; unregulated markets, concern for ecosystems' wellbeing; rejection of tourism by local communities.

The first step, as seen in the figure on the bottom left, is allocating the trends in the steerability/impact matrix. They are placed according to their current relevance and future relevance to the studied area. As a result the following five trends, as can be seen below, have been selected. These trends have the highest impact and lowest steerability in the development of the Peninsula Caracasbaai.

- Tourism Industry Reform: Strategies for Enhanced Economic Impact 17 Caribbean Development Bank. (2017, 25 May)
- 18 Kiper, T. (2013). Role of Ecotourism in Sustainable Development. Advances in Landscape



Figure 12 Global trends with low predicatbility and high impact on demand of tourism

industry and urban development source own graph

Scenario Matrix

Based on the global trends Mass tourism and Sustainable tourism in this section four future scenarios are going to be determined. By creating a matrix with these two trends as variables, four scenarios are determined see figure below. Two are extreme scenarios: scenarios 1: Maximizing tourism and 2: Conserving nature. While the other two scenarios are a combination of both trends and aim to find a middle ground, scenario 2: diversifying tourism & scenario 3: adapting tourism. All four scenarios will be then matched with the most relevant issues and future opportunities identified by stakeholders during the interviews, and consequently, four possible strategies will be developed that will give shape to a final strategy recommendation.

To assess the four scenarios and the impact they have on economic, social, and environmental aspects requires a cost-benefit analysis. This widely used technique can examine whether the overall benefits of some project, program, or policy exceed its costs (19). Hence, the cost in this sense is not specific monetary aspects but rather describes the actions required to achieve the chosen scenario and what is at stake if implemented. Whereas benefit, in this case, represents the positive impact the scenario can have socially, environmentally, or economically.

19 Turečková, K., & Nevima, J. (2020). The Cost-Benefit Analysis for the Concept of a Smart City: How to Measure the Efficiency of Smart Solutions?

20 Hashemite University. (2008). The International Conference on Environmental Performance of Tourist Accommodation Sector in Euro-Med Countries (CEPTA)



Cost-Benefit Analysis

Cost-Benefit Analysis (CBA) quantifies an investments' impacts on society and the environment. These impacts are classified as negative and positive. Negative effects can be both economic and social. Economically negative effects reflect a decrease in monetary value and socially negative effects reflect a degrading in a society's wellbeing. While the economic effects of tourism occur on a macro level, such as foreign trade, current account deficit, tourism income, and supply capacity, the social effects of tourism occur on a micro level, producing more indirect benefits in social welfare (20).

Spectrum & Zones

To better understand the four different scenarios, it is important to look at the two areas as mentioned in the Island Development Plan (EOP), aimed at tourism and conservation. To offer a gradual transition between these two areas it is recommended to further divide them into five zones to target different groups and offer diverse activities according to their value and landscape. The zones consist of two touristic zones, two transition zones that stimulate local entrepreneurship, and one conservation zone that protects the area's nature. Within each zone, a spectrum exists to showcase the different functions and programs that cater to the zone's target group. In this case, the two ends of the spectrum are mass tourism and natural value and the over-arching target group is the local community. All scenarios should improve the living and working conditions of the local community. For example, accessibility to public transport, recreational parks, sports centers, and creative hubs. Hence, a transition zone acts as a gradual shift from functions and also as central gathering points that are publicly accessible. It is advised that none of the zones be completely closed off by a hard barrier such as a fence or wall. It is advised to use landscaping and alternative methods of security to prevent unwanted use of the areas. Security personnel and tools like cameras allow for an open area while still providing safety. Moreover, considering the existing diverse landscape and natural heights there are already natural barriers that can be used to divide these zones based on the target group and their programming.



Figure 13 Scenario Matrix four outcomes based on drivers & trends in tourism industry Source own graph

²Spectrum & Zones



Figure 14. Spectrum gradual transition in functions and programs targeted to the two extreme target groups mass tourism & sustainable tourism



SCENARIO 1: Maximizing Tourism **SCENARIO 2: Diversifying Tourism** **SCENARIO 3:** Adapting Tourism

Sustainable Tourism

- Long term stay
- Low Densification
- Low Energy & Water use= Low CO2 Footprint



SCENARIO 4: Conserving Nature

Scenarios & Characteristics

Parameters	Scenario 1	Scenario 2	Scenario 3	Scena
Tourism Type	Mass Tourism: Cruise Tourism Event Tourism Hotel Tourism All-inclusive	Socio-Cultural Tourism Combining different types of tourism – Yachts Boutique Hotels Vacation Villas Eco Resorts	Sustainable Tourism: Ecotourism Camping & Cabins Adventure	No Tou rather Nation enhand area
Target Group	Tourist - Short-term stay -European, North & South American - Quantity	Tourist & Local -Medium-term stay -European, North & South American - Quantity & Quality	Tourist & Local -Long-term stay - European, North & South American - Quality	Tourist - No im cai - Na
Densification GSI Ground space index	60-70%	40-50%	20-30%	0-10%
Related SDGS	People: 1	People: 1,2,3,4,5,6	People: 1,2,3,4,5,6	People 3,4,5,6
	Prosperity: 8 & 9	Prosperity: 8,9,10	Prosperity: 7,8,10	Prospe 7, 10
	Planet:	Planet: 11,12,14,	Planet: 11,12,13,14,15	Planet: 11,12,:
	Peace: 16	Peace: 16	Peace: 16	Peace:
	Partnership: 17	Partnership: 17	Partnership: 17	Partne
Related Plans	Mass Tourism – Cruise Ship Plan Royal Caribbean			Conser Park Pro Mo

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t & Local o-Stay: only permanent stay mping ature Activities

erity:

13,14,15

: 16

ership: 17

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SCENARIO 1: Maximizing Tourism











BUFFER ZONE







CO2-emissions of means of transport



Source: Inrate (2013), based on data from European Environment Age Highlights, 2013 Edition.



Zoning Functions

- Nature: Conservation Area
- Commercial: Restaurants, Bars, cafes, shops
- Vacation Housing: Airbnb Long term stay
- Beach Club/ Sports/ Market
- Hotel & Resort

SCENARIO 1: Maximizing Tourism



Win-Lose

Tradeoff between Economic vs Social & Environmental







	Parameters	Characteristics	%	Quantification	Cost	Benefit
	Functionality	T1 Tourism: Hotel & Cruise	20%	129,131.00 m2 Hotel: 300-600 rooms (Santa Barbara, Marriott)	 Infrastructure Roads -Piers -Parking -Building 	 + Accessibility + Accommodation + Revenue
		B1 Buffer: Beach/HORECA	2%	Cruise: 3000-6000 Passengers 15,015.00 m2	6Clean up 7Renovation	 + Beach club + Restaurants + Entertainment + Nightlife
		T2 Tourism: Villas Vacation homes	17%	158,372.00 m2 50-100 villas	8Road 9Building	8. + Revenue9. + Consumption
omic		B2 Buffer: Commercial restaurants/ workshops	14%	186,346.00 m2	10Building 11Operation	10. + Entertainment11. + Food & Beverages12. + Activities
cone		C1: Conservation: National park nature	47%	432,503.00 m2	12Conserving nature 13Walkways 14Water & Waste Management	13. + Nature activities14. + Entrance Fees15. + Souvenirs
	Target Group	Short-term stay		1-5 days North American	15Only Hotel and nearby area	16. + Revenue
	Employment	Direct Construction- based Service-based:		1.5 employee per room	16Temporary employment17Low salary18External dependency	17. + Employment18. + Local capacity19. + Economic growth
		Indirect: Restaurants & Entertainment		1.5 x 000 - 900	19Unstable market 20COVID- impact	20. + Local employment 21. + Diversity
	Management	Based on Macroeconomics		External Investment External Currency	21Gentrification 22Rise in Market price 23Benefits external investors	 22. + Investors 23. + Financial feasibility 24. + International recognition 25. Ullich season demond
	Relevant SDGs	Prosperity: 8 & 9				23. Thigh season demand



30





Source: Inrate (2013), based on data from European Environment Age Highlights, 2013 Edition.

Economic Cost-Benefit Analysis

CO₂-emissions of means of transport

	Parameters	Characteristics	Quantification	Cost	Benefit
	Quality of life	Locals	Locals in nearby area: Caracaasbaai & Janthiel (CBS)	 -Noise disturbance -Increase of traffic -Densification -Less public space 	 + Entertainment + Housing
Social		Tourist	(СТВ)	 Overcrowded Lack of interaction with locals Increase in traffic 	 3. + Sea, sand, sun 4. + Proximity to nature 5. + Proximity to touristic activities
	Health & Wellbeing			 Less space to workout Less space to relax Less local activities 	6. + Social activities7. + Entertainment
	Cultural	Historic Buildings	Fort Beekenburg Quarantine Building	11Losing identity12Losing view lines due to new construction nearby13Lack of interaction & awareness	8. + Used for new purposes 9. + More visitors



0



Cost Benef Cultural Health & Wellbeing Quality of life

	Parameters	Characteristics	%	Quantification	Cost	Benefit
	Density	Built Height	60-70%	T1: 129,131.00 m2 6-12 Floors 158,372.00 m2 50-100 villas	 -Material Resources -Unsustainable building materials -Energy & Transportation -Deep foundations -Parking spaces 	 + Local Construction material + Stimulate building industry
tal		Nature	100%	432,503.00 m2	 6Hard division between nature & tourism 7Maintain nature 8Invasive species 9Waste 10Noise disturbance for animals 	 3. + National Park 4. + Conserved area 5. + Nature activities
Environmen		Flora & Fauna		Research is needed by CARMABI to identify and quantify the natural value of the area	11Diminish of flora & fauna 12Coral reefs destructed by cruise ship	
	Energy	Consumption Efficiency	Per capita CO2 emissions in metric tons 2020	Average person: 4.47	13High co2 emissions per average person 14Cruise ship emissions	
	Water	Consumption Infrastructure			15High water demand due toMass tourism16Grey water sewage system17Rising sea levels	
	Waste	Consumption Management		2,700 cruise passengers can produce more than a ton of garbage per day	18High waste demand	



CO₂-emissions of means of transport

Cost





Source: Inrate (2013), based on data from European Environment Agency Highlights, 2013 Edition.

SCENARIO 2: Diversifying Tourism

R and S A	COV COV	TOURIST
Parameters	Scenario 2	AREA
Tourism Type	Socio-Cultural Tourism Combining different types of tourism – Yachts Boutique Hotels Vacation Villas Eco Resorts	
Target Group	Tourist & Local -Medium-term stay -European, North & South American - Quantity & Quality	TRANSITION ZONE
Densification GSI Ground space index	40-50%	TOURIST TRAN
Related SDGS	People: 1,2,3,4,5,6	AREA
	Prosperity: 8,9,10	
	Planet: 11,12,14,	
	Peace: 16	
	Partnership: 17	N
Related Plans		





ISITION DNE

> BUFFER ZONE







Zoning Functions

Nature: Conservation Area
 Recreation: Park /Hiking /Sports /Market
 Vacation Housing: Airbnb Long term stay
 Beach Club/ Restaurants/ Café
 Yacht Marina & Resort

Win - Win









Parameters	Characteristics	%	Quantification	Cost	Benefit
Functionality	T1 Tourism: Yacht Marina & Boutique hotel Resort	Mari na	129,131.00 m2 Yacht haven: 50-100 yachts Boutique hotels x2: 100- 300 rooms (kura hulanda, pietermaai) Resort 50-200 (Boase, boca gentil)	 Infrastructure Roads -Piers -Parking -Building 	 + Accessibility + Accommodation + Revenue
	B1 Buffer: Beach/ Market	2%	15,015.00 m2	6 Clean up 7 Renovation	 + Beach club + Restaurants + Entertainment + Nightlife
	T2 Tourism: Villas Vacation homes	17%	158,372.00 m2 Vacation homes: 50-100 (Coral estate)	8Road 9Building	8. + Revenue9. + Consumption
	B2 Buffer: Park/Hiking sports	14%	186,346.00 m2	10 Building 11 Operation	10. + Entertainment11. + Food & Beverages12. + Activities
	C1: Conservation: National park nature	47%	432,503.00 m2	 12Conserving nature 13Walkways 14Water & Waste 	 + Nature activities + Entrance Fees + Souvenirs
Target Group	Short-term stay		1-5 days North American	15Only Hotel and nearby area	16. + Revenue
Employment	Direct Construction- based Service-based:		1.8 employees per room 1.8 x 400 =720	16Temporary employment 17Low salary 18External dependency	17. + Employment18. + Local capacity19. + Economic growth
	Indirect: Restaurants & Entertainment			19Unstable market	20. + Local employment 21. + Diversity
Management	Based on Macroeconomics		External Investment External Currency	20Gentrification	22. + Investors23. + Financial feasibility24. + International recognition



Economic Cost-Benefit Analysis



SCENARIO 2: Diversifying Tourism

	Parameters	Characteristics	Quantification	Cost	Benefit
		Locals	Locals in nearby area: Caracaasbaai & Janthiel (CBS)	 -Noise disturbance -Increase in traffic -Less public space 	 + Entertainment + Housing + Yacht harbour
_	Quality of life				
Socia		Tourist		 4Luxury services 5Invest in safety 	 4. + Sea, sand, sun 5. + Proximity to nature 6. + Proximity to touristic activities 7. Yacht harbor
	Health & Wellbeing			6Less area for walking with dogs	 8. + Social activities 9. + Entertainment
	Cultural	Historic Buildings	Fort Beekenburg Quarantine Building	 -Losing identity -Losing view lines due to mega yachts and harbor 	10. + Used for new purposes11. + More visitors





Parameters	Characteristics	%	Quantification	Cost	Benefit
	Built Height	40-50 %	T1: 129,131.00 m2	 -Material Resources -Unsustainable building materials -Energy & Transportation 	 + Local Construction material + Stimulate building industry
Density			2-6 floors 158,372.00 m2	4Harbour	3. + Sustainable development
	Nature	100%	432,503.00 m2	 -Maintain nature -Noise disturbance for animals 	 4. + National Park 5. + Conserved area 6. + Nature activities
	Flora & Fauna			7Coral reefs destructed by yachts	 7. + No anchoring needed 8. + use current pier as structure
Energy	Consumption Efficiency	Per capita CO2 emissio ns in metric tons 2020	Average person: 4.47	8Co2 emissions 9Luxury demands on energy (AC)	 9. + Sustainable energy resources 10. + No grid needed for yachts
Water	Consumption Infrastructure			10Grey water sewage system 11Rising sea levels	11. + Reuse water from rain harvesting
Waste	Consumption Management		2,700 passengers can produce more than a ton of garbage per day	12High waste consumption	12. + Less use of plastic (more glass & porcelain – eat in not takeaway)







Density ■Energy ■Water ■Waste

Scenario 3 Parameters Sustainable Tourism: Tourism Type Ecotourism **Camping & Cabins** SCENARIO 3: Adapting Tourism Target Group Densification GSI Ground space index **Related SDGS**

Tourist & Local -Long-term stay - European, North & South American - Quality 20-30% People: 1,2,3,4,5,6

Prosperity: 7,8,10

Adventure

Planet: 11,12,13,14,15

Peace: 16

Partnership: 17

Related Plans












Zoning Functions

Nature: Conservation Area
Recreation: Park /Hiking /Farming
Eco Resorts & Lodges
Beach Club/ Restaurants/ Café
Vacation Villas & Apt



Win - Win







Parameters	Characteristics	%	Quantification	Cost	Benefit
Functionality	T1 Tourism: Vacation Villas & Apartments	20%	129,131.00 m2 Vacation villas & Apartments: 100-200	 Infrastructure No car roads Electric Cars Building 	 + Accommodation 2. + Revenue
	B1 Buffer: Beach/Sports Restaurants	2%	15,015.00 m2	 5 Clean up 6 Renovation 	 + Sports, rent courts +Tours
	T2 Tourism: Eco Resort & Lodges	17%	158,372.00 m2 50-100 units	 -Road -Building resort 	 5. + Revenue 6. + Less maintenance cost 7. +Less unsustainable building materials
	B2 Buffer: Recreation: Park/ Hiking	14%	186,346.00 m2	 -Building greenhouse 10Operation 	 8. + Activities 9. + Nature viewpoints 10. + Stimulate biking/ walking
	C1: Conservation: National park nature	47%	432,503.00 m2	 11Conserving nature 12Walkways 13Water & Waste Management 	 + Nature activities + Entrance Fees + Souvenirs
Target Group	Long-term stay		Locals & Tourist	14High demand low supply of nature-based accommodations	 +Longer stay +More local activities
Employment	Direct Construction- based Experience-based:		1.5 employee per room	15New type of employment16Lack of knowledge17Marketing of sustainable tourism	16. + Employment 17. + Local capacity
	Indirect: Nature tour and sport activities		1.0 × 000 - 900	18Trekking & biking maps & trails 19Wayfinding	18. + Local employment19. + Awareness20. + COVID: nature-based
Management	Based on Microeconomics		internal Investment External Currency	20Long term return on investment21Less service- based employment	 21. + Experience-based 22. + More local entrepreneurship 23. + International recognition



Economic Cost-Benefit Analysis



FunctionalityEmploymentManagement

Cost

SCENARIO 3: Adapting Tourism

	Parameters	Characteristics	%	Quantification	Cost	Benefit
	Quality of life	Locals		Locals in nearby area: Caracaasbaai & Janthiel (CBS)	 -Less public space -Investment in nature 	 + Nature activities + Outdoor sports + Proximity to National Park +Education & Workshope
le		Tourist			 New visitors & tourist Increase in traffic 	 5. + Proximity to nature 6. + Proximity to touristic activities 7. + Tours & outdoor activities
Socia	Health & Wellbeing	Locals			 -Bike rentals -Bike lanes 	 8. + Sport activities 9. + Sustainable transport: 10. +Bikes, walking 11. + New employment opportunities
	Cultural	Historic Buildings		Fort Beekenburg Quarantine Building	 Preserving Identity Creating museum & display 	12. + Used for new purposes13. + Awareness14. +Museum-archeological





	Parameters	Characteristics	%	Quantification	Cost	Benefit
	Density	Built Height	20-30%	T1: 129,131.00 m2 Eco resort 2-4 floors T2: 158,372.00 m2 Camping	 -Material Resources -Building -New method of building 	 + Local Construction material + Sustainable Building +Less material needed
la		Nature	100%	432,503.00 m2	 -Maintain nature -Noise disturbance for animals -Increase of visitors 	 4. + Soft division National Park 5. + Nature activities 6. + Awareness
nmen		Flora & Fauna		CBS/ Carmabi	7Security	 7. + Animal sanctuaries 8. +Plant nursery 9. +stimulating bird nesting
ENVIRO	Energy	Consumption Efficiency	Per capita CO ₂ emissio ns in metric tons 2020	Average person: 4.47	8Off-grid 9Solar panels	 10. + Low co2 consumption 11. + Less light pollution 12. + Sustainable energy resources 13. + Lower consumption
	Water	Consumption Infrastructure			10Greywater sewage system 11Rising seal levels 12Water management	14. + Reuse rainwaterharvesting system15. +Less consumption
	Waste	Consumption Management			13Waste demand 14 Recycle center	16. + Reduce, Reuse & Recycle 17. + Compost for farming





SCENARIO 4: Conserving Nature

Parameters	Scenario 4	TOURIST
Tourism Type	No Tourism lodging rather creating a National Park that enhances natural area	AREA
Target Group	 Tourist & Local No-Stay: only impermanent stay camping Nature Activities 	TRANSITION ZONE
Densificatio n GSI Ground space index	0-10%	TRAI
Related SDGS	People: 3,4,5,6 Prosperity: 7, 10	AREA
	Planet. 11,12,13,14,15 Peace: 16	
	Partnership: 17	N
Related Plans	Conserving-National Park Pro Monumento	









AREA

BUFFER ZONE







Zoning Functions

- Nature: Conservation Area
- Recreation: Park /Hiking /Farming
- Camping & Cabins
- Beach Club/ Restaurants/ Café
- Eco Resort & Farming

SCENARIO 4: Conserving Nature





Win-Lose

Trade Off between Environmental & Social vs Economic





	Parameters	Characteristics	%	Quantification	Cost	Benefit
	Functionality	T1 Tourism: Eco Resort & Farming	20%	129,131.00 m2 Eco Resort: 25-50 Lodges	 Infrastructure No car roads Electric Cars Building 	 + Accommodation + Revenue
Economic		B1 Buffer: Beach/Sports Restaurants	2%	15,015.00 m2	5 Clean up 6 Renovation	3. + Sports, rent courts4. +Tours
		T2 Tourism: Camping & Cabins	17%	158,372.00 m2 50 camping sites	 Road Building camping decks 	5. + Revenue
		B2 Buffer: Recreation: Park/ Hiking/ Farming	14%	186,346.00 m2	9 Building greenhouse 10 Operation	 6. + Activities 7. + Production: 8. vegetables & fruits
		C1: Conservation: National park nature	47%	432,503.00 m2	11. Conserving nature 12. Walkways 13. Water & Waste Management	9. + Nature activities10. + Entrance Fees11. + Souvenirs
	Target Group	Long-term stay		Locals & Tourist	 High demand low supply of nature-based accommodations Less revenue 	12. +Longer stay13. +More localactivities
	Employment	Direct Construction- based Experience-based:		1.5 employee per room	16. New type of employment17. Lack of knowledge18. Marketing of sustainable tourism	14. + Employment 15. + Local capacity
		Indirect: Nature tour and sport activities		1.5 x 600 = 900	19. Trekking & biking maps & trails 20. Wayfinding	16. + Local employment17. + Awareness18. + COVID: nature-based
	Management	Based on Microeconomics		internal Investment External Currency	21 Long-term return oninvestment22 Less employment	19. + Investors20. + Financial feasibility21. + International







Economic Cost-Benefit Analysis

SCENARIO 4: Conserving Nature

	Parameters	Characteristics	%	Quantification	Cost	Benefit
	Quality of life	Locals		Locals in nearby area: Caracaasbaai & Janthiel (CBS)	 Less housing development 	 + Nature activities + Outdoor sports + Proximity to National Park +Education & Workshops
cial		Tourist			 -New visitors & tourist -Increase in traffic 	 5. + Proximity to nature 6. + Proximity to touristic activities 7. + Tours & outdoor activities
So	Health & Wellbeing	Locals			 4Bike rentals 5Bike lanes 	 8. + Sport activities 9. + Sustainable transport: 10. +Bikes, walking
	Cultural	Historic Buildings		Fort Beekenburg Quarantine Building	6Preserving Identity	 11. + Used for new purposes 12. + Awareness 13. +Museum- archeological





	Parameters	Characteristics	%	Quantification	Cost	Benefit
Environmental	Density	Built Height	0-10%	T1: 129,131.00 m2 Eco resort 1 floor T2: 158,372.00 m2 Camping	 -Material Resources -Building -New method of building 	 + Local Construction material + Sustainable Building +Lightweight construction +Less material needed
		Nature	100%	432,503.00 m2	4Maintain nature 5Noise disturbance for animals	 + Soft division National Park + Conserved area + Nature activities + Awareness
		Flora & Fauna		CBS/ Carmabi	6Security	 9. + Animal sanctuaries 10. + Plant nursery 11. + Stimulating bird nesting
	Energy	Consumption Efficiency	Per capita CO ₂ emissio ns in metric tons 2020	Average person: 4.47	 7Off-grid 8Solar panels 9Night no energy 	 12. + Low co2 consumption 13. + Less light pollution 14. + Sustainable energy resources 15. + Lower consumption
	Water	Consumption Infrastructure			10Greywater sewage system 11Rising sea levels 12Water management farming	16. + Reuse rainwaterharvesting system17. +Less consumption
	Waste	Consumption Management		2,700 passengers can produce more than a ton of garbage per day	13High waste demand	18. + Reduce, Reuse &Recycle19. + Compost for farming



■Density ■Energy ■Water ■Waste



Tourism **PROPOSED SCENARIO:** Diversifying & Adapting



Figure 15 Scenario Matrix advised outcome aligned with vision and mission and values source own graph

Win-Win

The scenarios 2 & 3 offer a win-win situation, which aims to help conserve the natural environment while enhancing the socio-economic status of the area and of the island by introducing a more diversified and sustainable tourism market.

Striving towards a balance between social, economic & environment

The cost-benefit analysis allows a comparative approach for evaluating the scenarios based on the impact it has on the environmental, social, and economic development of Peninsula, Curaçao (13). This allows the assessment of public infrastructure developments in the public sector, considering the overall impact of the development for the island on all aspects whether economic, social, or environmental. By the aggregation of both forms of impacts, negative and positive, and by comparison of diverse future developments and scenarios, it becomes evident which scenarios have trade-offs and which aim towards a win-win situation. Therefore, these scenarios fit with the value, mission, and vision of balancing the demands of society while enhancing the natural environment and stimulating the local economy.

The two scenarios that could deliver a balanced result are:

- Scenario 2: Diversifying tourism (yacht, boutique hotels, Airbnb & apartments)
- Scenario 3: Adapting tourism to sustainable trends such as eco-tourism (eco-resort, villas, Glamping).



artments) m (eco-resort, villas, Glamping).

Sustainable Tourism

- Long term stay
- Low Densification
- Low Energy & Water use= Low CO2 Footprint



Urban Vision & Strategy

For an urban vision development strategy of Peninsula Caracasbaai, the relevant questions 'what do we want?' and 'how do we get there?' must be answered.

The development strategy is made up of the following elements: control 'development & densification' and stimulate 'sustainability & circularity'. In addition to this, the cooperation model provides an answer to 'with whom?' and 'in what proportion?' a collaboration is organized.

Vision & Strategy development

The last few years were challenging times for Curaçao due to the economic regression caused by the Covid-19 pandemic and the high dependency on unstable industries such as tourism and the oil industry. Yet, the year 2022 demonstrated that the island economy is quickly recovering and as a result, an increase in the tourism industry and real estate development can be witnessed. Hence, the rising interest creates an opportunity to target new tourism trends such as long-term stays being driven by remote work.

Another trend that has grown drastically post-pandemic is log-off tourism, which is a subcategory of eco-tourism. As people were confined to their small living spaces and enjoyed more free time, people became more aware of the benefits of nature to their well-being. Furthermore, today's society is more aware of their environmental impact.

These trends align with the proposed urban development vision for Peninsula that aims to diversify and adapt tourism to satisfy new demands. Throughout the scenario planning, it became evident that scenario 2: diversifying tourism, and scenario 3: adapting tourism, both create win-win situations between economic, social, and environmental aspects. 'This results in spatial planning with a gradual decrease of the building density from the north to the south and from the west to the east in the touristic area. Furthermore, the experience of an eco-friendly build environment will gradually increase coming from the north into the Peninsula area. By merging these two scenarios the urbanistic vision for Peninsula becomes more attainable. These scenarios will be further studied by looking at existing examples, such as St. Barths which focuses on quality tourism instead of mass tourism, and Costa Rica which is a pioneer in eco-tourism.

Vision

A responsibly developed Peninsula Caracasbaai in harmony with scenario 2, diversifying tourism towards a luxury tourism segment, and scenario 3, adapting tourism to a sustainable tourism segment. This helps to create more opportunities through which the target group of tourism is expanded to meet new demands and stimulate the local economy. This vision allows for a diversity of activities and accommodations to be offered in a central location for locals and visitors to experience. While new life is added to this unique location the existing natural value and historical value will be further enhanced by providing the first National Park in 'banda ariba' in the peninsula's conservation area.

Peninsula Caracasbaai offers you the perfect balance!



Example: Costa Rica Scenario 3 Adapting to Sustainable Tourism

Scenario 2: Diversifying Tourism

High-guality Lifestyle & Yachting (St. Barths)

This scenario focus on diversifying tourism through various niche segments, ranging from yachting, and boutique hotels to apartments. Hereby, displaying a shift away from mass tourism. Yachting tourism is an emerging industry in coastal regions, particularly in the Caribbean region. Exerting a positive economic impact as a specific type of leisure tourism, providing a substantial contribution to the local economy (21). The term yachting originates from the Dutch word jacht (hunt) and was originally defined as a light fast sailing vessel used by the Dutch navy to combat pirates and other transgressors. It was not until the rise of the steamboat that, sailing yachts became recreational (21).

This yachting has branched out from being only luxury tourism to also being leisure tourism. As the yacht industry matured the opportunity to become more profitable by including other target groups became more noticeable. The industry realized that by offering more commercial options they could also profit from the middle class. To a certain extent, yacht tourists are similar to long-stay tourists as they generate more economic growth than regular tourists (21).

The marina-and yachting industry was identified as one of the high-potential development sectors within the most recent Curaçao Port Policy Plan (2012). The 2012 Port Policy Plan was used as the foundation on which the decision was made by the Government of Curaçao to prepare a ten-year yacht tourism development strategic plan. The further development and improvement of the yachting sector in Curaçao, should enable economic growth, employment opportunities, and enhance the diversification of the tourism industry in Curaçao (22). Hence, while the dayboat segment is strong in Curaçao, the yacht cruiser & charter market remains very weak, due to market influences and lack of large marinas. Also, a notable limitation and cause for inconvenience is the geographical disconnect between areas for yachting activity and the location of Customs and Immigration offices. Currently, yachtsmen are required to travel into Willemstad to complete the clearance procedures which is currently the only option in all of Curaçao, whereas the main area for marine leisure activity is Spanish Water; more than 5 miles due east of the Willemstad (21). While Spanish Waters is mentioned as a strategic location in the ten-year yacht plan for Curaçao, it doesn't consider the Peninsula specifically as a potential marina, despite its prime location as a peninsula surrounded by the Spanish Water and Caribbean Sea and its proximity to nature and the tourism area of Jan Thiel. In the ten-year yachting plan, it is mentioned that in Spanish Waters around 40 to 50 CPA M&Y moorings could be introduced by creating designated anchorage areas to assist in the management and control of yachting activity within the area (22). One of the designated anchorage areas is Kabrietenbaai as illustrated in Figure (16 & 17). It is advised to further analyze the yachting impact and rather designate areas depending on the motorized or non-motorized yachts also according to their size. If aiming for megayachts, the Caracasbaai and current pier infrastructure provide high potential opportunities.

An example of targeting yachting tourism is St. Barths which focuses on higher-quality tourists rather than quantity achieving even better results due to having higher purchasing power (22). This is a large and growing target group for the Caribbean region. Curaçao, however, has an advantage when compared to other Caribbean islands. Curaçao lies just outside the hurricane belt meaning tourists can enjoy longer and safer stays. Furthermore, the island's larger size means there are more places to explore and offer diverse entertainment from natural and cultural activities to nightlife.

The Sustainability of Yachting Tourism: A Case Study on Greece. (2016). 21 International Journal of Research in Tourism and Hospitality





Figure 16 & 17 Alignment in certain aspects with Ten year yachting plan Curaçao 2020 source Marina Projects

There are several types of yachts such as motor yachts, sailing yachts, and mega yachts and each has its pros and cons. Sailing yachts, for example, have a very low carbon footprint in comparison to cruises. Luxury cruises, however, have regular routes and service stops at ports that help grow the yachting industry sector on the island (2014). For Peninsula, however, it is important to further study the environmental impact these yachts can have in the area. It is important to consider a SPAW area, motorized and non-motorized regulations, and yacht marinas in the kabritenbaai or Caracasbaai (baya, tug boat).

The tourist establishments surrounding these yacht marinas present a great opportunity for traditional touristic sectors and eco-tourism to complement the yachting industry. Three major factors drive this unique opportunity.

1. Natural Drivers: The Caribbean's warm weather, sandy beaches, small islands, and marine parks are significant drivers of yachting tourism to the region. In addition, the generally calm waters year-round appeal to yachters looking to travel from island to island.

2. Infrastructure Drivers; Refers to the quality and capacity of the marinas. Taking into consideration the number of berths, the ability to house vessels of different sizes, and the sophistication of services offered.

3. Recreational Drivers; To attract yachting tourism it is essential to offer recreational activities ranging from restaurants to nightlife as well cultural events like the North Sea Jazz Festival. While also stimulating nautical sporting events such as Heineken regatta and fishing tournaments.

- Theng, S. (2014). L'île de Saint-Barthélemy (Petites Antilles) 23 une destination du tourisme de luxe. Études caribéennes
- Tourism Industry Reform: Strategies for Enhanced Economic Impact | 24 Caribbean Development Bank. (2017, 25 May).



Scenario 3: Adapting Tourism Sustainable Lifestyle & Eco tourism (Costa Rica)

Global interest in sustainability has unsurprisingly led to an increased interest in eco-tourism. The definition of ecotourism is widely perceived as creating and satisfying a hunger for nature. The Ecotourism Society gives the most widely accepted definition of ecotourism: "responsible travel to natural areas which conserves the environment and sustains the wellbeing of local people" (8). This type of tourism has gained popularity not only for its contribution to environmental and social factors but also for its ability to generate economic benefits that are well distributed throughout the local economy. This type of tourism is very attractive for Caribbean countries desperate to recover from the economic downfall that the pandemic has caused, as it includes different tourism sectors while also building for the future with sustainable strategies.

An exemplary case is Costa Rica, which has conserved various areas and natural habitats in such a way that they are more accessible to tourists than those of any other country in the region (25). Surveys by the Costa Rica Tourism Board show that over 2/3 of Costa Rican tourists visit a park or protected area offering bird and wildlife viewing. Making this among the top ecotourism attractions. Tourist arrivals in Costa Rica have increased from over 200,000 in 1976 to over two million in 2008 (25), demonstrating it remains the number one ecotourism destination in the world (25). These increased revenues have improved the standard of living, contributed to conservation efforts, provided environmental education, and benefited local crafts and artisans (25). Ecotourism can be categorized into the following sub-segments as follows:

Hard ecotourism: High interest in nature, with low densification and temporary settlements such as camping lodges. Some of the activities included are bird watching, nature photography, and botanical trips. Combined with the need for specialized guides and tours that educate the ecotourist on the natural value and flora and fauna found in the area. In this case, Peninsula offers attractive natural values such as mangroves, coral reefs, hills, and bird watching.

General or soft ecotourism: A growing segment of tourists who want to observe wildlife, a natural environment, or a culture closely, but casually. Hiking is the most common activity and may be combined with any of the activities in the hard ecotourism category, but is generally less intense and less educational. Also, these tourists enjoy other activities such as relaxing at the beach and entertainment activities. For Peninsula, this type of ecotourism is more implementable as it combines yachting tourism and traditional touristic sectors under the same facilities.





Figure 18 . Socio-economic impact Costa Rica eco tourism source Honey 2008

Adventure ecotourism: Involves moderate to high-risk activities like surfing, scuba diving, snorkeling, windsurfing, kayaking, ziplining, and rock climbing. Many of these activities are already being offered in the Peninsula area such as windsurfing, kayaking, snorkeling, and scuba diving.

Educational ecotourism: Describes the trips organized by educational institutions that involve lectures on topics related to the environment. This can become an educational attraction for students of Curaçao to learn about their environment and natural value through initiatives such as CARMABI.

It is important to stimulate ecotourism while also stimulating traditional sectors. The main challenge here is striking a balance between the damage caused by visitor traffic in areas of conservation and economic growth (26).

25 Honey, M. (2008). Ecotourism and Sustainable Development: Who Owns Paradise? 2nd ed. Washington, D.C.: Island Press.

26 Board, Costa Rica Tourism. 2008. Anuario Estadístico 2008. In Índice de cuadros. San José: ICT

Caribbean Development Bank. (2017, 25 May).



Global Estimate of Feasibility Land Development

Ground lease Land Total Cost Revenue Infrastructure (Erfpacht) Development **Estimated Cost** Ground (60%)- Issuable Yearly lease land (6.00 x 488,864) Total +/- 175.00 (175 x 0.6 488,864) +/-6.00-24.00 development ANG/m2 50,000,000 ANG/m2 3,000,000 ANG Land: 488,864 m2 ANG +/- 5 hectares 6,000,000 ANG Fee per developer 8-18 years (ROI) (Anterior agreement)

TRANSITION ZONE

TOURIST

AREA

TOURIST AREA TRANSITION ZONE



BUFFER ZONE

Control Development & Densification

By proposing a vision with the intent to invest approximately 50 million guilders in infrastructure, public spaces, and making plots available to developers, it is important to stay in control of developments to fit the overall vision for Peninsula Caracasbaai. Therefore, the land or ground exploitation cost (GREX), which includes infrastructure development should be carried out both by public and private entities. These land costs can be acquired through different methods of collaboration such as a land issue agreement. This agreement considers the desired period or phasing, the location requirements, and the building development densification. Another agreement is an agreement in the context of the Land Exploitation Law, if an urban development benefits or contributes to the building development in which it takes place the costs incurred in the development are allocated to both the landowner and market private party proportionally. This is done through the land exploitation department of VVRP (27). Besides the land cost being shared between public parties, the long-term land lease should be determined by the residual value of the building. Hereby creating a range of land lease agreements from 6.00 ANG to 24,00 ANG per m2 depending on the type and densification of the development. By considering the building's function, the number of levels, and location feasibility, a future value can be better determined. Lastly, an 8-18 year return on investment window is a period that will allow the urbanistic vision for Peninsula to be achieved.

Control + Fee per function **Development &** + Fee per level Densification + Fee per location Land Lease **Ownership situation** Land policy ppp Active/Jocilitat Shared

hand policy



inwhership

Stimulate Sustainability & Circularity

Sustainable development demands innovation in construction and natural resource usage. This innovation can be achieved through stakeholder collaboration. Sharing risks and resources allows stakeholders to take on innovative approaches. For the initial land development, a light public-private partnership can be applied, offering flexibility and stimulus for the private parties rather than just serving the purpose of regulating. These stimuli push developers to improve the development's social impact. While public land may serve as an immediate social stimulus, more stimuli are needed to create an urbanistically successful development such as the terms and conditions of the development (28). Additionally, creating a well-balanced development often leads to sustainability recognitions such as LEED or BREEAM building certification. The strategy we have chosen for the development of energy, water, and waste utilities is 'development apart together' or 'light PPP', see Figure. This is cooperation by agreement between the 'willing'; limited cooperation between the public and private parties (28).

27 Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, Bouwend Reiswijzer Gebiedsontwikkeling 2019; Nederland, NEPROM, & VNG. (2019). Een praktische routebeschrijving

Tiesdell, S., & Adams, D. (Reds.). (2011). Urban Design in the Real Estate 28 Development Process



apart topethe



Diversifying & Adapting Tourism **PROPOSED SCENARIO:**

		AREA
Parameters	Scenario 2	
Tourism Type	Socio-Cultural Tourism Combining different types of tourism – Yachts Boutique Hotels Vacation Villas Eco Resorts	T1: Tourism Area: Yacht Marine, Boutique Hotel, Apartments
Target Group	Tourist & Local -Medium-term stay -European, North & South American - Quantity & Quality	ISITION NE
Densification GSI Ground space index	40-50%	TOURIST ZONE
Related SDGS	People: 1,2,3,4,5,6	
	Prosperity: 8,9,10	B
	Planet: 11,12,14,	
	Peace: 16	
	Partnership: 17	
Related Plans		





BUFFER ZONE



A house of the second s		Category	Cost Responsibility	Risk	Requirements	
	Food & beverage: Restaurants Cafes Nightlife	Land Development	Public (Governmental entities) & Anterior agreement for developers	 Negative Media Reports Damage to the SPAW underwate during the construction of beach breakwaters Environmental impact from yach Increase traffic 	1.Drawing up a communicati with sufficient influence canes and2.Research on yacht impact3.Sustainable measures: Alto shared parking areas4.Apply mitigating measures	ion strategy (plan) and managing it apacity. on SPAW area ernative mobility, less car traffic s during construction
	Entertainment: Beach club Lounge area	Buildings	Private: Dependent on Developer plan	 Over densification Noise disturbance Pollution from Wastewater 	 Integral Plan of Approach Densification Index (Footp All leaseholders are resport wastewater. Hotel= certification program 	orint & Heights) nsible for the purification of their ms such as BREEAM, LEED etc.
		Utility	Public & Private CPA & Public (Governmental entities)	Energy provisionHigh maintenance cost	 Sustainable resource: Sola Connection to the grid - sm Provision of sewage system Yacht tourism =certification, Inspection & Certification, Tourism and the Seabin Pr 	r panels, no wind due to disturbance hart grid implementation m n programs such as Blue Card, CE Blue Flag, Gold Anchor, Odyssea Blue oject.
	Sport: Beach volleyball Kayak					
A Statement	windsurf	Tourism zone 1: Yacht Marine, Boutique Hotel, Apartments		Cost Tota Infrastructure Esti	al Revenue imated Cost Ground lease	Ground lease (Erfpacht) Yearly - (60 years)
		Land Development	Total Land: 129,131.00 m2	+/- 105.00 per ANG/m2 (105	5 x 129,131.00) +/- 12.00-14.00 ANG/	m2 (12 x 129,131.00)



Events: Heineken

Regatta Music festival

Tourism zone 1: Yac Apartments	ht Marine, Boutique Hotel,	Cost Infrastructure	Total Estimated Cost	Revenue Ground lease	Ground lease (Erfpacht) Yearly - (60 years)
Land Development	Total Land: 129,131.00 m2	+/- 105.00 per ANG/m2	(105 x 129,131.00) +/- 13,600,000.00 ANG	+/- 12.00-14.00 ANG/ m2	(12 x 129,131.00) +/- 1,600,000.00 ANG
Buildings	4-8 floor levels 40-50% GSI		To be determ	ined by developers	
Utility & Port Development	2 Mega Piers currently available				

Parameters	Scenario 2	AREA
Tourism Type	Socio-Cultural Tourism Combining different types of tourism – Yachts Boutique Hotels Vacation Villas Eco Resorts	B1: Transitio
Target Group	Tourist & Local -Medium-term stay -European, North & South American - Quantity & Quality	Area Beach, Sports, Mark & Restaurant
Densification GSI Ground space index	40-50%	Т
Related SDGS	People: 1,2,3,4,5,6	
	Prosperity: 8,9,10	
	Planet: 11,12,14,	
	Peace: 16	
	Partnership: 17	
Related Plans		











Sport: Beach volleyball Kayak windsurf

Buffer/Transition zone 1: Beach, Sports, Cost Total Revenue Market & Restaurants Infrastructure **Estimated Cost** Possibilities Total Land: +/- 105.00 per ANG/m2 (105 x 15,000.00) - Standplaats vergunning Land Development 15,000.00 m2 - Beheer Overeenkomst +/-1,575,000.00 ANG - Huur Overeenkomst - Gebruik Overeenkomst **Buildings** Fort Beekenburg To be determined by developers / operators Sport fields Market Area Utility & Beach Baya Beach To be determined by developers / operators Development Tugboat beach



Events: Heineken Regatta Music festival

1. The beach is a public investment that must be made in one go. The beach should be seen as recreation for local and surrounding projects that extend beyond the immediate vicinity.

Maintenance & Management of beach

1. Include diversity of functions & smaller rent & manage agreements. Stimulate local businesses Phasing and limitation of public investments. These should be in line with private investment

Waste management Raise awareness: Recycle, Reduce, Reuse

Parking permit Manage Agreement Rental agreement Use Agreement

Diversifying & Adapting Tourism **PROPOSED SCENARIO:**

NRWE	and the second	States and a state of the state	
	Parameters	Scenario 3	TOURIST
	Tourism Type	Sustainable Tourism: Ecotourism Camping & Cabins Adventure	
	Target Group	Tourist & Local -Long-term stay - European, North & South American - Quality	TRANSITION
	Densification GSI Ground space index	20-30%	T2: Tourism Area:
	Related SDGS	People: 1,2,3,4,5,6	Vacation villas
		Prosperity: 7,8,10	
		Planet: 11,12,13,14,15	
		Peace: 16	
		Partnership: 17	





	Category	Responsibility	Risk	Requirements	
Education Activities: Workshop Nature flora & fauna Art	Land Development	Public (Governmental entities) & Anterior agreement for developers	 Pollution, industrial oil pollution Increase traffic- overcapacity roads 	 Centralized particular Stimulating oth Apply mitigating 	
	Buildings	Private: Dependent on Developer plan	 Over densification Invasive construction Noise disturbance Pollution from Wastewater 	 Integral Plan of Include in a gro Densification In Sustainable ma Eco-resort tour LEED etc. 	
Water Activities: Sailing Kayaking	Utility	Public & Private	 Energy provision High maintenance cost New building method (little experience) 	 Sustainable en disturbance Connection to Provision of se All leaseholder wastewater. 	



Land Activities: Mangroves Walking & biking route Rock climbing Bird watching

View lines: Different viewpoints



Tourism zone 2: Eco Resort & Vacation villas		Cost Infrastructure	Total Estimated Cost	Revenue Ground lease	Ground lease (Erfpacht) Yearly - (60 years)
Land Development	Total Land: 158,372.00 m2	+/- 105.00 per ANG/m2	(105 x 158,372.00) +/- 16,630,000.00ANG	+/- 12.00-14.00 ANG/ m2	(12 x 158,372.00) +/- 2,000,000.00 ANG
Buildings	Quarantine House 1-2 floor levels 20-30% GSI	Renovation Anterior agreement			
Utility	Directors baai beach				

parking for eco-resort other means of transport: electric cars, bikes ating measures during construction
n of Approach ground lease subject to conditions on Index (Footprint & Heights) e materials: Circular materials tourism =certification programs such as BREEAM,
e energy resources: Solar panels, no wind due to

n to the grid - smart grid implementation of sewage system Iders are responsible for the purification of their

Diversifying & Adapting Tourism **PROPOSED SCENARIO:**

Contract of	CAUSE MULTINE AND DO			
	Parameters	Scenario 3	TOURIST	. .
	Tourism Type	Sustainable Tourism: Ecotourism Camping & Cabins Adventure	AREA	
	Target Group	Tourist & Local -Long-term stay - European, North & South American - Quality	TRANSITION ZONE	
	Densification GSI Ground space index	20-30%		JRIST
	Related SDGS	People: 1,2,3,4,5,6	A	REA B2: I Park, work
		Prosperity: 7,8,10		activ
		Planet: 11,12,13,14,15		
		Peace: 16		
		Partnership: 17		
	Related Plans			



ransition Area: , camping, shops nature ities BUFFER zone

SERVATION



Education Activities: Worksh Nature fauna Art

Category

Land Development



Activities: Workshop Nature flora & fauna Art		entities) & Anterior agreement for developers	 Limited capacity – buffer zone to National park Lack of control, overcrowded 	 Sustainable me accessibility Apply mitigating
	Buildings	Private: Dependent on Developer plan	 Informal settlements Invasive construction Noise disturbance for surrounding species 	 Stimulate local Include diversir agreements. S Restaurants & Nature-based a Built modular a
Water Activities: Sailing Kayaking	Utility	Public & Private CARMABI(Governmental entities)	 Energy provision Unstable returns New building method (little experience) 	 Sustainable en disturbance Connection to Provision of se Provide irrigati

Risk

• Pollution, industrial oil pollution

Responsibility

Public (Governmental





Land Activities: Mangroves Walking & biking route Rock climbing Bird watching

View lines:

Different viewpoints

Buffer/ Transition zone 2: Park, camping, workshops temporary functions & local entrepreneurship		Cost Infrastructure	Total Estimated Cost	Revenue Possibiliti
Land Development	Total Land: +/- 186,346.00 m2	+/- 105.00 per ANG/m2	(105 x 186,346.00) +/- 19,600,000.00 ANG	 Standpl Beheer Huur Ov Gebruik
Buildings	Park –playground Temporary functions Hiking/ Camping Workshops-yoga			
Utility & Beach Development	Directors Bay Beach			

1. Create walking routes & park 2. Sustainable measures: No car areas, biking lanes & electric cars

ng measures during construction

entrepreneurship ity of function & smaller rent & manage stimulate local businesses cafes in nature activities & tours (bike rental, hiking, workshops) and sustainable structures

nergy resources: Solar panels, no wind due to

the grid - smart grid implementation ewage system ion system for park garden and landscape

ies

Requirements

laats vergunning Overeenkomst vereenkomst Overeenkomst

Parking permit Manage Agreement Rental agreement Use Agreement











CONSERVATION AREA

C1: Conservation Area: National Park



Education Activities: Workshop Nature flora & fauna Art



Land Activities: Mangroves Walking & biking route Rock climbing Bird watching



View lines: Different viewpoints

Tauna				
Art	Category	Responsibility	Risk	Requirements
Water Activities: Sailing Kayaking	Land Development	Public (Governmental entities) & Anterior agreement for developers	 Pollution, industrial oil pollution Limited capacity – buffer zone to National park Lack of control, overcrowded 	 Create walking ro Sustainable meas accessibility Apply mitigating r
	Buildings	Private: Dependent on Developer plan	 Informal settlements Invasive construction Noise disturbance for surrounding species 	 Stimulate local er Include diversity of agreements. Stim Restaurants & ca Nature-based act Built modular and Application for co
Land Activities: Mangroves	Utility	Public & Private (Governmental entities)	 Energy provision Unstable returns New building method (little experience) 	 Sustainable energy disturbance Connection to the Provision of seward Provide irrigation

g routes & park neasures: No car areas, biking lanes & electric cars

ing measures during construction

al entrepreneurship sity of function & smaller rent & manage Stimulate local businesses & cafes in nature activities & tours (bike rental, hiking, workshops) and sustainable structures or construction and building permit

nergy resources: Solar panels, no wind due to

the grid - smart grid implementation ewage system tion system for park garden and landscape



Urban planning Strategy & requirements

The urban vision combines scenario 2: diversifying tourism, and scenario 3: adapting tourism while taking into consideration the existing value and requirements of the area. This section focuses on identifying the requirements of the area. This approach helps create building envelopes that ultimately allow for the creation of the master plan.

In the building envelopes, the basic requirements are specified by the building dimensions, building lines, design, and conditions. These building envelopes allow for the creation of an urban landscape as they bring commonality under various areas. For example, requirements related to utility expenses and public infrastructure. These requirements should be aligned to the Island Development Plan Curaçao 1995 (EOP, Eilandsontwikkeling plan) that maps out touristic areas (article 7) and conservation areas (article 9). Consequently, a development's vision and mission should align with the Island Development Plan. Hereby, demonstrating how requirements (building envelopes) serve an important purpose in reaching this alignment.

Article 7 (4.) Touristic area; Peninsula Caracasbaai (Peninsula)

A unique location, the Schieiland is surrounded by both the Caribbean Sea, the Caracas Bay Peninsula, and the inner bay of the Spanish Water. Thus, with a beneficial location, a part of the land is considered very suitable for future tourist development. Before proceeding with the tourist development of the area further investigation will be conducted into possible soil contamination. This soil investigation will partly determine to what extent development for tourist purposes is possible.

Remediation measures needed for the area for tourist development:

- Fort Beekenburg and the Quarantine building are historically important buildings and must be maintained. They are also very image-defining and touristic interesting.
- The Kabrietenberg and the eastern part of the peninsula are geological and natural science valuable. For example, at the seaside, there is an extensive
- mangrove forest. These parts will be designated as conservation areas.
- The western part of the peninsula and the isthmus are particularly suited for hotel development with apartments and villas with all the accompanying associated facilities, such as restaurants, shops, beaches, marinas, and recreational and sports facilities.
- For the parts that qualify for hotel or resort development, an average building density is advocated, whereby buildings are predominantly low-rise and occasionally medium-high-rise (1 to 4 levels including the roof)

Article 9(1) Purpose description of Conservation areas:

- 1. The areas which are not designated otherwise are intended for the preservation and restoration of the natural-scientific, historical, cultural, and landscape values in these areas.
- 2. Description of how the objectives are pursued: Permitted buildings and other facilities development for the benefit of;
 - 1. the preservation and restoration of the values referred to in the objectives;
 - 2. traffic purposes;
 - 3. extensive daytime recreation in the open air, which the values mentioned under are not disproportionately disturbed.

Urban Strategy:

Aims to strike a balance between two competing issues control and flexibility. By establishing fundamental requirements for most important infrastructure, while allowing to create a template guideline to shape the buildings and their purposes to the overarching vision.



The aim is to strike a balance between local interests and touristic interests while enhancing the current values of the area, such as the Peninsula's natural value. The urbanistic vision for the area focuses on diversifying and adapting tourism to tourism that still stimulates traditional sectors (tours, arts & crafts, commerce, and nightlife) and also meets local and environmental interests. This can be attained by applying the Sustainable Development Goals (SDGs). Curaçao has started to consider UN Sustainable development goals in its National development plan 2015-2030 along with creating a Road map to achieve these. Currently, in the NDP the focus is on specific four SDGs; 4. Quality of Education, 8. Decent Work & Economic Growth, 7. Affordable & Clean Energy, and 14. Life Below Water. Yet, the implementation of these goals in an urban development context remains limited. Thus, it is advised to consider these goals along with other goals such as SDG 11: Sustainable Cities & Communities in the vision development of Peninsula considering the long-term impact and also allowing to benchmark at a global level and acquire potential funds.

The zoning plan in EOP demonstrates the designation of land for development activities related to tourism and the conservation of the natural area. Hence, this research aims to analyze these designations and how an urban development vision can be formulated for Peninsula. One of the main economic pillars of Curaçao is the Tourism Master Plan, which outlines that Curaçao is trailing its regional rivals in the Caribbean tourism market. This indicates a level of structural barriers within tourism that must be addressed if it is to provide the desirable trading returns. Some of these barriers include branding, regulatory bottlenecks along with urban development. These barriers to the tourism segment are also barriers for other businesses and further socio-economic development on the island. Therefore, the strategy aims to diversify tourism, as well as develop sustainably, by linking the requirements of urban development in Peninsula to certain SDGs (see table). The SDGs can be achieved in a project-based manner and stimulate future developers of the area to apply them and strive for global recognition through sustainable certifications such as BREEAM, LEED etc. These requirements and strategy will be further implemented in the master plan along with building envelopes allowing to guide the future developers into implementing the development vision.

Area/ Zone	Land Development Requirements	Building Development Requirements	Utility Development Requirements	Related SDGS
T1 Tourism: Yacht Marine, Boutique Hotel, Apartments	 Drawing up a communication strategy (plan) and managing it with sufficient influence capacity. Research on yacht impact on SPAW area Analysis traffic flow Sustainable measures: alternative mobility, water taxi, and shared parking areas Apply mitigating measures during construction Sustainable rainwater management MER for development Archeological study in special areas NAAM 	 Integral Plan of Approach Densification Index (Footprint & Heights) All leaseholders are responsible for the purification of their wastewater. Hotel= certification programs such as BREEAM, LEED etc. 	 Sustainable resource: Solar panels, no wind due to disturbance Connection to the grid - smart grid implementation Provision of sewage system Yacht tourism =certification programs such as Blue Card, CE Inspection & Certification, Blue Flag, Gold Anchor, Odysseus Blue Tourism, and the Seabin Project. 	11 REFERENCE CONSTRUCTION 11 REFERENCE CONSTRUC
B1 Buffer: Beach, Sports, Market & Restaurants 15,015.00 m2	 The beach is a public investment that must be made in one go. The beach should be seen as recreation for local and surrounding projects that extend beyond the immediate vicinity. Maintenance & Management of beach 	 Include diversity of functions & smaller rent & manage agreements. Stimulate local businesses Phasing and limitation of public investments. These should be in line with private investment 	 Waste management Raise awareness: Recycle, Reduce, Reuse 	12 ESPONSIBLE EXAMPLICATION AND PRODUCTION
T2 Tourism: Tourism Area: Eco Resort & Vacation villas 158,372.00 m2	 Centralized parking for eco-resort Stimulating other means of transport: electric cars, bikes, water taxi Apply mitigating measures during construction 	 Integral Plan of Approach Include in a ground lease subject to conditions Densification Index (Footprint & Heights) Sustainable materials: Circular materials Eco-resort tourism =certification programs such as BREEAM, LEED etc. 	 Sustainable energy resources: Solar panels, no wind due to disturbance Connection to the grid - smart grid implementation Provision of sewage system Water harvesting system- landscape maintenance All leaseholders are responsible for the purification of their wastewater. 	7 ATTORNAGE AND CLAN DIRECT CONTINUES OF AND CONTINUES OF
B2 Buffer: Park, camping, workshops temporary functions 186,346.00 m2	 Create walking routes & park Sustainable measures: No care areas, biking lanes & electric cars accessibility Apply mitigating measures during construction 	 Stimulate local entrepreneurship Include diversity of function & smaller rent & manage agreements. Stimulate local businesses Restaurants & cafes in nature Nature-based activities & tours (bike rental, hiking, workshops) Built modular and sustainable structures 	 Sustainable energy resources: Solar panels, no wind due to disturbance Connection to the grid - smart grid implementation Provision of sewage system Provide irrigation system for park garden and landscape 	3 GOOD HEALTH AND WELL-BEING
C1: Conservation: National park 432,503.00 m2	 Drawing up a communication strategy (plan) and managing it with sufficient influence capacity. For the construction of the parking lots, paths and roads, methods to affect the natural environment as little as possible Sustainable measures: must indicate the maximum number of visitors allowed per day and coordinate the number of parking spaces here. Use of the park with activities have an impact study carried out, which shows that these activities do not damage the purpose of the area to the indicated extent; 	 Integral Plan of Approach No permanent building settlement allowed A building permit must be applied for the construction of a temporary construction 	 Limited capacity of visitors to the area Maintenance of the national park Water harvesting systems Awareness: Reduce, reuse, recycle Awareness: flora & fauna 	14 BELOW WATER 15 BY LAND 15 CHIEFE 13 CLIMATE 13 ACTION

Conclusion & Advice

This study has been done to reach an urbanistic vision for Caracasbaai Peninsula. The SWOT analysis concludes that the area's strengths are its untouched nature, prime location, and abundant natural resources. With regards to threats to the area, the most urgent is climate change as this could affect the nature of the area as well as its coastline due to rising sea levels. While its main weaknesses are its limited infrastructure, industrial docking, and informal settlements. When it comes to opportunities the area has the potential to offer individuals a truly immersive nature experience. This is an experience that is craved by both locals and foreigners. The place offers the opportunity to further develop this new niche of tourism. Consequently, these tourists will bring economic growth to the island. Nevertheless, this economic growth should not outshine the area's natural value. A balanced urban development plan should consider the area's beautiful nature as well as its touristic potential.

The applied scenario planning is most suitable given the unstable nature of urban development and the challenge of balancing touristic and local interests. The scenario analysis considered 4 quadrants (see figure below), which were compared based on a cost-benefit analysis. The concluding result of this analysis is that the two scenarios that could deliver a balanced result are scenarios 2 and 3. Both these scenarios create win-win situations between economic, social, and environmental aspects. By merging these two scenarios the urbanistic vision for Peninsula becomes more attainable as well as more flexible to interest a broader target group and expand the job opportunities for locals.

Scenario 2 suggests diversifying tourism by catering to a niche segment that is increasing in the Caribbean region, yacht tourism. The natural bays, Kabrietenbaai and Caracasbaai which surround the peninsula offer opportunities to develop a yacht marina without minimal disturbance to the environment. Furthermore, yachting can substantially improve the economy as these tourists usually poses more purchasing power than airborne tourists and have longer stays compared to cruise tourists. Moreover, by also offering luxury accommodations such as vacation homes, villas, and boutique hotels the area can benefit of long- term stays and higher purchasing power. This scenario applies to the first zone of the peninsula, which also connects with the existing masterplan for the Caracasbaai isthmus (Landengte) providing areas for the general public and local community to enjoy such as a sports zone, local market, and music events. There will also be opportunities to host water events such as a regatta stimulating outdoor activities and attracting neighboring visitors. Lastly, the yacht marina can host other sectors such as outdoor activities, restaurants, bars, and nightclubs

According to scenario 3, tourism should adapt to the area. In this case, Peninsula Caracasbaai demands tourism respects the area's natural value. This means catering to tourists that find joy in outdoor activities and respect and appreciate nature conservation. The aim is to achieve a balance between tourism and environmental conservationism. This means looking at other forms of tourism such as eco-tourism. Ecotourism is a promising diversification option for several reasons. Firstly, it focuses on enhancing the human experience through activities that are environmentally friendly. Besides its contribution to the environment and society, it also could generate economic benefits that are well distributed throughout the local economy and can be reinvested in the operation and management of the National Park. This is particularly important to small economies like Curaçao where sectors are heavily intertwined and rely on tourism influx. Lastly, eco-tourism also promotes sustainable energy. The area has all the natural resources needed to operate on sustainable energy. Also, the year-round sunlight makes the Caribbean a great place for solar panels.

To reach these balanced scenarios and realize the urban vision, this report propose a set of requirements to align the various stakeholder interests. The development strategy is made up of the following elements: control 'development & densification' and stimulate 'sustainability & circularity'. In addition, the cooperation model provides an answer to 'with whom?' and 'in what proportion?' a collaboration is organized. These requirements are categorized into the land, building, and utility per zone of the masterplan vision for the Peninsula Caracasbaai . To stimulate sustainable development these requirements are also linked to various SDGs having a greater socio-economic and environmental impact on the island's urban development.

In conclusion, a balanced urban development plan for Peninsula Caracasbaai consists of striking a balance between economic growth from tourism, local interests, and environmental conservatism. This is possible by offering nature-related outdoor activities, using sustainable energy, and creating a globally recognized yacht marina. The proposed development vision for Peninsula is to create a unique location bursting with diverse activities and connecting back with nature, a place for all to enjoy ranging from attracting quality and sustainable tourism groups to creating an inclusive community with locals. To achieve this the land development cost is estimated to be around 50 million guilders equivalent to around 25 million dollars, which includes the infrastructure, land development, and public spaces. These costs are to be shared by both public and private stakeholders in which a land issue agreement is made. In addition, the ground lease will be based on the residual value which, next to the ground value, also considers other aspects such as the location, amount of levels (or: number of built floors), and future functions. This makes it a feasible development based on collaboration and a more specific ground lease contract allowing to have a return of investment ranging from 8 -18 years depending on the ground lease agreements. Besides the economic feasibility of the vision, the long-term impact on society and nature is positive and strives towards achieving sustainable urban development.

WHATS NEXT?

Based on the vision development and strategic approach for the Peninsula Caracasbaai a set of requirements have been formulated to align toward a shared vision between the multiple stakeholders involved. Hence, these requirements act as a foundation of the vision and require the further building of a master plan and building envelope to implement. Both the masterplan and building envelope help provide an identity to an urban landscape by bringing a degree of commonality between various areas. Furthermore, to achieve sustainable development the following steps should be taken into consideration:

1. Create a master plan and building envelopes based on the vision & strategic approach.

2. Define a specific strategy for implementation creating an action plan for evaluation or decision-making for future development proposals in the area.

3. Research the possibilities to apply a ground lease based on the residual value of land - depending on densification, location and functions together with incentives for development.

4. Define a Contract Model as it relates to (the use of) energy, water, waste and mobility based on the premise of Developing Apart Together (DAP).

5. Research the environmental impact of yachting development in consideration of the SPAW area at Caracasbaai and the environmental values at Kabrietenbaai.



References

- The Ministry of Health Environment and Nature. (2014). 1 National Report of Curaçao.
- 2 Horne, B. (2021, March 7). Caribbean Economic Recovery -Impossible without Nature Conservation.
- Curaçao Monuments. (2020, 16 november). 3 Beekenburg complex, Fort Beekenburg, Quarantainegebouw. https://Curaçaomonuments.org/sites/beekenburg-complex-Peninsulacaracasbaai/
- nationaalarchiefCuraçao, n.d 4
- Adams, D. and Tiesdell. S. (2012), 5 Shaping Places: Urban Planning, Design and Development.
- UNOPS. (2019, May 8). Transforming Urban Curaçao Community 6 & Expert Visioning For Localizing The New Urban Agenda
- 7 World Tourism Organization (2020), UNWTO Briefing Note - Tourism and COVID-19,
- 8 Curaçao Tourist Board. (2019, November 28). Curaçao: Building on the power of the past Tourism Master Plan 2015-2020.
- 9 Curaçao Tourist Board. (2019) Curaçaos Tourists' profile & economic impact | Insights Report 2019
- 10 Airbnb. (2019, 28 juni). Airbnb and Curaçao sign agreement. Airbnb Newsroom. https://news.airbnb.com/airbnb-and-Curaçao-signpartnership-agreement/
- 11 Sustainable Travel Report. (2021, 3 juni). Booking.
- 12 Vig, H., & Deshmukh, R. (2021, January). Ecotourism Market Size Share & Demand | Research Report 2027
- 13 Drumm, A., Moore, A., Singer, A., Alex C. Walker Foundation, UNDP (2005). Ecotourism Development: introduction to ecotourism planning
- 14 CBI Netherlands Ministry of Foreign Affairs. (2020, January 8).
- 15 Keough, S. M., & Shanahan, K. J. (2008). Scenario Planning: Toward a More Complete Model for Practice
- Schoemaker, P. (2016). Scenario Planning UK: Palgrave Macmillan. 16 doi:10.1057/9781137294678.0608
- 17 Tourism Industry Reform: Strategies for Enhanced Economic Impact Caribbean Development Bank. (2017, 25 May).

- 18 Kiper, T. (2013). Role of Ecotourism in Sustainable Development. Advances in Landscape https://doi.org/10.5772/55749
- 19 Turečková, K., & Nevima, J. (2020). The Cost-Benefit Analysis for the Concept of a Smart City: How to Measure the Efficiency of Smart Solutions?https://doi.org/10.3390/su12072663
- Hashemite University. (2008). The International Conference on 20 Environmental Performance of Tourist Accommodation Sector in Euro-Med Countries (CEPTA) https://eis.hu.edu.jo/deanshipfiles/ conf105441100.pdf
- The Sustainability of Yachting Tourism: A Case Study on Greece. 21 (2016). International Journal of Research in Tourism and Hospitality
- Ten-Year Yacht Tourism Development Strategy Plan (July, 2020) 22
- 23 Theng, S. (2014). L'île de Saint-Barthélemy (Petites Antilles) : une destination du tourisme de luxe. Études caribéennes
- Tourism Industry Reform: Strategies for Enhanced Economic Impact 24 Caribbean Development Bank. (2017, 25 May). https://www. caribank.org/publications-and-resources/resource-library/thematic-papers/tourism-industry-reform-strategies-enhanced-economic-impact
- Honey, M. (2008). Ecotourism and Sustainable Development: Who 25 Owns Paradise? 2nd ed. Washington, D.C.: Island Press.

Board, Costa Rica Tourism. 2008. Anuario Estadístico 2008. In 26 Índice de cuadros. San José: ICT

- Ministerie van Binnenlandse Zaken en Koninkrijksrelaties, Bouwend 27 Nederland, NEPROM, & VNG. (2019). Reiswijzer Gebiedsontwikkeling 2019; Een praktische routebeschrijvinghttps:// europadecentraal.nl/wp-content/uploads/2019/10/Reiswijzer-Gebiedsontwikkeling-2019.pdf
- Tiesdell, S., & Adams, D. (Reds.). (2011). Urban Design in the Real 28 Estate Development Process. https://doi.org/10.1002/9781444341188
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