WE WILLEMSTAD

Urban resilience in the Caribbean through collaboration & the adaptability of real estate:

The case of urban transformation in historical port city of Willemstad, Curaçao.

COLOPHON

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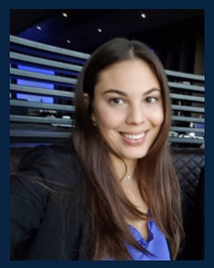

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ABSTRACT

The increase in economic, social and environmental challenges leads to rethinking the long-term spatial vulnerabilities that small island developing states (SIDS) encounter. In addition, the lack of resources and low capacity available accentuates the necessity of considering urban resilience. The research explores the possible relationship between adaptive reuse and collaborative strategies to stimulate the redevelopment of urban environments. In many cases, urban renewal is achieved through current market trends and outdated planning policies. Thus, either neglecting or underusing the existing urban fabric and old building stock. The research focuses on the field of complex urban redevelopment, investigating the adequate long-term strategies and policies to revitalize historical port-cities.

The research utilizes as case study the historical port city of Willemstad, Curacao located in the Dutch Caribbean. Emphasizing the importance of preserving the cultural-historical identity using adaptive reuse of existing buildings and monuments. By integrating heritage conservation through adaptive reuse has become increasingly crucial in historical-inner city urban redevelopment plans (Wilkinson, Remøy, & Langston, 2014). These heritage buildings offer the experience value of cultural heritage, which can prosper to create an identity or new brand image to the whole area surrounding (Wilkinson, et al., 2014). The implementation of adaptive reuse requires extensive criteria of financial, social and environmental aspects. This research outlines a policy instrument to address these challenges, presenting a co-creation process among stakeholders. Investigating the process of shifting from preserving the heritage buildings through legal protection towards preserving through development (Janssen, Luiten, Renes, & Rouwendal, 2014). Thus, stimulating to serve diverse functions contributes towards being resilient to future environmental and socio-economic challenges in the long-term.

Utilizing collaborative strategies between stakeholders as a driving vehicle towards redeveloping into a city that respects the past and represents the needs of todays and future generations. Historical port-cities such as Willemstad showcased the need to be developed sustainably through mitigating tradeoffs between economic, environmental and social aspects. In addition, it is vital to enhance the identity of the city by aligning stakeholder goals.

These findings were related to terminologies and specific SDGs to offer a policy instrument that manages urban resilience and stimulates it throughout diverse projects. It is essnetial that policy makers provide the basis for a comprehensive and action-oriented approach to innovation for SDGs. Providing stimulus for the multiple stakeholder involved by linking soecific indicators to positive incentives such as subsidies or tax reductions (Croese et al, 2020).

Keywords: urban resilience, adaptive reuse, heritage, identity, collaboration, SDG's, urban redevelopment

PREFACE

Having been raised in the Dutch Caribbean, I feel a sense of responsibility to apply the knowledge I have learned throughout my study to the island of Curacao. Starting from a rather architectural engineering background during my bachelor's study to a larger urban scale in my master track of Management of the Built environment at the Delft University of Technology. This master thesis report represents the results of a year-long research focused on the urban resilience of Willemstad, Curacao.

My personal interest in the field of real estate management and urban development management, are emphasized in my graduation project. Understanding the complexity of urban transformation and the added value that adaptive reuse of heritage real estate has. Besides my passion, the urge to help Curacao during these uncertain times has grown which led to focusing my thesis project on the urban resilience of the island itself. These uncertain times lead to opportunities to shift towards a more long-term approach for the sustainable urban development of the island as well as its socio-economic resilience.

I want to express my gratitude to my two supervisors, Hilde Remøy and Erwin Heurkens, for sharing their expertise with me and guiding me through my graduation process. I am grateful for their valuable assistance and feedback. I would also like to thank all the interviewees and participants for contributing to my research, your input and perspectives are highly valued. The willingness and interest in my topic from various participants was a driver to stay motivated and set higher goals. Also, I would like to thank my friends for their continuous support throughout this journey. My most profound appreciation goes to the ones close to me. I wouldn't be where I am today without my family, who always believed in me and encouraged me always to follow my dreams.

Gabriela,
Delft, June, 2021

IMAGE BY: GABRIELA JIMENEZ 2021

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GLOSSARY

This section presents a list of key definitions and abbreviations that will be used in the research, aiming to assist readers in understanding

Adaptive reuse

An established strategy to implement new life into obsolete buildings without unnecessary and premature destruction (Conejos, et al., 2011). Being a sustainable technique, implies changing the original use of an existing building while retaining its original structure and fabric to extend its useful life (Mansfield 2002).

Collaborative Strategies

The participatory approaches to mitigate opportunistic behavior and achieve a common goal. "A continuum between consensus-oriented processes in the pursuit of common interest and compromise-oriented negotiation processes aiming at the adjustment of particular interests (van den Hove, 2006).

Identity

Identity of architecture is often portrayed as an historically timeless entity. Applying building design, heritage preservation, architectural history and literature (Tran, 2010).

Urban Resilience

Urban resilience is understood as a response to adapt to change and challenges facing urban areas (Crowe, et al., 2016). This definition of urban resilience while broad is more inclusive, referring to the ability of an urban system embedded within a socio-ecological network to adapt to change across temporal and spatial scales (Meerow et al., 2016).

Sustainable development

"A development that meets the needs of present without compromising the ability of future generations to meets their needs." (Remøy, 2010)

SDG (Sustainable Development Goals)

SIDS (Small Island Developing States)

PPP (Public Private Partnership)

DAT (Developing Apart Together)

EXECUTIVE SUMMARY

Introduction

As the era of the unprecedented is ushered in faster than the built environment can prepare for its onset, the rise of urban resilience has become a relevant topic in both theory and practice. Specifically for vulnerable regions such as the Caribbean, consisting of many Small Island Developing States (SIDS). According to the United Nations, SIDS are recognized as a distinct group of developing countries dealing with various challenges from a diverse range of economic, environmental and social aspects (United Nations, 2012). Many SIDS are faced with similar challenges such as greater dependence on a few economic sectors, higher vulnerability to natural disasters, and limited capacity and resources (Green, 2015). These challenges have been strongly influenced by the current pandemic and the increasing natural hazards caused by climate change. Accentuating the rising need to contextualize urban challenges faced in the Caribbean to facilitate specific urban policy formulation and effective implementation given its human, technical and financial resource constraints (Mycoo, 2017).

Throughout time, Caribbean SIDS with port cities gained prominence due to their geographical position and growth in the trade of goods and slaves in the Colonial period (Green, 2015). Once serving an essential role in trans-Atlantic trading routes, various historical port-cities in the Caribbean region have lost their former use and original socio-economic value. Left with a rich historical and cultural heritage requires extra complexity for conserving and redeveloping in order to benefit current and future generations (Baarveld & Smit, 2011). Stimulating urban resilience in historical port cities allows the built environment to adapt not only to climate changes but to new demands of society. Influenced by how cities function, grow and respond to acute stresses or chronic shocks. Urban resilience is increasingly seen as essential to managing the risks and challenges.

Problem Statement

The implementation of urban resilience remains challenging due to the current knowledge gap in defining and implementing the terminology of resilience in a specific urban context such as cities (de Jong et al., 2015). Being a rather umbrella term, urban resilience ranges across various disciplines, from ecology, sociology to applied policy contexts (Crowe et al., 2016). This research aims to provide knowledge about managing urban resilience through the adaptability of real estate and collaborating towards an inclusive and feasible urban redevelopment. It will emphasize the problem statement at both macro-scales for the Caribbean region and in case-specific micro scale for the historic port city of Willemstad, Curacao. Historical port cities such as Willemstad require reconceptualization and collaboration from various actors by aligning spatial planning goals to tackle the complex challenges presently faced. Hence, this shift requires aligning the goals of both public and private actors to mitigate tradeoffs between environmental, economic, and social aspects and ensure spatial structures that will last into the future (Hein et al., 2020b).

Research aims and objectives

The thesis research builds on existing theoretical knowledge and an in-depth case study analysis of Willemstad, Curacao aiming to offer implementation advice for managing urban resilience in complex urban transformations. The first objective is to understand how the terminologies of urban resilience, adaptive reuse and collaborative approaches relate to each other and what frameworks currently exist to assess or analyze them. The second objective is to suggest a more specific framework to facilitate the management of urban resilience in Willemstad, which contributes to enhancing the rich historical and cultural identity while mitigating tradeoffs, enabling the city to face present and future challenges. Thus, the research focuses on mainly contributing to the urban redevelopment of Willemstad, Curacao by identifying and analyzing frameworks and policy instruments that contribute to the management of urban resilience. This aim is achieved through three main objectives related to the sub-questions and the chosen methodology (see table 0.1).

Research Questions

How can urban resilience be managed in complex urban transformations within the historical port-city of Willemstad, Curacao?

The research consists of three main terms; urban resilience, adaptive reuse and collaborative strategies. These terms are divided into sub-questions to have a holistic perspective towards the proposed approach. By structuring the research into three parts, understanding, analyzing and implementing the main research question could be thoroughly answered.

Methodology

The research is primarily divergent and explorative by defining and articulating the relations through literature between the umbrella terms of urban resilience, adaptive reuse, and collaborative strategies. The method of research applicable is a convergent embedded mixed-method, using both qualitative and quantitative data. Through in-field research, qualitative data was collected based on observations and 12 semi-structured interviews were conducted with public and private experts regarding redeveloping Willemstad. These findings are compared to those of a bigger population collected through surveys focused on 93 residents of Willemstad and analyzed as descriptive statistics. Moreover, by synthesizing the theory to practice using the academic 4 P's model (Place, People, Process and Product), the case study of Willemstad, Curacao is analyzed in depth. The output results in a holistic, long-term policy instrument to manage urban resilience in the historical port-city of Willemstad, Curacao, by mitigating tradeoffs between environmental, economic and social aspects.

	PART1: Understanding	PART 2: Analyzing / Comparing	PART 3: Implementing
Alm/ objective	Understand the relationship between terminologies to have a better understanding of the umbrella term of urban resilience and offer a theoretical framework	Analyze the context of Willemstad and the stakeholder network through identification of the urban fabric and the perspective of diverse stakeholders	Expand the policy instrument contemplating adaptive reuse of existing buildings and emphasizing the ripple effect that urban interventions can have on different built environment scales and the overall socio-economic status of Willemstad
Main sub questions	How are the terminologies: urban resilience, adaptive reuse, and collaborative strategies defined and related to each other?	What are characteristics of the context and stakeholder Network that define the historical-port city of Willemstad, Curacao?	How can Sustainable development goals (SDGs) help create a framework towards urban resilience?
Method	*Method:* *Literature Review* *Atlas.TI- co-occurrence terminology in research*	*Method:* *In-depth case study analysis* *Interview & Survey/ Case study*	*Method:* *Synthesizing: Findings & Literature*

TABLE 0.1: SUB QUESTIONS BASED ON TERMS OWN ILLUSTRATION

Findings

The main findings from the theoretical and empirical research are presented below concerning the three parts relevant to this research.

Part 1: Understanding Theoretical

How are the terminologies: urban resilience, adaptive reuse, and collaborative strategies defined and related to each other?

The findings from the literature review focused on having a better theoretical understanding of the relevant terminologies and their relationship with each other. In the scope of this paper, the term urban resilience is understood as a response to adapt to change and challenges facing urban areas (Crowe, et al., 2016). This definition refers to the ability to adapt to change across various spatial scales of an urban system embedded within a preexisting context and stakeholder network (Meerow et al., 2016). Utilizing a form of adaptive resilience to establish a co-evolutionary interaction between multiple actors, existing buildings, and urban fabric, along with the external effects (Aytac et al., 2016). When redeveloping historical port-cities with cultural value entitles extra complexity, which requires collaboration between public and private parties (Wilkinson, et al., 2014). Throughout the literature review, it became evident that in theory, all three terminologies were linked by stating that urban resilience offers different adaptation and transformation opportunities, which implies a somewhat collaborative approach to mitigate temporal and spatial scale tradeoffs (Chelleri et al., 2015). The findings showcased urban resilience's relevance to managing the risks and challenges of a globally changing world, yet implementing urban resilience remains limited (Croese et al., 2020). The SDGs offer an extensive monitoring framework that could assess how the global policy alignment of the resilience strategies is being implemented. However, these implementations differ due to scalar realities; few SIDS have the same sustainability challenges as cities with larger urban populations (Mycoo et al., 2017).

Besides the context, the dependability of governments on private parties also influences the realization and implementation of resilient policies. Hence, these theoretical findings emphasize that the chosen strategy or policy instrument might differ per case due to having a distinct context and stakeholder network involved in the scope of the urban redevelopment (Wilkinson et al., 2018).

Part 2: Analyzing Empirical:
What are characteristics of the context and stakeholder Network that define the historical-port city of Willemstad, Curacao?

The empirical research aims to analyze the case study of Willemstad through in-field research, observation, interviews and surveys. Thus, a somewhat twofold analysis executed through the lens of the various stakeholders involved along with an in-depth analysis of the context and history of the place.

2.1 Analysis: Place context- Willemstad Curacao

The in-depth analysis of the case study, Willemstad, Curacao could become an example for other SIDS in the Caribbean that shares a common colonial history and urban fabric. Various historic port cities in the Caribbean were founded once colonizers had discovered a new place, finding a purpose for the discovered island through land distribution while setting up the logistics of trade (Saavedra et al., 2019). Trade back then could be considered a model that involved the private sector, with strong support and guidance from the state or monarch in this case, the Netherlands, which to some extent parallels today's private-public partnerships (Saavedra et al., 2019). By analyzing the context of the place and the urban development of the historical port-city of Willemstad, it became evident that various path dependencies influenced spatial development throughout time from colonialism to industrialism to tourism. Representing a remarkable historic port town in the Dutch Caribbean, Willemstad, has developed continuously while preserving some significant town planning and architectural and vibrant culture influenced by colonial times evolving towards a distinctive identity for Willemstad, consisting of four distinct districts; Punda, Otrobanda, Scharloo and Pietermaai. The analysis of the past, present and future of the urban development of Willemstad demonstrated to a certain extent that social and environmental aspects were ignored or handled insufficiently, leading to social and racial inequalities and the degradation of the historic urban fabric. Hence, these tradeoffs tend to depend on the specific context of the place, and therefore cities play an essential role in achieving sustainable development goals. Urban planning should balance the economic, environmental and social aspects by shifting away from the pure entrepreneur market-driven planning influenced by unsustainable trends seen previously during colonial and industrial times. These unsustainable trends and inequalities are still presently seen on the island, such as the petroleum industry, mass tourism and the increasing gentrification. Nevertheless, it also demonstrates the resilience to deal with constant changes affected by social, economic and environmental aspects.

2.2 Analysis: Perspective Stakeholders

The analysis dives deeper into the case study by focusing on the various stakeholder's perspectives regarding the process, product, and people concerning the urban redevelopment of Willemstad. These stakeholders are categorized as public and private experts involved in redeveloping the historical port city and the local users residing within Willemstad. Mainly the private parties had the most positive examples regarding specific product or projects they had renovated or repurposed. They highlight the growing interest in adaptive reuse of monumental buildings to serve diverse functions from commercial to residential. Whereas the capacity of the public side remains limited even though they state their willingness to help stimulate renovations of monumental buildings through subsidies, understanding the impact of some projects that can act as catalysts to improve the city's socio-economic status. While many locals living in the districts of Willemstad stated they are content with their living environment and have a sentiment towards their neighborhood, they also stated the quality of their homes could be improved, illustrating a rising concern about gentrification in certain districts.

By analyzing the diverse perspectives of involved stakeholders, it became evident that while the UNESCO world heritage site offers many opportunities and unique character seen as historical-cultural value locally and globally, there is a misalignment regarding the involved stakeholder's vision and goals. The findings from both the interviews and surveys emphasized that the theme of process deals with multiple bottlenecks, leading to a rather negative perspective from the private side regarding the slow permit process and the outdated zoning plan. While the government is aware that the zoning plan is outdated, it is essential to align goals towards a shared vision for Willemstad. To reach a shared goal between these parties remains a challenge due to miscommunication, lack of transparency and trust.

Part 3: Implementing Synthesizing:
How can Sustainable Development Goals (SDGs) help create a framework towards urban resilience?

For Willemstad, Curacao, to enhance its authentic historical and cultural identity, the built environment requires better quality and higher redevelopment standards. The essential question is not whether but how to manage urban resilience throughout the evolving demands that the historical port-city faces. The framework proposed is based on synthesizing existing theory and frameworks to the findings from the case study's context analysis and stakeholder perspective regarding the redevelopment of Willemstad (See figure 1). Integrating positive incentives with specific SDGs related to the urban redevelopment of the historic port city (SDGs 11, 9, 12, & 17) allowing for institutional structures and spatial policy instruments to influence the process and quality of urban and property redevelopment (Adams et al, 2012). The relationship between cities and sustainable development is recognized in the SDG 11: (Sustainable cities and communities). The main objective is to make cities and human settlements inclusive, safe, resilient and sustainable.

Hence, sustainable development cannot be achieved without transforming our approach to how we design, build and manage our urban space. Showcased in SDG 9 (Industry Innovation and infrastructure), which stimulates a resilient infrastructure by fostering innovation—helping to promote inclusive and sustainable industrialization. Creating new job opportunities, and increasing employment improving the socio- economic status of historical port-cities considering the impacts these industries have on the environment. Also SDG 12: (responsible consumption and production) is strongly related to the built environment; stimulating adaptive reuse of monumental buildings helps reduce the overall waste and production of unsustainable building materials while preserving the heritage value and enhancing the overall identity. The last relevant SDG concerning the redevelopment of the historical port city, Willemstad, is SDG 17: (partnership for the goals), striving to create transparency and motivate collaboration between diverse stakeholders towards feasible outcomes that implement sustainable development and shift towards a long-term mentality

These spatial planning policy tools' impact on the urban development projects operates through various policy tools, such as shaping, regulating, stimulating, and capacity building to influence the real estate markets (Tiesdell et al., 2005). The research investigates how stimulus policy instruments could motivate market behavior by increasing the likelihood of reaching a shared value that offers flexibility within a proposed framework of indicators. By connecting the SDGs and the urban redevelopment indicators, four main sets of stimulus action can be taken in the form of incentives to encourage redevelopment and conserving the authentic identity of Willemstad; land, financial, technical and regulatory incentives. The research proposes a stimulus policy instrument that is defined by its purpose rather than its scale, with small-scale actions to promote development potentially being just as effective as large-scale ones (Adams et al., 2013). This will showcase that each development's impact on the overall place is significant and vice versa the influence that the urban scale has on each district and its buildings.

Conclusion

Throughout theory and practice, it is emphasized that the governance dimension and the actual implementation of sustainable development are essential in applying the SDGs (Meadowcroft, 2011). Implementing adequate policies aligned with specific SDGs to assess and stimulate developments could help manage urban resilience throughout time for the case study of Willemstad, Curacao. The case study analysis demonstrates the relevant context and stakeholder network encountered in the complex transformation of the historic port city. These findings were synthesized with literature, particularly with SDGs offering a framework and checklist to sustainably develop and create transparency and collaboration between the diverse stakeholders involved, helping to align goals and mitigate tradeoffs. Policymakers can provide the basis for a comprehensive and action-oriented approach for implementing relevant SDGs, offering a starting point for historical port-cities to manage the resilience of their historically and culturally rich urban fabric. Public parties should introduce a new policy instrument to mitigate any further decline of the historical port city and its built environment.

The proposed stimulus policy offers flexibility for the private parties rather than just serving the purpose of regulating. In the last decade, most development in Willemstad has been private-led, attributed to dissatisfaction with the visible shortcomings of the classical permit and urban planning process. This is due to the dependency on government rather than governance (Hobma, 2005). The reasons to shift to governance as a strategy towards policy implementation was that top-down produced spatial plans no longer reflected and incorporated spatial needs and interests of the current and future market demand from private parties and civic society (Heurkens, 2012). Instead of the government trying to shape and regulate the urban redevelopment of the historic port city, which leads to somewhat conflicting perspectives between public, private and the locals. The focus should be on governance and offering a framework for the stakeholders to be stimulated through positive incentives that balance the social, economic and environmental aspects.

Discussion

The building blocks of the provided framework require further research regarding other case studies to see if the findings are transferable to other historical port-cities in SIDS throughout the Caribbean region. The thesis research attempted to develop a more specific stimulus policy based on relevant SDGs to effectively manage urban resilience at different scales in the complex urban redevelopment of Willemstad. Although the SDGs have been a trending topic in research for the last years, they remain a global method to achieve sustainable development and urban resilience. Many countries lack the capacity to implement these indicators into a more specific context or project. The in-depth case study analysis provided extensive data collection, both qualitative and quantitative, from the interviewees' perspective and surveys, helping to reflect the validity of the findings. While an exact recipe is not prescribed in this research, a list of ingredients in the form of indicators linked to the relevant SDGs for historical port cities: 11,9, 12 and 17 are offered. However, while the research aims to synthesize academic, scientific and practical findings, developing a comprehensive stimulus policy instrument to manage urban resilience in Willemstad could face organizational implementation difficulties. The current public development culture is influenced by 'hard' management measures such as land and capital. 'Soft' management measures such as negotiating and using incentives to stimulate market investment, remains a difficult operational transition for local authorities (Heurkens, 2012).

Recommendation

This thesis attempts to understand urban resilience through more established theories such as adaptive reuse and collaborative strategies. By understanding the established theory it enables to synthesize the theoretical insights with the empirical findings from the in-depth case study analysis of Willemstad. The research views urban planning as a holistic approach, including a broad range of economic, social and environmental aspects integrated within the SDGs. While offering a framework that can act as a stimulus policy instrument, it also allows the decision-making process between stakeholders to be more efficient and goal-oriented. It is recommended that this policy instrument be digitalized to assure transparency and effectiveness in practice. This is necessary to assess the performance of specific SDG indicators linked to positive incentives. Digitalizing the performance and ratings of these indicators help facilitate transparency and easy access to information. This creates an overview of the diverse developments within the historical port-city, which could be monitored throughout time using the indicators as a data set. It is recommended to do further research on similar case studies, increasing the validity and transferability of implementing such stimulus policy instrument for other SIDS in the Caribbean.

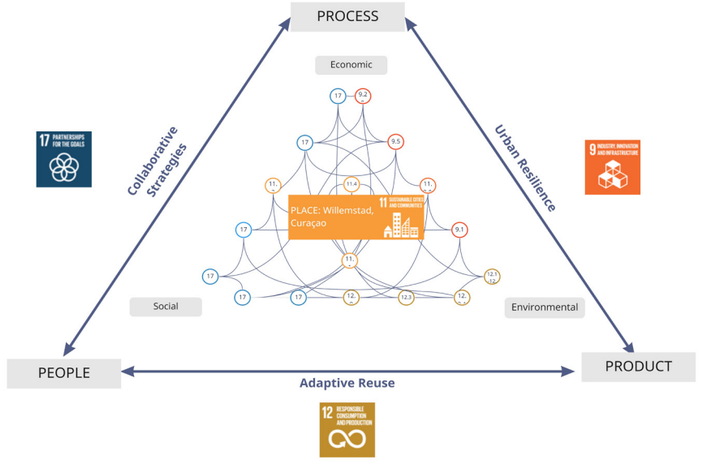


FIGURE 0.1: PROPOSED STIMULUS POLICY FRAMEWORK FOR WILLEMSTAD (OWN ILLUSTRATION)

IMAGE BY: JUAN F. BAIZ, 2021

0.1 INTRODUCTION

0.1.1 Problem Statement

The emerging challenges faced globally, such as the COVID-19 pandemic and the impacts of climate change, lead humankind to reflect on their past, present, and future built environment. As societies' demand evolves, various historical inner-city areas have lost their former use and their original socio-economic value. Preserving the cultural heritage means developing for the benefit of current and future generations (Baarveld & Smit, 2011). Thus, stimulating urban resilience that can adapt not only to climate changes but to new demands of society. However, the scarcity of resources along with the presence of cultural heritage entails extra complexity. The change in real estate requirements regarding reusing existing real estate by applying adaptive reuse avoids demolition and reconstruction waste (Yung & Chan, 2012). Furthermore, the complexity of urban redevelopment projects that include adaptive reuse of cultural heritage tends to include collaborative strategies to share expertise and risk (Baarveld et al., 2011).

The overarching problem consists of adapting a relatively culturally and historically rich built environment to acute circumstances while having limited resources and facing current and future crises caused by pandemics and natural hazards. Nevertheless, the implementation of urban resilience remains challenging due to the current knowledge gap, emphasizing that the terminology lacks support from urban planning theory, which tends to focus on the climate adaptability solely (de Jong et al., 2015). The umbrella term ranges across various disciplines, from ecology, sociology to applied policy contexts (Crowe, Foley, & Collier, 2016, p. 115). Therefore, the research aims to improve the urban resilience of vulnerable countries through the adaptability of real estate and collaborating towards an inclusive and feasible urban redevelopment. Thus, emphasizing the problem statement at both macro scale for the Caribbean region and in case-specific micro scale for the historical-inner city of Willemstad, Curacao.

0.1.1 Macro: The Caribbean region

The Caribbean region is constantly faced with emerging challenges such as the current COVID pandemic, limiting one of the main sources of income through the tourism sector. Besides economic dependencies and limited financial resources, many Caribbean islands already have a withstanding debt due to the impacts and destruction of natural hazards like hurricanes and flooding, intensified by climate change. Therefore, causing significant problems in the Caribbean, presenting a more acute challenge as the era of the unprecedented is ushered in faster than the region can prepare for its onset. Facing economic difficulties are not uncommon for small island developing states (SIDS) in the Caribbean. According to the UN SIDS became in 1995 a recognized distinct group of developing countries facing specific social, economic and environmental problems (United Nations, 2012).

Presently the corona crisis is presenting significant challenges in the Dutch Caribbean. The Netherlands is lending a helping hand in soft loans and through a reformation program that will include long-term lending and investment. Nevertheless, most small islands lack reserves and more diversified economies, making them less adaptable to this crisis. Due to previous economic dependencies shaped and conditioned by the unstable tourism market and how spatial relationships lead towards economic patterns are still visible in the current operating modes of tourism in the Caribbean region (Saavedra Bruno, Delgado, & Madrazo, 2019, p. 376).

0.1.2 Micro: Curacao

Much like the rest of the world, Curaçao has suffered from the staggering economic instability caused by the COVID-19 crisis. Both public and private stakeholders will need to collaborate in their approach to thinking towards a long-term strategy. The historical inner-city of Willemstad is a priority for the island's socio-economic development, and its cultural heritage. An implementation strategy is needed, contemplating adaptive reuse of existing buildings and emphasizing the ripple effect that urban interventions can have on the socio-economic status of the area. A strategy with a strong focus on adaptive reuse to stimulate transformational areas is composed of various projects developed through a collaborative approach. Representing public and private stakeholders, their inputs, outputs, and planning and budget. In addition, recognizing the importance of inner-city development for the economy of Curaçao can also be found in the Multi-Year Economic Program Curaçao 2001 - 2005 (MEP) The World Bank states:

"The potential for increased earnings in Curacao is great, but the realization of this potential will require considerable new investment, both private and public. Curacao's major underutilized attractions include Willemstad itself, a unique historic town, with restaurants and interesting museums. Old Neighborhoods and buildings should be fully restored as part of Curacao development strategy. " (The World Bank, 2001 in DROV, 2002)

0.1.3 Case description: Willemstad, Curacao

An area with a historically rich background, Willemstad, Curacao is a port city in the Caribbean once a Dutch colony (UNESCO, n.d). Initially established as a trading settlement, due to its natural harbour and strategic position. Hence, the historic city has undergone several dependencies from colonialism to industrialism to nowadays tourism. While, these dependencies helped shape the urban fabric, which has developed over the years while still preserving some of the significant town planning and architectural qualities

Nevertheless, some of these dependencies brought along challenges. Such as racial segregation from colonialism or the toxic legacy left to form the oil refinery operated by Shell, leaving a negative impact on the environment but also creating socio-economic instability. Thus, leading to political unrest that created revolts and destructed part of the historic urban fabric due to fires in both Punda and Otrobanda, two of the oldest and main districts of Willemstad. Yet, the historical and cultural value remained and nowadays is considered a World Heritage site by UNESCO, attracting many visitors to the charming pastel-colored Dutch colonial architecture and multi-cultural ambience (see figure 1).

There is a lot of enthusiasm in the Caribbean region to advance with the implementation of the New Urban Agenda. By using Curacao as a case study the results can become an example for countries in the region. Therefore, the urban redevelopment of the historical inner-city of Willemstad should balance emerging market demands, spatial quality and resources. Thus, taking into account the ambition of the public and private parties and other stakeholders involved.

FIGURE 1 : CURACAO HANDELSKADE VIEW (SOURCE, TRAVELPR0, 2020)

0.1.3 Social and scientific relevance

This research contributes to developing knowledge in regards to the urban resilience of SIDS through urban redevelopment by exploring the link between adaptive reuse and collaborative strategies for inner-city urban transformation. Thus, investigating innovative long-term strategies that although using limited resources improve the socio-economic and environmental challenges presented in historical port-cities such as Willemstad, Curacao.

Primarily, the relevance of urban resilience is increasingly seen as essential to managing the risks and challenges arising in a globally changing, connected, and the urbanized world (Croese, Green, & Morgan, 2020, p. 550). Therefore, several global development policy commitments, such as the Sustainable Development Goals (SDGs) have been adopted. However, knowledge of how cities are going about implementing resilience remains limited (Croese et al., 2020).

Currently, the theory on the implementation of urban resilience remains limited, due to the umbrella term of resilience still not being fully supported by a host of terms from well-established bodies of theory (de Jong, Joss, Schraven, Zhan, & Weijnen, 2015, p. 29).

This research will focus on the point of view that considers the emerging properties of complex adaptive systems. Thus, viewing urban resilience as a broader and interrelated concept than just the climate-proofing perspective, where adaptation and transformation of complex urban systems play a predominant role (Chelleri, Waters, Olazabal, & Minucci, 2015, p. 185). Furthermore, adaptive resilience establishes a co-evolutionary interaction between actors and specific real estate projects, such as existing buildings and the external effects of the evolving urban system(Aytac, Arslan, & Durak, 2016). Influenced by a wider range of social, economic and environmental challenges the built environment is also under constant change. In addition, critiques of urban theory production articulate the need to generate new relations and strategies that engage with already existing urban conditions across the Global South, in specific for the SIDS small island developing states (Edensor & Jayne, 2011). These critiques call for additional research on the emergent urban resilience futures being generated in poor and vulnerable urban spaces (see Part 1: Understanding).

0.1.4 Research Aim

The research builds on existing theoretical knowledge and an in-depth case study analysis of Willemstad, Curacao aiming to offer implementation advice for managing urban resilience in complex urban transformations. The research's first objective is to understand how the terminologies of urban resilience, adaptive reuse and collaborative approaches relate to each other and what frameworks currently exist to assess or analyze them. The second objective is to suggest a more specific framework to facilitate the management of urban resilience in Willemstad, which contributes to enhancing the rich historical and cultural identity while mitigating tradeoffs, enabling the city to face present and future challenges. Thus, the research focuses on mainly contributing to the urban redevelopment of Willemstad, Curacao by identifying and analyzing frameworks and policy instruments that contribute to the management of urban resilience.

0.2 RESEARCH QUESTIONS

0.2.1 Main question

How can urban resilience be managed in complex urban transformations within the historical port-city of Willemstad, Curacao?

0.2.2 Sub Question

The main research question consists of three main terms; urban resilience, adaptive reuse and collaborative strategies. These terms are divided into sub-questions to have a holistic perspective towards the proposed strategy. By investigating how these terminologies relate to each other this research can be divide into understanding, analyzing and implementing (See table 1).

	PART1: UNDERSTANDING	PART 2: ANALYZING / COMPARING	PART 3: IMPLEMENTING
MAIN SUB QUESTIONS	**How are the terminologies: urban resilience, adaptive reuse, and collaborative strategies defined and related to each other?**	**What are characteristics of the context and stakeholder Network that define the historical-port city of Willemstad, Curacao?**	**How can SDGs help create a framework towards urban resilience?**
METHOD	Method: Literature Review	Method: Interview & Survey/ Case study	Method: Synthesizing: Findings & Literature
SUB-SUB QUESTIONS			
URBAN RESILIENCE	How is urban resilience defined, and what frameworks can be used to asses?	What are past, current and future challenges that Willemstad, Curacao is dealing with, and how can they become more resilient in the long term?	Which SDG applies to asses urban resilience and mitigates tradeoffs in regards to historical port cities?
ADAPTIVE REUSE:	How can adaptive reuse create value in urban transformation?	What are the bottlenecks when it comes to developing historical buildings? Why would/ do people apply adaptive reuse to historic buildings?	Which SDG applies to asses adaptive reuse and enhances the identity of historical port cities?
COLLABORATIVE STRATEGIES	What type of collaborative strategies exists in urban redevelopment? Top-down or bottom-up strategies?	How can stakeholder values align in historical redevelopment?	Which SDG is applicable to stimulate collaborative strategies and align stakeholder goals relevant to historical port cities?

TABLE 1: SUB QUESTIONS BASED ON TERMS OWN ILLUSTRATION

0.3 RESEARCH PLAN

0.3.1 Research Framework

The conceptual framework consist of understanding the internal and external concepts involved. Primary, the framework is based on assumption of the theoretical relationship between the following terms; urban resilience, adaptive reuse, and collaborative strategies. In addition, it considers the dimensions that are interrelated regarding urban redevelopment of the specific case of Willemstad, Curacao (See figure 2). The focus of this research is finding the link between the internal concepts and the dimension they consist of in order to offer a more holistic long-term urban redevelopment strategy. This research, therefore, proposes articulating both a theoretical relationship where urban resilience, can be implemented by means of more advanced theory such as adaptive reuse and collaborative strategies.

The dimensions that are taken into consideration for the case study are simplified into economic, social and environmental. These terminologies came forward in the literature review and will be further researched according to 4P's: Place, Process, Person, and Product (van Bueren et al, 2016). Due to being case-specific research regarding Willemstad, Curacao, the term Place, acts as a center in the research referring to the geographic and distinct locational qualities and history and identity. This is defined by the Products, which are urban and spatial projects referring to the physical outcome of area-based urban development. These products are defined by the people and their process of adapting to the evolving demands. Therefore, People represent the stakeholders involved, such as government bodies, real estate developers, investment agencies, tourist and local users. The Process refers to the decisions and actions of these actors that shape the content of an area-based project, and the negotiations between them are conceptualized as an iterative and interactive Process (van Bueren et al., 2016).

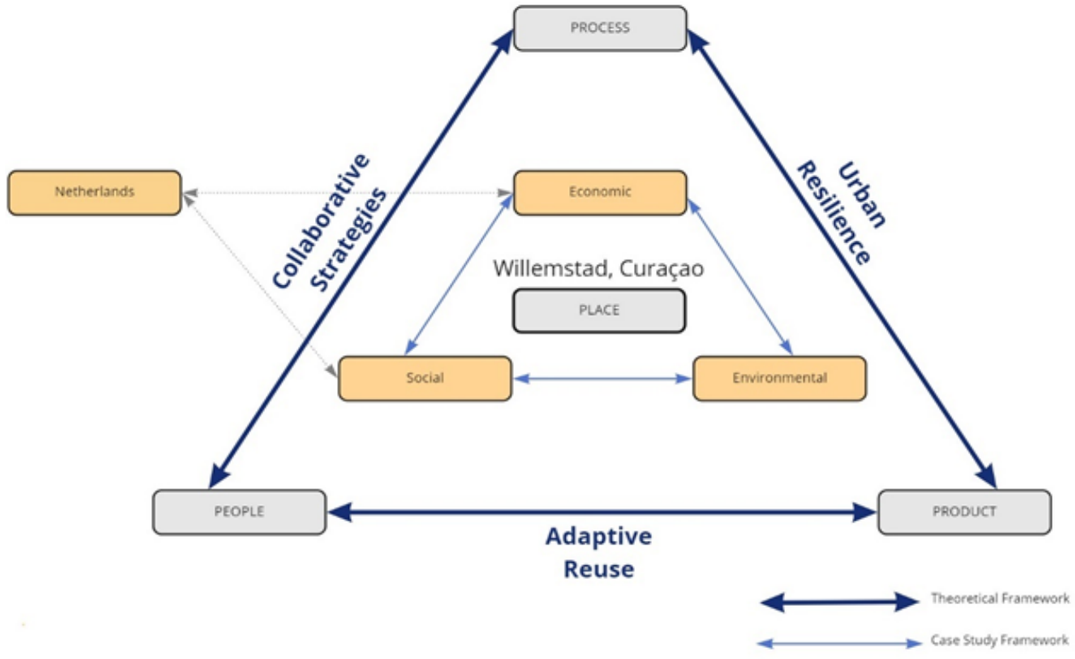


FIGURE 2: CONCEPTUAL FRAMEWORK BASED ON PLACE -PEOPLE- PROCESS-PRODUCT (OWN ILLUSTRATION)

0.3.2 Method & Output

The thesis is a hybrid structure consisting of theoretical and empirical findings, starting with an in-depth literature study to articulate and investigate the relationship between the key themes. The empirical research method is a convergent embedded mixed-method, using both qualitative and quantitative data (see figure 3). However, primarily the research is rather divergent and empirical finding relations through literature between the umbrella terms of urban resilience, adaptive reuse and collaborative strategies. Moreover, comparing it to practice by utilizing the 4ps the case study of Willemstad, Curacao is analyzed by case studies and interviews. The deliverables per phase are needed to offer structure to the research and achieve the research output (See figure 3). The research results in a holistic, long-term policy proposal to achieve urban resilience in the historical port-city of Willemstad, Curacao. Offering a basis for implementation strategies to similar SIDS.

0.3.3 Data Collection & Analysis

The convergent mixed method emphasizes the importance of concurrent data collection rather than sequential. Therefore, collecting qualitative and quantitative data at a rather parallel time frame allows for an interactive approach to the data being collected. By working both ways, either the qualitative findings will influence the quantitative findings or vice versa. The data is analyzed, offering comparison as well as an understanding of theoretical and practical findings. Therefore, leading to an interpretation of an adequate strategy by answering the relevant sub-questions through multiple data collection methods and tools (See table 2).

0.4.0 Personal Targets

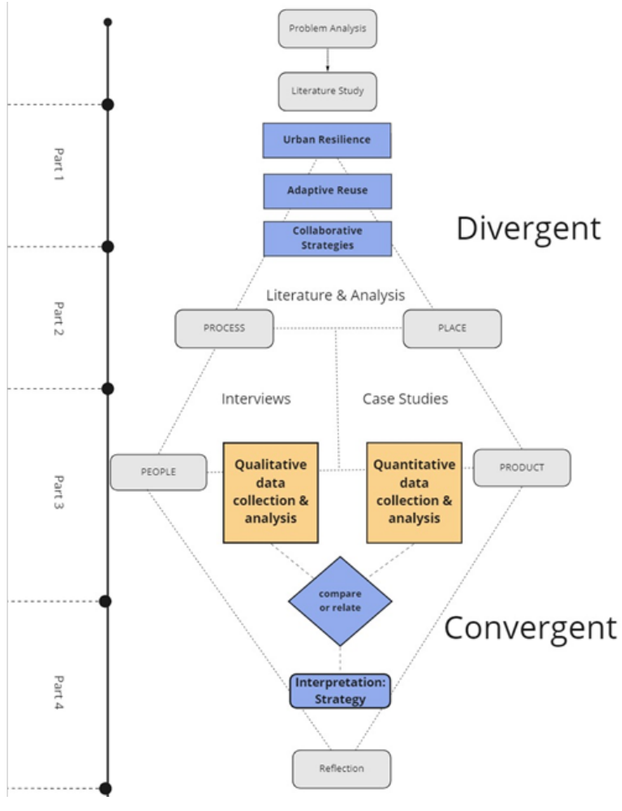
My interest in real estate management and urban development management, are emphasized in my graduation project. Understanding the complexity of urban transformation to the added value of adaptive reuse of heritage real estate. Therefore, the following tutors along with the relevant points are strongly related to the topic of my graduation research.

Main tutor: Hilde Remøy
REM- Real Estate Management:

- Develops strategies for sustainable management of buildings, locations and markets.
- Adapting existing obsolescent buildings and making them future-proof.
- Added value of adaptive reuse of real estate can contribute to urban resilience.

Second tutor: Erwin Heurkens
UDM– Urban transformations:

- Identifying governance challenges and strategies for urban transformation.
- Planning policies lead to market decisions motivating mixed-use development of existing urban areas, leading to questions of cooperation, land use, feasibility and resilience.



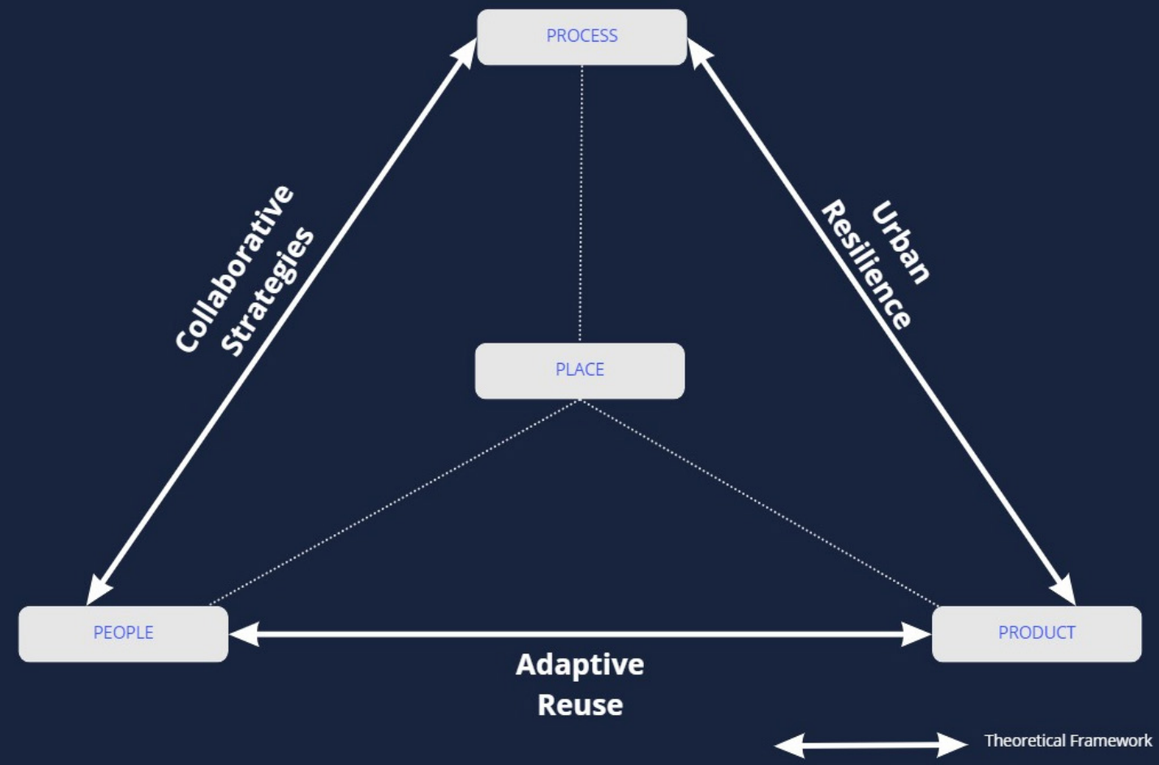
	Qualitative	Quantitative
PURPOSE	Focused on a deeper understanding, such as categories describing events and behaviors	Focused on gathering numerical data and generalizing
RELATED QUESTIONS	Part1: Understanding Making connections between theoretical framework • How is urban resilience defined and what frameworks can be used to assess? • How can adaptive reuse create value in urban transformation? Part 2 Analysis & Case studies • What are past, current and future challenges that Willemstad, Curacao is dealing with and how can they become more resilient in the long term? Part3: Implementing Importance of context & participant research • How can the current process in urban redevelopment of Willemstad, Curacao be enhanced by collaborative strategies?	Part1: Understanding • What type of collaborative strategies exists in urban redevelopment? Part 2 Analysis & Case studies • What are strategies applied to improve urban resilience? • How and which SDGS help create a framework towards urban resilience? Part 2: Implementing • Where and which buildings/projects can apply adaptive reuse in Willemstad, Curacao?
METHODOLOGY	Case study methodology using Inductive process-developing theory from data gathered. Coding of categories and sub categories	Survey and comparison using deductive process based on a pre-determined framework Operation analysis
METHOD & TOOLS	In depth interviewing Focus group Seminars Atlas TI	Survey – Descriptive statistics Data graphics Statics socio-economic Demographics Environmental measure of building degradation

TABLE 2: QUANTITATIVE & QUALITATIVE RESEARCH METHODS OWN ILLUSTRATION

C H A P T E R 0 N E

UNDERSTANDING

THEORTICAL BACKGROUND



1.0 THEORTICAL BACKGROUND

Urban redevelopment is relevant for cities to adapt from acute shocks such as the increasing unemployment due to the COVID-19 pandemic and the long-term challenges faced, such as climate change. Therefore, urban resilience implies the capacity to respond to both acute shocks or chronic stresses, which can be social, economic, and environmental, or a combination of these (Aytac et al., 2016). Thus, it is crucial to understand better the definition of resilience and how it can be implemented in historical port-city redevelopment. Nevertheless, there is a wide range of approaches to resilience in literature, such as ecological engineering and adaptive systems. Yet, on the contrary of others, adaptive resilience establishes a co-evolutionary interaction between various actors, existing buildings, and urban fabric along with the external effects that lead to a continual process (Aytac et al., 2016). Influenced by the market supply and demand, the built environment is also under constant change. Requiring existing obsolete buildings to explore the alternative of serving new functions and contribute to urban resilience through adaptive reuse.

To redevelop historical port-cities with cultural value entitles extra complexity, which requires collaboration between public and private parties (Wilkinson, et al., 2014). Therefore, this section of the research aims to have a better understanding of the theoretical framework through literature review by answering the following question:

How are the terminologies: urban resilience, adaptive reuse, and collaborative strategies defined and related to each other?

To better understand the relations between the terminologies, the following sub-questions are relevant (See figure 3).

- How is urban resilience defined and what frameworks can be used to asses?
- How can adaptive reuse create value in urban transformation?
- What type of collaborative strategies exist in urban redevelopment?

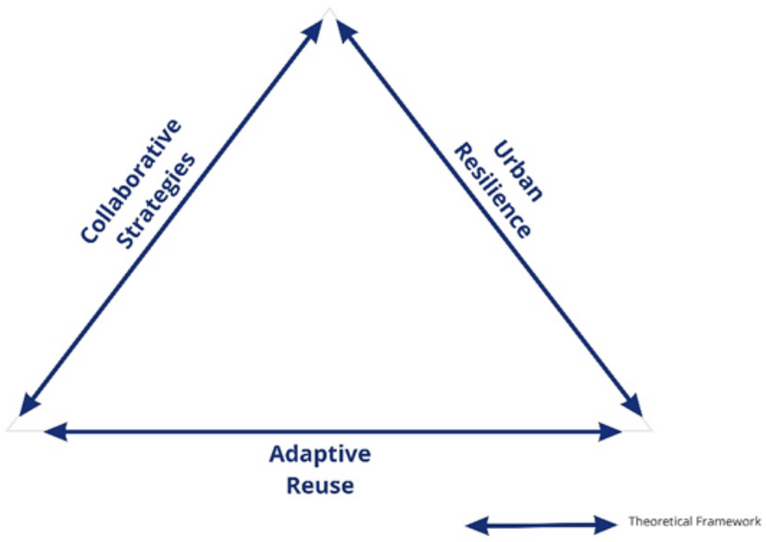


FIGURE 3: THEORETICAL FRAMEWORK RELATIONSHIP (OWN ILLUSTRATION)

1.1 Urban resilience

Urban resilience is rising in interest regarding managing the various risks and challenges arising in a globally changing urbanized world (Croese et al., 2020). Both academic and policy discourse offer various explanations for the rise of the term "resilience" (Meerow, Newell, Stults, 2015). Mainly resilience theory provides insights into complex socio-ecological systems and how these systems require rather interdisciplinary management (Folke, 2006).

Defining the term ‘resilience’ is broad due to the various definitions encountered in the literature (CARRI, 2013). The umbrella term ranges across various disciplines, from ecology and sociology to applied policy contexts (Crowe, Foley, & Collier, 2016, p. 115). Therefore, implementing urban resilience remains challenging due to resilience still not being fully supported by a host of terms from well-established bodies of theory (de Jong, et al,,2015). In the scope of this paper, the term resilience is in regards to urban resilience, which is often understood as a response to the rapid pace of change and severe challenges facing urban areas(Crowe, et al., 2016). Primarily, the term resilience originated in the discipline of ecology, as a measure representing the ability of systems to absorb and cope with changing circumstances (Holling, 1973). Similar to this definition Folke also describes resilience as a measure focused on the system's ability to buffer capacity and its robustness to any changing conditions. Thus, both ecologies and cities are embedded in interdependent social-ecological systems (Pickett et al., 2014). According to resilience theory, socio-ecological systems are constantly changing in nonlinear ways, making it a highly relevant approach for cities dealing with future climate uncertainties and risks (Rodin, 2014). Cities are also dependent on historical moments, structured by spatial linkages, and characterized by a non-linear structure (Wilkinson, 2012). Due to the holistic definition of social-ecological resilience thinking refers to creating opportunities to develop through innovation going beyond just the capacity to absorb shocks (Folke, 2006). Hence, that 'social' in this term of resilience embraces cultural and economic systems undergoing constant changes throughout time influenced by various historical or economic events.

The term is also related to social-ecological resilience thinking, which is considered to gain insight into holistic implementations of resilience on urban planning and policy to adapt to future changes (Wilkinson, 2012). Yet, for resilient policies to become implemented, governance activities are required to enable and motivate developing integrated approaches of policy, which can be done through collaboration (Roberts, 2014). The implementation of resilient policies differs in the context, considering what type of system aims to govern or which policies measures should be developed. Besides the context, the dependability of governments on private parties also influences the realization and implementation of resilient policies. Thus, it may be necessary to choose and design the policy instrument in consultation with actors in the policy area (Wilkinson & Remøy, 2018).

While, in the last decade, there has been stimulation towards implementing resilient policies and frameworks such as the Sustainable Development Goals (SDGs). The knowledge of how cities are going about implementing resilience is still limited (Croese et al., 2020). In 2015 the United Nations introduced 17 Sustainable Development Goals (SDGs) towards achieving the Urban Agenda for 2030, representing a new global development compass. Encompassing three core dimensions of economic, social and environmental development, the Agenda has become the center of a renewed development framework for countries of the world, including SIDS, to meet the changing development priorities and development gaps that previous strategies have been unable to close (Kumar, Hammill, Raihan, & Panda, 2016). Hence, implementing concrete policy actions that adopt the SDG's within policy strategies or instruments could provide significant benefits from implementing just a few of the SDG for the country and its populations (Kumar et al., 2016).

Managing urban resilience is arguably one of the most impactful issues as it implies linking the concept about what urban resilience is and its implementation throughout time (Brunetta, Caldarice, Tollin, Rosas-Casals, & Morató, 2019, p. 11). The essence of urban resilience and the consequences of various trade-offs between and within scales is still poorly understood in theory (See table 3). The figure helps to understand urban resilience related to specific areas, by providing an overview of questions to contemplate throughout the urban planning process (Meerow et al., 2016). The answer to these questions may significantly differ mainly due to the evolving demands of society, economies, and changing functions

of land use and processes that stimulate and respond to urbanization(Chelleri et al., 2015). The tradeoffs are seen in regards to implementing urban resilience across spatial and temporal scales, which tend to differ per project context. Therefore, it is crucial to ask the following fundamental questions regarding urban resilience for whom, what, when, where, and why (Brown, 2013). Moreover, considering the influence that adaptive cycles have on instigating change through different periods and spatial scales (Folke, 2006). In complex urban systems where adaptation and transformation are drivers towards responding towards chronic stresses and acute shocks urban resilience plays a predominant role (Chelleri, et al., 2015).

Questions to Consider related to urban resilience		
Who?	TRADEOFFS?	• Who determines what is desirable for an urban system? • Who is included and excluded from the urban systems?
What?		• What aspects should the urban system be resilient to? • What networks and sectors are included in the urban system ?
When?		• Is the focus on rapid-onset disturbances or slow-onset changes? • Is the focus on short term resilience or long-term resilience?
Where?		• Where are the spatial boundaries of the urban system? • Does building resilience in some areas affect resilience elsewhere?
Why?		• What is the goal of building urban resilience? • Is the focus on process or outcome?

TABLE 3: 5W'S QUESTIONS FUNDAMENTAL TO CONSIDER FOR URBAN RESILIENCE SOURCE (MEEROW ET AL., 2016)

1.2 Link Resilience & Adaptive

The capacity for cities to respond to both chronic stresses or acute shocks requires the implementation of resilience. Therefore, urban resilience becomes essential in adapting the built environment for economic environmental, and social challenges, which considers the emerging properties of complex adaptive systems (Chelleri et al., 2015). Hence, change is central to resilience thinking because it is not random, but follows a recurrent pattern (Rees, 2010). Even so, changes in adaptive cycles concerning social-ecological context are less about inevitabilities than general trends (Davoudi, 2012; Hopkins, 2010). Therefore, adaptive resilience systems are based on the complex adaptive theory that demonstrates both adaptive capacity and self-organizing behavior, which respond to short-term and long-term challenges. Operationalizing urban resilience in cities can be achieved through adaptive reuse of the existing building stock (Aytac et al., 2016). Utilizing adaptive reuse as a revitalization strategy by introducing a new life in the existing urban fabric provides a new function. The existing urban fabric refers to the physical urban environment consisting of elements, form, scales, density, and networks (Clark, 2013). Besides, the tangible aspects of the intangible structures found in the urban fabric influence each other such as psychological, ecological, social, cultural, economic, and managerial structures.

Adaptive reuse explores the alternatives before reaching the extremes of demolition. Creating a new purpose for the existing structure seeks to evolve continuously with time rather than freeze it at a particular moment in time. Introducing a new urban layer without erasing earlier layers enables adaptive reuse projects to become part of the history of an urban area (Clark, 2013). Applying adaptive reuse strategies can benefit the urban environment on multiple scales, ranging from enhancing cultural value, ecological, energy, and environmental aspects (Clark, 2013). Nevertheless, the implications of adaptive resilience thinking on urban planning and policy present remain limited in theory. While in the urban resilience context, the emphasis on adaptive reuse is made concerning the building life cycle.

Therefore, urban planning should include adaptive reuse strategies for existing and future buildings to meet new demands. In conclusion, the relationship between the theoretical background introduces a basis for the management of urban resilience through a transdisciplinary framework, including adaptive reuse and co-management in existing urban fabrics

1.3 Adaptive Reuse

The adaptation of existing buildings for new uses is gaining importance regarding sustainable urban redevelopment (Bullen & Love, 2009). Offering multiple benefits such as significantly lowering resource consumption such as land, energy, and sometimes even reducing time and cost. Moreover, it helps increase the value of the existing urban fabric as well as the building stock. Employing adaptive reuse as a revitalization strategy for urban redevelopment, consisting of a link of actions, inventory, acquire, manage, and reuse surplus of abandoned real estate (Wilson, 2010).

Adaptive reuse has proven through time to be a clearly established strategy to implement new life into obsolete buildings without unnecessary and premature destruction (Conejos, Langston, Smith, 2011). As well as being a sustainable technique, adaptive reuse implies changing the original use of an existing building while retaining its original structure and fabric (Bullen & Love 2009), to extend its useful life (Mansfield 2002). Utilizing adaptive reuse could be superior strategies where appropriate by taking advantage of current resource advantages often found in older buildings, which conserve cultural and heritage values for the benefit of future generations. Incorporating adaptive reuse strategies in existing heritage buildings or new buildings is economically, environmentally, and socially responsible (Conjeos et al. 2011).

Developing through adaptive reuse is a viable alternative to demolition and replacement as it entails less energy and waste, and can offer social benefits by stimulating employment while revitalizing familiar landmarks and giving them an added value. However, the tangible and intangible returns are uncertain as the added value of the

of the transformation of cultural heritage can rarely be expressed in financial terms alone (Linssen, 2009). The implementation of adaptive reuse at an urban scale requires the development of adaptive capacity (Wilson, 2012). Building adaptive capacity is dependent on unified mechanisms for actions in communities, which are recognized as social systems that are impacted by internally and externally driven forces (Plummer et al., 2012).

1.4 Link adaptive & Collaboration:

Utilizing adaptive reuse as a method for urban redevelopment requires a greater prospect of understanding and applying the stakeholders' goals involved in an adaptive reuse decision-making process. The involvement and cooperation between the different stakeholders involved are essential in adaptive reuse decision-making processes (Miller & Buys 2008). To successfully align stakeholder's goals towards achieving a more inclusive urban area, the effectiveness of collaboration is essential among the involved stakeholder (Loepfe & Eisinger, 2017, p. 30). Therefore, most collaborative strategies aim to achieve more constructive outcomes rather than destructive ones, through balancing diverse interests among various stakeholders (Ball et al. 2000). While constructive outcomes promote a viable solution and enhanced communication and relationships between relevant stakeholders, destructive outcomes usually foster mistrust, coercion, and animosity (Innes & Booher 2010).

Hence, complex adaptive reuse problems call for joint strategies among the various stakeholders towards the realization of shared constructive outcomes. Due, to the strong relation between spatial quality, finances, and process adaptive reuse of cultural heritage adds quality to urban redevelopment projects but requires substantial investments(Baarveld & Smit, 2011). To obtain financial feasibility, various possibilities to integrate mixed functions and involve more actors are achievable through collaboration during the urban planning process. By sharing risk and knowledge, stakeholders can balance cost and benefits and stimulate the development of a new value for locations that have lost their old (Baarveld et al., 2011).

Furthermore, it would be beneficial to all stakeholders involved in an adaptive reuse decision-making process to mitigate any destructive outcomes if they comprehend how to effectively collaborate by being transparent regarding their interests (Innes et al., 2010). Thus, the role of collaboration is to seek to enhance the process in adaptive reuse decision-making by aligning stakeholder's goals to one shared common goal.

According to the existing literature on adaptive reuse decision-making, the following stakeholders can be identified as key players: investors, producers, regulators, and users. Together these stakeholders should aim towards active collaboration to mitigate the risk of manipulation of an adaptive reuse decision-making process (Loepfe et al., 2017). Collaboration can be enhanced by policymakers better to manage the expectations and needs of the public, thereby, enhancing consents for optimal adaptive reuse decisions. However, there is usually an occurrence of conflicting interests and resources among relevant stakeholders in practice. To achieve agreements between stakeholders, negotiation is necessary either directly or indirectly in any stage of the decision-making process (Loepfe et al., 2017). Besides, negotiating a consensus can be achieved for a preferred alternative, by distributing equal weights to sets of alternative options. Thus, helping to reduce any potential social conflicts that may arise within the various stakeholders involved in an adaptive reuse decision (Munda, 2004).

1.5 Collaborative strategies

To gain insight into resilient solutions to acute urban challenges requires collaboration on innovative projects by multiple disciplines and stakeholders (Ahern, 2011). Due to the wide number of stakeholders and interests involved in area developments makes the urban planning processes complex. Primarily, the financial agreement remains challenging to attain when dealing with urban redevelopment projects. While long-term returns on investments are generally expected to be positive, the initially needed financial investment is often far higher(Baarveld et al., 2011). Resulting in a rather uneven number of parties that profit from investments to preserve and or transform cultural heritage without contributing to the costs. Collaborative strategies and participatory approaches exist to mitigate opportunistic behavior and achieve a common goal. Either collaboration can be thought of on a continuum between consensus-oriented processes in the pursuit of common interest and compromise-oriented negotiation processes aiming at the adjustment of particular interests (van den Hove, 2006). Moreover, it remains difficult to create mutual gains between the involved stakeholders, since the negotiation process consists of a combination of cooperating and competing elements. The added value created by redeveloping the cultural heritage for a new purpose has to be divided and claimed during the process. Yet, in practice, the tension exists between creating and claiming the added value also known as the negotiator's dilemma (Lax & Sebenius, 1986).

Stakeholders can act as either value creators or value claimers, this leads to different outcomes throughout the negotiation process. The value creators strive towards a win-win situation and refer to the cooperative and inventive stakeholders towards a shared goal (Baarveld et al., 2011). Whereas, on the contrary value claimers tend to behave more selfishly by convincing the other stakeholders of their rights. Therefore, resulting in a win-lose situation where the gains of one stakeholder represent the losses of another. Besides identifying the stakeholders as value creators or claimers the negotiation process can also be differentiated. According to Leeuwis (2000), there are two categories of negotiation processes: distributive and integrative negotiation.

Firstly during a distributive negotiation process, the various stakeholders hold on to their perceptions and positions, utilizing negotiations to divide the added value. Yet, the conflict remains intact which can lead to lengthy negotiations and unstable compromises. However, complex projects encompassing new challenges imply flexibility that cannot be achieved using outdated paradigms and settings (Attademo, 2015). Thus, complex projects require a more integrative negotiation process, which is focused on creating value by integrating the stakeholder's interests and resources leading towards a more collaborative approach for the general benefit of the area. Mitigating, the shallow involvement of generic stakeholders in urban transformations to stimulate cooperation between all the stakeholders, particularly the end-users, aligns towards common goals and various competencies (Amenta et al., 2019, p. 8).

1.6 Findings

The theoretical study has attempted to comprehend how adaptive reuse along with collaborative strategies could be utilized as a means to achieve urban resilience in historical inner cities. By using ATLAS. TI as a tool to analyze the relevant literature in regards to various codes showcasing the co-occurrence and network relation, showcasing links with other terminology (See Appendix A). The numbers represent the amount of quotations in the literature that link the terminology (See figure 4). Firstly, the link that is substantiated the most through existing literature is adaptive reuse and collaborative strategies. In this research, a total of (56) quotations emphasized, the importance of collaborative strategies when dealing with the adaptive reuse approach to urban redevelopment. The second link in regards to urban resilience and adaptive reuse (17) quotations in literature showcase that adaptive reuse of existing building stock, especially those with cultural heritage can be used as a method to define urban resilience in the context of building life-cycle and rehabilitation of existing urban fabric. The third link between collaboration and resilience has had a more limited amount of quotations that link the terminologies together (11), this could be due to each project context differing. Thus, the link between urban resilience and collaborative strategies was seen regarding relevant case studies and the network of involved stakeholders and their characteristics, which determine the plan-making process and collaborative strategy applicable. For this reason collaborative strategies help form a general framework to be used in a more in-depth analysis of strategies used to manage urban resilience through adaptive reuse. In conclusion, the relationship between the theoretical background introduces a basis for the operationalization of urban resilience through a transdisciplinary framework including adaptive reuse and co-management in existing urban fabrics.

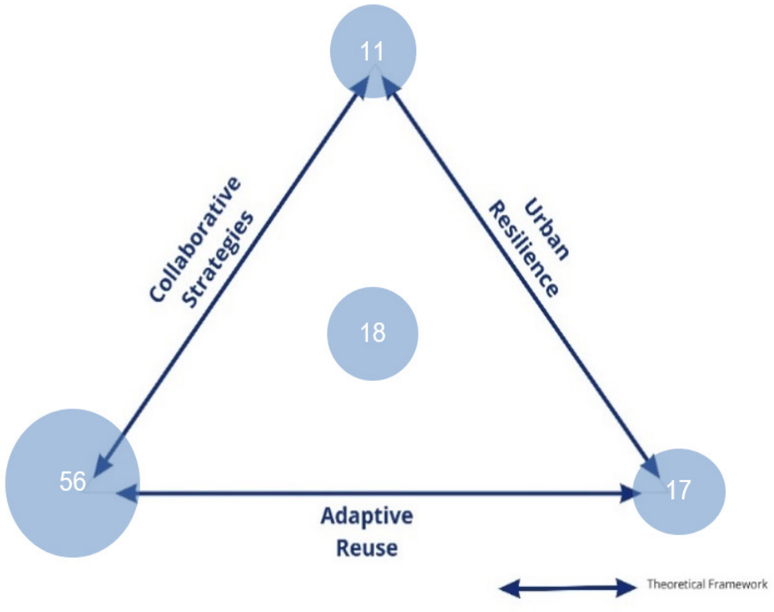


FIGURE 4: THEORETICAL FRAMEWORK RELATIONSHIP ATLAS. TI (OWN ILLUSTRATION SEE APPENDIX A)

1.7 Sub Conclusion Theory

In a globalized world presenting challenges such as the COVID-19 pandemic and climate change, the era of the unprecedented is ushered in faster than the built environment can prepare for its onset. Reliant to how cities function, grow and respond to acute stresses or chronic shocks, urban resilience is increasingly seen as essential to managing the risks and challenges arising in a globally changing, connected, and the urbanized world (Croese et al., 2020). This chapter has elaborated on the existing theoretical background aiming towards understanding the relationship between urban resilience, adaptive reuse, and collaborative strategies to answer the following question:

How are the terminologies: urban resilience, adaptive reuse and collaborative strategies defined and do they relate to each other?

This is achieved by answering the sub-questions relevant to the terminology and the ways they are applicable for urban redevelopment. The theoretical background offers a foundation to further develop a long-term strategy to manage urban resilience in historical port-cities through adaptive reuse and collaborative approaches.

How is urban resilience defined and what frameworks can be used to assess?

The challenge to defining resilience isn't that the concept of resilience is new, but rather that it has been developed and used across different disciplines with very different understandings and definitions. In the scope of this paper, the term urban resilience is understood as a response to adapt to change and challenges facing urban areas (Crowe, et al., 2016). This definition of urban resilience while broad is more inclusive, referring to the ability of an urban system embedded within a socio-ecological network to adapt to change across temporal and spatial scales (Meerow et al., 2016). Hence, enabling to transform urban systems that limit current or future adaptive capacity stimulates urban resilience in the long-term. Therefore, adaptation and transformation of complex urban systems play a predominant role in viewing urban resilience from a broader scope that considers the emerging properties of complex adaptive systems, rather than just climate-proofing perspective (Chelleri, et al., 2015).

As cities continue to evolve over time they are characterized by a non-linear structure that is dependent on historical moments and structured by spatial linkages (Wilkinson, 2012). Both definitions of social-ecological resilience thinking and adaptive resilience are considered to be holistic implementations of resilience on urban planning and policy to adapt to future changes (Wilkinson, 2012).

While urban resilience has gained popularity in recent years, several methodological challenges remain related to the concept's theoretical and practical domain (Brunetta, et al., 2019). One of the main concerns remains concerning operationalizing, which implies linking the concept about what urban resilience is and its implementation throughout time (Brunetta, et al., 2019). Even though global development policy commitments have adopted urban resilience over the past few years, such as the Sustainable Development Goals (SDGs), how cities are going about implementing resilience is still limited (Croese et al., 2020). Yet, implementing concrete policy actions that adopt the SDG's within policy strategies or instruments could provide significant benefits from implementing just a few of the SDG for the country and its populations (Kumar, Hammill, Raihan, & Panda, 2016). Besides the context, the dependability of governments on private parties also influences the realization and implementation of resilient policies. Thus, it may be necessary to choose and design the policy instrument in consultation with actors involved in the project's scope and the policy area (Wilkinson & Remøy, 2018). Nevertheless, when implementing resilient policies or frameworks, it is crucial to think long-term due to the evolving demands of society, economies, as well as changing functions of land use and processes that stimulate and respond to urbanization (Chelleri, et al., 2015).

How can adaptive reuse create value in urban transformation?

Adaptive reuse can be utilized as a revitalization strategy, enhancing the existing value of the urban area by introducing a new purpose in the existing urban fabric. By applying adaptive reuse, existing buildings are enabled to evolve with time continuously. creating a new purpose for the existing structure rather than freezing it at a

a particular moment in time. Therefore, adaptive reuse allows projects to become part of the history of an urban area and create the future by introducing a new urban layer without erasing earlier layers (Clark, 2013). Utilizing adaptive reuse could be a preferable strategy to achieving urban resilience where appropriate, by taking advantage of the current resource found in existing monumental buildings, which conserve cultural and heritage values for the benefit of future generations (Conjeos et al. 2011). Also, adaptive reuse implies extending the building's useful life making it a sustainable strategy towards redeveloping an urban area (Mansfield, 2002).

Developing through adaptive reuse is a viable alternative to demolition and replacement. It entails less waste and energy and can offer social benefits by stimulating employment while revitalizing familiar landmarks and giving them an added value. However, the tangible and intangible returns are uncertain as the added value of the transformation of cultural heritage can rarely be expressed in financial terms alone (Linssen, 2009). Implementing adaptive reuse at an urban scale requires the development of adaptive capacity (Wilson, 2012). This depends on reliant and unified mechanisms for actions in communities to achieve adaptive capacity. Yet, it is essential to recognize that social systems are impacted by internally and externally driven forces (Plummer et al., 2012). Thus, employing adaptive reuse as a revitalization strategy for urban redevelopment requires a link of actions, inventory, acquire, manage, and reuse surplus of abandoned real estate (Wilson, 2010).

What type of collaborative strategies exists in urban redevelopment?

In complex urban redevelopment, the urban planning process remains challenging because of the wide number of stakeholders and interests involved. One of the main challenges is to agree in regards to the financial terms between stakeholders. Although in the long term returns on investments are generally expected to be positive, the initially needed financial investment is often more expensive and thus bares more risk (Baarveld et al., 2011).

A solution to mitigate risk is to develop joint strategies among the various stakeholders towards the realization of shared constructive outcomes. Therefore, allowing to obtain financial feasibility through collaboration, various possibilities exist during the urban planning process. Either by partnerships or negotiations, risk and knowledge can be shared, such as integrating mixed functions to involve more stakeholders. Yet, involving more stakeholders may lead to destructive outcomes because of lack of transparency and create tension between creating and claiming the added value, also known as the negotiator's dilemma (Lax et al., 1986). Thus, the role of collaboration is to seek to enhance the process in adaptive reuse decision-making by aligning stakeholder's goals to one shared common goal.

The implementation of adaptive reuse for cultural heritage adds value to urban redevelopment projects by creating a strong relationship between spatial quality, finances, and process (Baarveld et al., 2011). During the urban planning process, the added value created by redeveloping the cultural heritage for a new purpose has to be divided or claimed by the involved stakeholders. However, it remains challenging to create mutual gains between the involved stakeholders, leading to a lengthy negotiation process consisting of a combination of cooperating and competing elements. Therefore, combining these elements influences the feasibility of implementing adaptive reuse, which requires extensive financial, social, and environmental aspects. This research aims to investigate further the process of shifting from preserving the heritage buildings through legal protection towards preserving through redevelopment (Janssen et al., 2014). In conclusion, applying adaptive reuse at an urban scale requires collaboration to manage urban resilience in complex urban redevelopment projects

IMAGE BY: JUAN F. BAIZ, 2021

CHAPTER TWO

ANALYSIS

2.0 EMPIRICAL RESEARCH

The empirical research aims to analyze the case study through in field research, using observation, interviews and surveys. The case study approach allows exploring complex issues in a real-life setting by establishing an open learning process from practice, being flexible towards hybridizing the original mindsets based on theory (Amenta et al., 2019). Furthermore, the analysis is mainly executed through the lens of the various stakeholders involved along with an in-depth analysis of the context and history of the place. Based on the findings and conclusion from the theoretical background, which emphasized that the chosen strategy and policy instrument might differ per case, the stakeholders involved in the scope of the urban redevelopment and the policy area (Wilkinson et al., 2018). Accentuating that the policy area should localize the sustainable development goals (SDGs) at a goal and target level, which involves adapting them to local contexts and stakeholder network of Willemstad, Curacao (Kumar et al., 2016).

The analytical research strives to articulate the relationship between the spatial environment and socio-economic context of Willemstad, Curacao. Hence, the analytical research is divided into various methods for analyzing; one focuses on the context of the place and is based on observations along with literature offering insights into the spatial development of the urban fabric of Willemstad throughout time (See table 4). Due to the complexity of historical port cities the analysis requires a holistic approach, which considers how all the three dimensions, environment, economic and social have evolved and impacted the urban fabric of the historical port city. In addition, the stakeholder network is also analyzed based on both public and private experts' perspectives and considering the locals' perspective. Thus, offering qualitative data through semi-structured interviews, while a more quantitative approach is used by carrying out surveys with local residents.

What are characteristics of the context and stakeholder network that define the historical-port city of Willemstad, Curacao?

	Questions to Consider related to urban resilience		
Analysis 1 Context of Place: Willemstad	**When?**	TRADEOFFS?	• What are past, current and future challenges that Willemstad, Curacao is dealing with? • How can Willemstad become more resilient in the long term ?
	Where?		
Analysis 2 Perspective: Stakeholders	**Who?**		• Who are the stakeholders involved and how can stakeholder values align in historical redevelopment?
	What?		• What are the bottlenecks when it comes to developing historical buildings ?
	Why?		• Why would/ do people apply adaptive reuse to historical buildings ?

TABLE 4: 5W'S QUESTIONS FUNDAMENTAL FOR URBAN RESILIENCE IN CASE STUDY WILLEMSTAD ADAPTED FROM ORIGINAL SOURCE (MEEROW ET AL., 2016).

2.2 Analysis Place: Context

Places matter immensely to creating a human experience by shaping our daily lives, such as where we live, work, and recreate creating conditions for personal activities and interactions. (Adams et al., 2012). Moreover, places form the focus of the urban redevelopment of historical port-cities rather than specific developments, reflecting the importance of the urban experience as a whole. The objective of this section is to analyze the evolution of historical port cities through a holistic lens. Studying the past purpose of a specific place and its development of the urban fabric helps to enable historic preservation for revitalizing historical inner-cities. Hence, revitalization of urban places consists of utilizing historic conservation by aligning the current local agenda to the place's historical narrative (Hurley, 2010). Analyzing through the lens of port- and city-related urban development showcases the context and the dependencies that shape them.

This section aims to analyze the past, present and future challenges that the case study, of Willemstad, Curacao has encountered throughout time. This section of the research was done in collaboration with the course of Building Green: Past, Present and Future, which focused on the dependencies and transitions of port-cities towards a sustainable urban area. The main purpose of studying the history is to unfold and unveil the aspects and characteristics of what and why a place is.

This section of the research focuses on having a deeper comprehension of the case study framework helping to answer the following question:

Q2.1 What are past, current and future challenges that Willemstad, Curacao is dealing with?

Using Curacao as a case study, the results can become an example for other small islands developing states (SIDS)in the Caribbean that share a common colonial history and urban fabric. A majority of Caribbean islands behold a rich history in regards to colonial European built heritage. The unique architecture and culture influenced by colonial times evolved into a distinctive identity for the historical inner-city. Moreover, port cities were founded once colonizers had discovered a new place, finding a purpose for the discovered island through land distribution organizing and distributing forced labor, while setting up trade logistics (Saavedra et al., 2019). Trade back then could be considered a model that involved the private sector, with strong support and guidance from the state or monarch. Hence, to some extend paralleling with today's private-public partnerships (Saavedra et al., 2019). The importance of studying the past, which can be also interpreted as history, is to better understand the present and predict the future of the place. The historical background of Willemstad, Curacao plays an important role in the further development of the island as well as its urban resilience over the years.

2.2.1 Urban resilience in Historic port cities in the Caribbean

The relevance of urban resilience in historical port cities is demonstrated throughout time as the urban fabric constantly evolves to serve societies changing demands. Hence, the main characteristic of ports is water, which represents connectivity as well as flexibility. Depending on the environment it finds itself in at a particular time, water can alter its state of matter. This is also the case for ports, which can also adapt to serve different purposes without compromising what it is at its core. Furthermore, historical port cities have dealt with various transitions influenced by different dependencies while still conserving the essential values. These dependencies are formed through a combination of spatial forms such as water, port, and various social structures, including urban planning policies and cultural patterns (Hein & Schubert, 2020). While, the purpose of ports over the centuries comes from the fructification of trade and the historic entanglement demonstrating a particular capacity for economic, social, and environmental resilience. Besides the limitations of port cities being tied to a specific location, where the sea meets land, they can meet new demands. Hence, the exchange between water and land have strongly influenced spatial resilience by attracting new streams of people, products and ideas to serve a new purpose (Hein et al., 2020a). These purposes have been shaped by a combination of urban, social and maritime interests, leading towards creating new dependencies on either existing unsustainable industries or shifting to innovative ways of planning for resilience (Hein et al., 2020b).

Currently, historical port cities such as Willemstad require reconceptualization and collaboration from various actors to be able to align spatial and social planning goals to tackle the complex challenges arising from a globalized and unsustainable world. Thus, instead of prioritizing the economic criteria, which has dominated port city planning towards shifting to a more holistic approach considering social and environmental aspects to be able to reimagine the purpose of ports for the coming generations. Hence, this shift requires aligning the goals of both public and private actors to achieve environmental, economic, and social resilience to ensure spatial structures that will last into the future (Hein et al., 2020b).

The research pays particular attention to Caribbean Post-Colonial cities by addressing challenges related to heritage preservation and urban segregation (Croese, & Green, 2015). In the 15th century, the beginning of Western colonialism emerged globally, whereby Europeans set out to discover land, which they conquered and exploited. Colonialism is a practice of domination that shapes the built environment and ideas and hierarchies based on race, religion, and class. Moreover, a precise way of defining colonialism remains challenging due to its similarity with imperialism. Like colonialism, imperialism also involves political and economic control over a dependent territory (Kohn, Margaret and Kavita Reddy, 2017). Yet, colonialism is based on territorial control that rendered subordinate, and usually involved the transfer of population through slavery. Where the arrivals or slaves lived as permanent settlers while maintaining political allegiance to the colonist country of origin (Kohn et al., 2017). Nevertheless, the consequences of colonialism vary since the historical background is rather case-oriented, which relies on both geographic and institutional perspectives (Mahoney, 2010). This section aims to analyze and interpret key transformative experiences of the Dutch Caribbean historic port city; Willemstad, Curacao.

IMAGE BY: JUAN F. BAIZ, 2021

2.2.2 Methodology: TTL Environment, Economic, Social

The context of the case study is analyzed through a holistic approach, the Triple Top Line (TTL) introduced by McDonough and Braungart is utilized. The Triple Top line approach focuses on balancing environmental, economic and social aspects while exploring how they dynamically interplay with one another, resulting in generating value on all three aspects instead of tradeoffs (Braungart & McDonough, 2009). Even though in past sustainable development tend to use the Triple Bottom Line approach, which also considers the three diverse aspects of the economy, environment, and social equity, it often generates tradeoffs.

In practice, it has showcased that the focus tends to be only on the economic aspect, with social and environmental benefits being considered as an afterthought rather than given equal weight. Therefore, the focus of the Triple Topline is to balance the environmental, economic and social equity while exploring their dynamic interplay to generate value on all pillars instead of tradeoffs between one another (Braungart et al., 2009). Hence, the TTL approach aims to discover opportunities through honouring the needs of all (See figure 5). Offering a holistic framework to analyze the environmental, economic, and social aspects and how they have evolved for the historical port-city of Willemstad (Jimenez, 2021).

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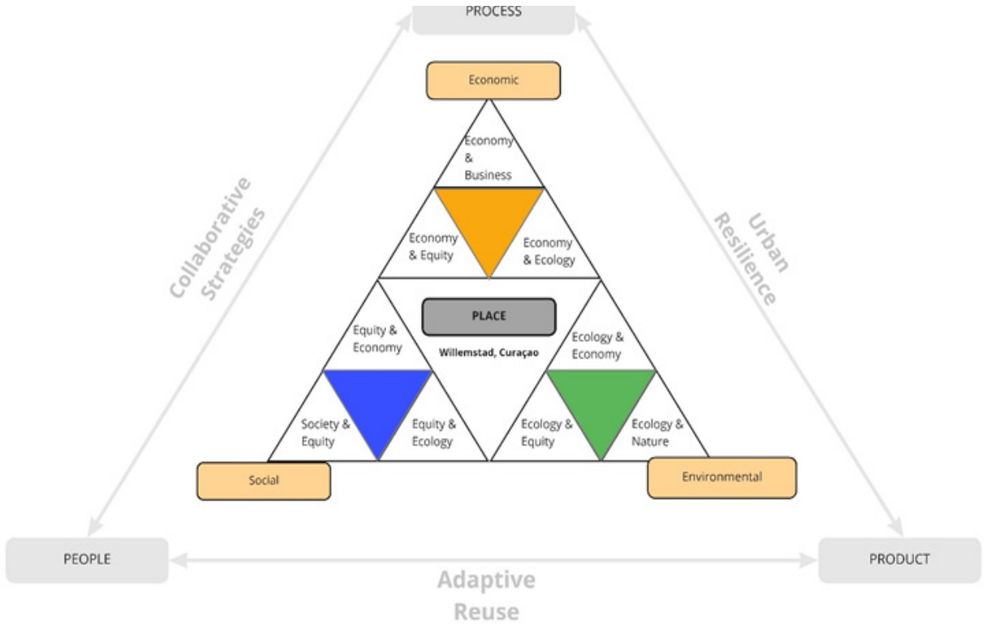


FIGURE 5: FRACTAL TRIANGLE BASED ON PRINCIPLE OF TTL TRIPLE TOP LINE (OWN ILLUSTRATION BASED ON BRAUNGART & MCDONOUGH, 2009)

2.2.3 Past

By using Curacao as a case study the results can become an example for other small islands developing states (SIDS) in the Caribbean that share a common colonial history and urban fabric. A majority of Caribbean islands behold a rich history in regards to colonial European built heritage.

Colonialism

As early as the 15th century when western colonialism emerged in the Americas and Caribbean region the development of the urban fabric of Willemstad, Curacao commenced. Hence, colonialism was the practice of domination, which shaped the built environment and created ideas and hierarchies based on race, religion, and class (Kohn, et al, 2017). The unique architecture and culture influenced by colonial times evolved into a distinctive identity for the historical inner-city. Moreover, port cities were founded once colonizers had discovered a new place, finding a purpose for the discovered island through land distribution organizing and distributing forced labour, while setting up trade logistics (Saavedra et al., 2019). Trade back then could be considered a model that involved the private sector, with strong support and guidance from the state or monarch. Hence, to some extend paralleling with today's private-public partnerships (Saavedra et al., 2019). The importance of studying the past, which can be also interpreted as history, is to better understand the present and predict the future of the place. Given the longevity of investments in port infrastructure, the quality of port city resilience is often linked to decisions of the past (Hein et al., 2020).

Environment: Geopolitical & Fort

During the colonial times, the main motive of interest in Willemstad, Curacao was geopolitical. While not having any valuable resource such as gold or silver, the island had the best natural harbor in the Caribbean region and was beneficially positioned concerning neighboring countries. Located just 40 miles off the Venezuelan coast, Curacao was first discovered by Spaniards in 1499. From their perspective, a rather 'isla inutil' refers to a useless island because the island has no resources of great value. The main purpose of the island was for a sugar plantation and salt lagoons. It was until 1634 when the Dutch West India Company (WIC) was interested in colonizing Curaçao. Being a suitable war harbor due to its geographic position and having a natural harbor, which later served as one of the largest slave trade ports (Curacaomonuments, nd). Thus, serving as a strategic location due to the connection between land and sea as well as situated near to countries of interest was the main reason for the first permanent colonial settlements by WIC known as Fort Amsterdam (1) (Jimenez, 2021).

The fort's first function was to offer protection to the housing of the Dutch colony (Nationale Archief Curaçao, n.d). The fort's original design was in the shape of a five-pointed star, but its side collapsed during the construction of the fifth bastion. Additionally, the building material of the fort walls consisted of a core of earth and coral, resulting in heavy facades of 3.2 meters high and a thickness of about 3 meters, serving the function of protecting and defending against an invasion. During the fort's construction, the living conditions were poor, most of the food and building materials had to be imported from Europe by ship, which took several months for shipment to arrive. It was until1634 that Fort Amsterdam was completed offering better living conditions and new purposes. The Governor's Palace was primarily built within the fort, embracing the Dutch colonial architecture consisting of doric columns and arched windows with a typical Dutch roof.

The second building to be built was in 1769 a Protestant church, together the governor's palace and Church formed the first rather top-down urban settlement within Fort Amsterdam (See Collage Map Past) (Curacaomonuments, n.d).

Economic: Slave Trade & Building

Trade has played an essential role in the economic development of port cities in the Caribbean region, diverse goods such as sugar, salt and tobacco were traded. Later at the end of the 17th century, the Caribbean, including Curacao, became one of the most extensive trans-Atlantic slave trading routes. Hence, creating a new economic dependency on the island by introducing slavery. Attracting traders and merchants to Curacao throughout time expanding the urban fabric by creating informal settlements around Fort Amsterdam. Leading towards growing the city, with Punda, related to the Dutch word de Punt (1.2). In Punda, most of the buildings were of established merchants along the harbor, now known as the Handelskade; further in the Breedestraat and the Herenstraat. These houses are two to three stories high utilizing the ground floor, as a shop while the merchant would live above it. The building material most commonly used at the time was the light, small and yellow brick, which were shipped by ship from the Netherlands until about the end of the 18th century. Another building alternative later utilized was thicker and heavier stones, namely from cliffs on the island. Besides adjusting the building material much of the architecture of Punda has characteristics of that from the motherland, the Netherlands. Since all builders came from the Netherlands, they had no idea how they had to adapt the building plans to the tropical climate of Curacao. Hence, the first roofs were pointed with triangular gables, also later wooden galleries were introduced accidentally. These galleries then became one essential part of the building, which constantly provided inhabitants influx of fresh air and shading. Only from the second half of the eighteenth century, the buildings were built in a way that was more adapted towards the tropical climate (Curacamonuments, 2006).

The population growth was due to the increasing influx of traders and merchants, also the vast amount of slaves imported from Africa by the WIC. Creating one of the largest slave trades in the Caribbean in 1655, importing more than 100.000 slaves, which were traded as a source of economic income (Jimenez, 2021). Hence, the usage of slave labor became very appealing for the colonists in the New World, due to the increasing demand for cheap labor in contrast to alternative forms of laborl, offering economic benefits to plantation owners by using slave labor (Temperley, 1977). Thus, slavery had become the main economic stream for the WIC at the time. Nevertheless, other streams of income from various merchants selling their goods led to further development of the city, which was declared a free port In 1675 with the hopes to stimulate further the economy. Once, declared a free port a suitable name was needed in order to attract people's attention this was the first time the name Willemstad was mentioned in the archives (Nationale Archief Curaçao, z.d).

Social: Racial Segregation & Freedom

At the beginning of the eighteenth century, the Punda district had become too small for the growing population it was allowed to build on the other side of the Saint Anna Bay, opposite of Punda. This new district was called Otrobanda a Papiamento name, meaning 'on the other side'. Papiamento is the native language of Curaçao, composed of various linguistic ingredients Amerindian, Spanish, Dutch, Portuguese, and several African languages. Nevertheless, while the urban fabric extended throughout the eighteenth century, informal apartheid loomed with the largest number of slaves imported to the island. From 1700 to 1738, 19.245 slaves were transported from Africa to the Caribbean, resulting in race, class, and gender hierarchies. In 1791, Curacao became an actual Dutch Colony after the bankruptcy of the WIC. A few years later in 1795, the uprising of the great slave revolt took place, regardless the Dutch suppressed the revolts.

The Otrabanda district consists of four areas, each of which can be identified by their differences in structure. First, there is the alley area, consisting of small streets and alleys with small "kunuku" houses for the slaves mainly. In contrast to the coral area, which can be characterized by large mansions with a spacious 'kura' (garden) and separate houses for the servants. Further, the IJzerstraat area, consists of sloping, curved streets and finally the Hoogstraat area, known at the time as Otrabanda's professional area with luxury houses. The architecture of the houses was slightly different than in Punda, because most buildings had simple, straight lines with porches and gable roofs. Yet, later in 1817, both districts ended up having a similar color palette for the buildings. This was a result of Admiral Albert Kikkert issued an order that all houses in both districts Punda and Otrabanda be painted colors. Apparently to protect eyesight from the glare of the previously white limestone walls, the introduced predominant colors in the time were red, blue, yellow ochre and various shades of green. It is understood that each color would reflect the families social economic status.

From 1857, plans arose to demolish the city wall surrounding the oldest district of Willemstad, Punda. Due to the city walls being an obstacle to the necessity to continue to grow and the government's plans to expand east of the island. By 1860, a large part of the Fort Amsterdam wall was demolished the city gate was also removed to make the quay longer for the benefit of providing new warehouses. Arising from the outside of the former city walls were the first suburbs, Scharloo (3) and Pietermaai (4). The neighborhoods were characterized by neoclassical architecture villas from the well of merchants that left busy Punda. At that time, Scharloo was the place for luxury homes with distinctive U-shaped floorplans, which included a large and elevated front porch around the home used to protect against tropical storms (Nationale Archief Curaçao, n.d).

The social inequalities that elevated from slavery were immense in particular regarding racial segregation due to the high fraction of black people as slaves, the living conditions, and the distribution of wealth and human capital became very unequal (Jimenez, 2021). Once abolition was officially proclaimed for the Dutch colonies in 1863 more opportunities arised for the former slaves. These opportunities required Willemstad to have a connection between its four districts. Therefore, in 1888 the first bridge was built to connect the two districts Punda and Otrabanda, which were divided by the body of water known as St. Anna Bay. The bridge was named the Emma Bridge named after Dutch Queen Emma, becoming one of the most famous bridges due to being the only floating wooden swing bridge in the world (See Collage Map Past). Therefore the social impact that freedom offered was represented by the connectivity developed within the urban fabric (Jimenez, 2021).

1499 Colonialism

1634 Dutch WIC- Fort Amsterdam

1863-1918 Abolition of slavery

1918-1985 Oil Refinery SHELL

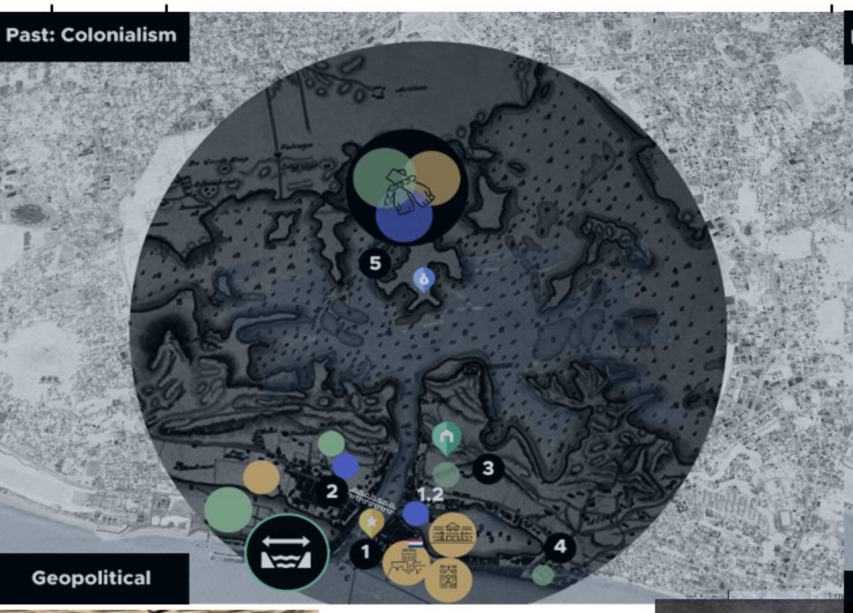
1969 Revolts & Looting

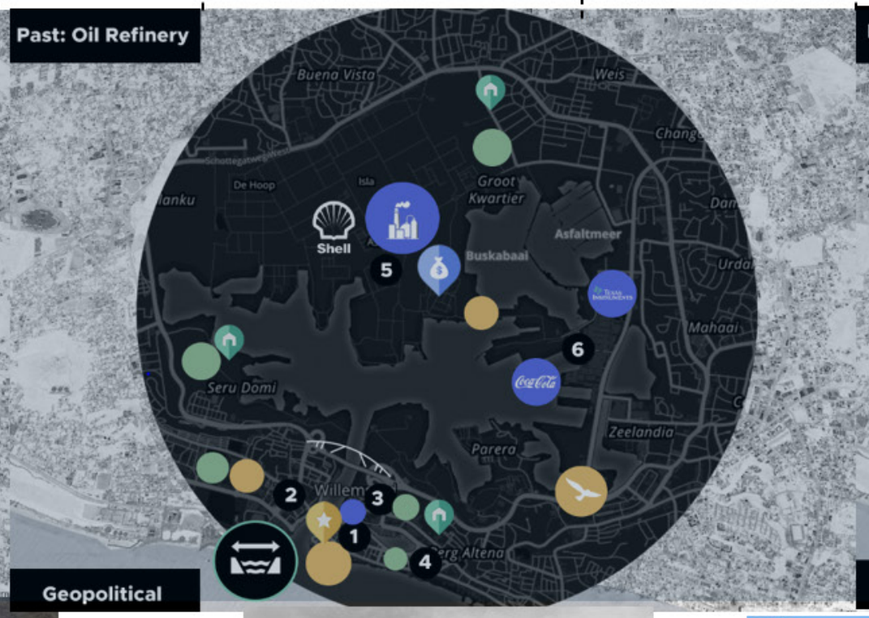
1997 World Heritage site UNESCO

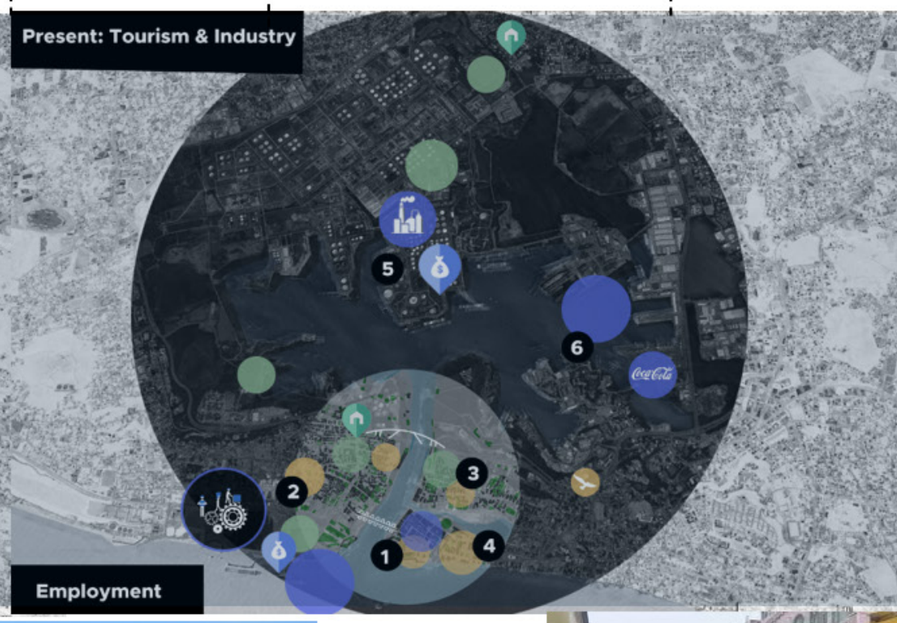
2010 Curacao Autonomous Hurricane Tomas

2020 COVID-19 Pandemic

2021







2.2.4 Industrialism & Petrol

During the beginning of the 20th century a new dependency was introduced with the development of an oil refinery in Schottegat the inner harbor of the port city of Willemstad. Due to large oil reserves being discovered in neighboring country of Venezuela in 1914, which created the opportunity for an oil refinery to be established on the island (Nationaal Archief Curaçao, n.d). The development of the oil refinery required an extensive plot of land, easy accessibility by boat as well as massive infrastructure and petroleum-based technologies, which led to significantly influencing the spatial structure of the built environment (Hein, 2009).

Environment: Geopolitical & Infrastructure

A new dependency was introduced once again in Willemstad, due to its natural harbor and geographic positioning it was seen as a potential to refine crude petroleum from Venezuela. As consequence, the Anglo-Dutch oil company, Shell immediately established an oil refinery on the island, located at the isla peninsula where slaves were once traded. Moreover, it was strongly related to the politics by fueling almost all of the World War II. The refinery had produced 85% of kerosene for the Allied forces to be able to fuel their bomber planes. The level of production of kerosine was increasing tremendously that a special area had to be created and filled with asphalt and acid tar due to not being able to dispose of elsewhere (Naam, 2016). Hence, the production of gasoline through oil refinement became of rising strategic importance both economically and politically (Hein et al., 2020a).

There were several challenges brought by the introduction of the oil refinery such as the increase in ship and car traffic. Due, to the only connection being the floating Emma bridge, which had to be opened when ships were coming in leading to long traffic jams and waiting times on the Handelskade to cross from Punda to Otrobanda. Consequently, a higher and larger bridge was developed over the Sint Anna Bay, this bridge was named the Queen Juliana Bridge.

Hence, the bridge was built with height of 56.4 meters, to facilitate that almost all large ships could pass under the bridge towards the inner harbor where the oil refinery Shell is located. By providing a solution for both ships and car traffic to navigate simultaneously, thus diminishing the long traffic jams. However, the extensive infrastructure that the oil refinery had developed around it such as highways led towards a deurbanization of the historical inner city as people were intrigues to move to rural places. Moreover, while the purpose of these extensive infrastructure was to connect as well as stimulate the use of car mobility these also had adverse environmental impacts for the ecosystem.

Economic: Oil Refinery & Industries

The industrial revolution in the late 18th century enhanced the economy of the island with the arrival of the oil refinery. Thus, introducing a new era for Willemstad, which provided employment opportunities for many locals. Setting Curacao on the map by attracting foreign investment along with promoting the industry development, which led towards American companies such as Coca- cola and Texas instrument to establish manufacturing plants on the island due to the relatively cheap labor offered at the time. After almost 70 years, in 1985 the Royal Dutch Shell decided to terminate their oil refinery operations in Curacao. A challenging period with a fragile economy and mass unemployment, led local government to agree to drastic measures. Hence, selling it to the curacao government for the symbolic value of 1 guilder at that time. Yet, while the initial buying price might have been low the agreement, between Shell and Curacao stated that the buyers had to abstain irrevocably and unconditionally from existing and future claims for pollution or other environmental effects exerted by Shell (Donovan, 2020). During its years of operation, Shell created a toxic legacy in Curacao, causing massive pollution to air, soil and water. Curacao then leased the refinery and terminals to the Venezuelan state-owned petroleum company PDVSA, which operated the oil refinery from 1985 till recently 2019 (Jimenez, 2021).

Social: New Opportunities yet Unequal payment

The transition towards industrialization was originally expected to result in more opportunities and equality among the population (Engerman and Sokoloff, 2002). For Willemstad, the influence industrialization had on the island could be seen as a two sided coin. While having positive contribution to the overall economy there were still inequalities present. By providing employment to the local community as well as immigrants the expansion of the oil refinery along with its workers required Shell to also expand on the existing housing supply. Thus, developing several "oil villages" creating a new urban living with middle class attitudes in regards to offering leisure activities such as sports (Nationaal Archief Curaçao, n.d). By providing various activities of leisure and sport the local community was offered a new opportunity. While sports like baseball initially started as a pass time between different labor parties in 1989 it had shifted towards a profession. For the first time Curacao was recognized based on talent rather than geopolitical position when the first major league player in baseball from Curacao, Hensley Meulens also known as Sir Bam Bam played for the New York Yankees. Regardless, of these new opportunities the elite were able to maintain their economic and political influences, leading to inequalities in payment for the broad mass of the people (Engerman et al., 2002). These inequalities were seen in the operation of the oil refinery by Shell, while being the largest employer on the island there was unequal payment to the workers of the local contractors. This led to political unrest on May 30 ,1969 leading to large protests and looting various buildings in Punda and Otrobanda, many of which were set on fire. Moreover, Fort Amsterdam was sealed and protected by soldiers during this time. As a result a total of around 60 buildings were destroyed by fires. Around 100 shops were damaged and looted. The total damage was estimated at about 50 million Antillean guilders at the time (Nationaal Archief Curaçao, n.d).

Throughout the history of Curacao many challenges were encountered in regards to social, economic, and environmental aspects. Yet, the rich historical and cultural value remains preserved within the urban fabric. Consisting of a unique setting in a natural harbor along with an exuberant interchange of cultures. Emphasized within the urban fabric, the historic townscape remain relatively preserved and the various zones in the inner city are still recognizable. Hence, the unique and rare historic port town laid out in a setting of natural waters qualifies Willemstad, Curacao to be awarded the World Heritage status by UNESCO in December 1997. Obtaining a World Heritage status helped to stimulate preservation of monumental building by introducing new procedures and regulations, to which restorations and new developments in the historic area must comply. Resulting in an interlocking system of laws and ordinances constitutes a formal policy for protecting individual properties, groups of buildings and the townscape as a whole (UNOPS, 2019).

2.2.5 Present (2010- Ongoing)

Through analyzing the present situation of the historical port-city the transitions of the various dependencies is emphasized, whether evolving towards new patterns or repeating past patterns in new industries. Being influenced and shaped by past experiences as well as by the future ambitions the present showcases the environmental, economic and social aspects of the 21st century. In a globalized world tourism has led towards a growing interdependence for Caribbean islands especially. Hence, Curacao is a unique tourist attraction consisting of pristine beaches and the Dutch colonial architecture of the capital city, Willemstad. Besides, tourism Curacao has many industries dependent on the port of Willemstad, which is the second biggest seaport in the Kingdom of the Netherlands after Rotterdam, and already one of the most advanced and efficient ports within the Caribbean (ShipTechnology, 2017). The current ambitions Curacao has for the future is towards achieving certain SDGs offered in the urban agenda of 2030. A rising concern is the socio-economic status of the island due to the instability of two of its economic pillars the oil refinery and tourism. Moreover, these industries showcase past patterns of dependency on external multi-national companies, whom not always have had the best interest in regards to environmental aspects and tend to be rather unsustainable, contributing towards climate change.

Environment: Resources & Waste

The increasing concerns about the effect that climate change will have in the Caribbean, confronting an increase in natural disasters and rising sea level, therefore creating new challenges for the built environment. Furthermore the impacts of climate change are long-term meaning that it would most probably be felt for the years to come, resulting in an increase in duration and intensity of hurricanes. While Curacao has an advantageous position just outside the hurricane belt the island remains vulnerable to environmental challenges. Such as the increase flooding due to tropical storms, rising sea levels as well as being affected by the increasing scale and intensity of Hurricanes. An example was in 2010 when Curacao had experienced its most extreme Hurricane till date, Tomas. The damages left on the built environment of the historical port-city were immense insured losses across the island exceeded US$63 million, though total damage costs from Tomas were estimated at US$115 million, causing major economic instability leading to acquiring more financial debt (curacaohistory, 2019).

On the contrary, from being vulnerable to climate change effects Curacao also contributes to increasing climate change due to its unsustainable activities. Hence, by having the highest CO_2 emissions per capita in Latin America and the Caribbean, makes Curacao one of the most unsustainable islands in the region. The main contributor is the oil refinery contributing 38% to the total carbon emissions produced, followed by the waste landfill 18%, transportation 17% and water and electricity production 17% (CBS, 2018). The government while being aware of the unsustainable and unhealthy pollution produced by the oil refinery still tend to want to keep the refinery running ta al cost due to economic dependency and geo political reason. Thus, till today it has never enforced existing environmental legislation aimed at protecting the health of its citizens. Furthermore, the tourism sector is also a contributor to increasing CO2 emissions, due to travel methods such as airplanes and cruise ships relying on petroleum. Moreover, the tourism sector contributes for a large part of the waste produced on the island around 20% (UNOPS, 2018). The majority of these waste ends up in the land fill almost 90% , with only 8% being recycled and the other 2% being burned. Hence, the landfill has been a solution, yet it is not sustainable in the long-term and is expected to reach its full capacity by 2027 (Suradi,2019).

Economic: Tourism Industries & Vacancy

The economy of Curacao is rather diversified in comparison to other SIDS in the Caribbean. Being an open economy consisting of industrial industries such as international trade, shipping services, oil refining, and tourism. The port plays an essential role for all these industries facilitating economic growth. Apart from the port the rich historical and cultural built environment offers a unique setting for tourist in particular cruise tourism, whom can walk directly from the terminal into the old city center (Saavedra et al., 2007). For Willemstad, Curacao tourism has brought many benefits in regards to its economy and port development. In particular the cruise tourism seemed like a growing market trend stimulating development in the historical port-city. In July 2014, the Curaçao Ports Authority (CPA) unveiled its Rif Seaport Curaçao Master Plan, a two-phase redevelopment project partially completed in 2018 to modernize Willemstad. The tourism industry has a significant value to the overall socio-economic status of the island, contributing for approximately 20% of the country's GDP and 31% of the contribution to foreign exchange (CTB. 2019). Revealing the economy to be significantly dependent on tourism in terms of foreign exchange income. Hence, the currency used is the Netherlands Antillean guilder, making its economy dependent on foreign exchange. Yet, according to the World Bank Curacao has a rather high income economy for a small island

Nevertheless, the foreign demand has been reduced significantly due to primarily the political uncertainty in Venezuela, which has led to a decrease in petroleum exports. Moreover, with the corona pandemic the tourism industry has decreased as well in particular cruise tourism. Leading to a ghost town effect on the historical old town, due to certain district such as Punda focusing on souvenirs and entertainment aimed towards tourist (Jimenez, 2021).

Social: Culture, Art & Sports yet Unemployment

The tourism industry still remains an economic pillar due to creating both formal and informal jobs. Nonetheless, the corona pandemic has caused an increase in the unemployment rate, especially in the historical inner city. Dependant on boutique hotels, restaurants, cafes, stores as well as informal markets depend on tourist in particular cruise tourism which creates an influx of more than 5,000 visitors at a time, Also influenced by the unemployment from the labor force of the oil refinery, which remains inactive due to lacking an operator, that is willing to invest in renewing the refinery to meet today's standards. Thus, the increase in unemployment in the two main economic pillars for the island leads towards a rise in poverty for the local community (Jimenez, 2021). In areas like Otrobanda and Scharloo, more than 50% of household are living under the poverty line (CBS, 2018).

Despite the socio-economic challenges, there seems to be hope in regards to culture, art and sports. There is an increase in bottom-up approaches over the last decade, being more inclusive towards the local community as well as inspiring others to see the value of the historical and cultural identity that each district of Willemstad has to offer. Showcased in various spatial forms such as through murals, play grounds and enhancing livability with housing, restaurants and boutique hotels. There is an increasing amount of talent encountered in the local community form artistic and creative capacity to professional athletes in various sports. These professional athletes represent the island through multiple sports at different scales many of whom represent the Netherlands in the Olympics, The sport talent is also strongly recognized in the United States in regards to major league baseball. Curacao has sent the most baseball players per capita in comparison to any other country (Jimenez, 2021). These new opportunities tahts port offers the local community, helps to motivate or create new schemes which aim to use sports as a means of improving the social wellbeing (Jimenez, 2021). Hence, sports can generate multiple positive impacts such as social inclusion, health and economic benefits to societies (UKessays, 2018). Today, sport has developed within itself and is considered as an integral part of everyday living for the culture of Curacao. Thus, emphasizing the importance that citizen support has towards re-establishing links between ports, cities and its users (Hein et al., 2020).

2.2.6 Future (2050)

To predict the future multiple visions are analyzed from a rather utopian sustainable vision for the industrial grounds of the oil refinery introduced by the Green town foundation. Towards rather specific functionality of zones in the historical inner-city provided by UNOPS along with the ministry of traffic, infrastructure and urban planning.

The rising uncertainty of the oil refinery Isla being outdated and one of the most polluting refineries in Latin America and the Caribbean region leaving a toxic legacy throughout time both environmentally and socially. Greentown offers a unique opportunity to envision a modern and durable urban heart for the 440 hectares that can serve diverse purpose enhancing the islands identity and creating multiple job opportunities (See figure 8). Merging the once industrial area into with the urban fabric of the historic downtown and its existing landmarks on the former refinery site will be given new functions and historic elements of the refinery will remain as a proud reminder of Curaçao's industrial heritage (Greentown, n.d). Nevertheless, it remains an ambitious long-term vision that hasn't been seriously considered by government officials which due to economic and (geo)political reasons, wish to keep the refinery running at all costs.

In 2019 a collaborative research was done to transform urban curacao, which brought together diverse stakeholders, from residents to local and international experts, like the United Nations, to develop a future identity for the inner city districts. Currently a program is being developed for the regeneration of the inner city, named 'suidat vibrante' (vibrant city) (Investwillemstad, n.d). Hence, the vision established by the government builds on the diverse identities of the districts and aims to create a program that stimulates the diverse opportunities within the inner city through collaboration between public and private partners. Each district: Punda, Otrobanda, has its own history and identity, but all could be subdivided in different sub-neighbourhoods which also have or could have their own identity. Possible identities, based on and enhancing an identity that is already present, are proposed for these neighbourhoods (See figure 9). Future identity building or government policies can be based on these names and descriptions.

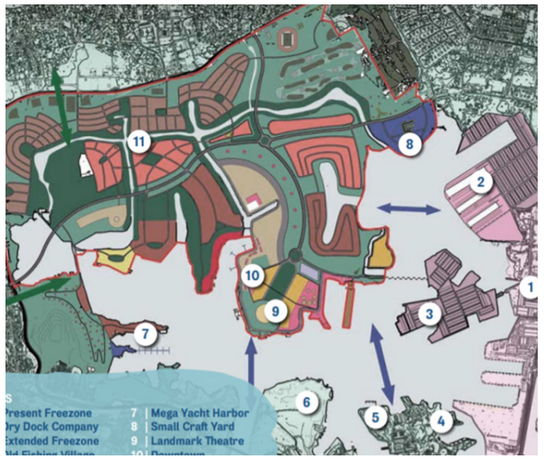


FIGURE 7: VISION GREENTOWN FOR REPURPOSING THE WASTELANDS OF THE REFINERY INTO AN INCLUSIVE MIXED USE DOWNTOWN CITY(GREENTOWN, N.D)

FIGURE 8: VISION UNOPS ZONING BASED ON IDENTITY TOWARDS AN INCLUSIVE MIXED USE HISTORIC PORT-CITY(UNOPS, 2019)

2.2.7 Sub Conclusion Analysis Context of Willemstad

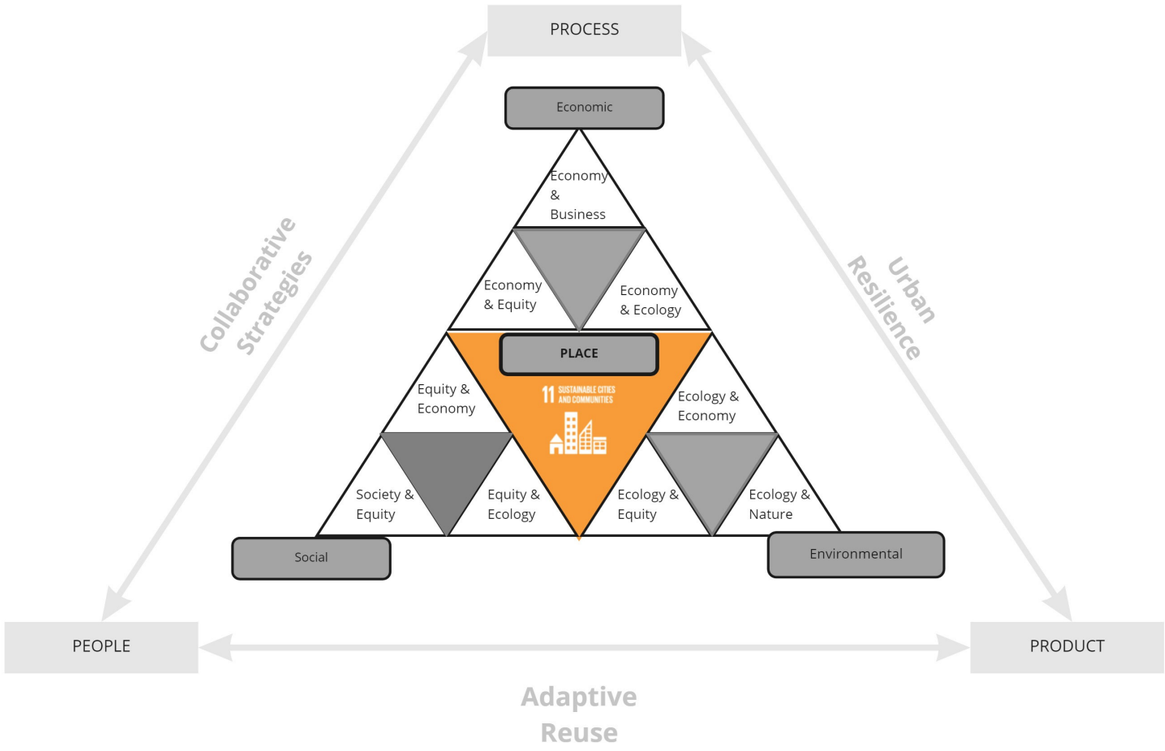
The historical background of Willemstad, Curacao, a former Dutch colonial settlement, showcase patterns of dependencies, creating issues of tradeoffs throughout time. Nevertheless, it also demonstrates the resilience to deal with constant changes affected by social, economic and environmental aspects. This section focused on the case-oriented historical background to offer a global framework for further analyzing the place and its context to answer the following sub-question completely:

What are past, current and future challenges that Willemstad, Curacao is dealing with?

By defining a timeline of the urban development and understanding the influence and impacts of the built environment, the following conclusions about the history of Curacao could be made. Primarily, the unique architecture and culture influenced by colonial times evolved over the centuries into a unique identity. The main urban fabric was Initiated by the Dutch WIC in 1634, initially interested in the geographical positioning of Curacao, settling by creating what began as Fort Amsterdam. Into Willemstad a port-city, composed of four main districts: Punda, Otrabanda, Pietermaai and Scharloo, Each with its unique architectural characteristic and serving multiple purposes throughout time.

The Dutch colonial period lasted till 1795 when the great slave revolt started. Yet, it was until 1863, that a new era commenced with the abolition of slavery and the arrival of the Shell oil company. Providing a new economic dependency for the island, while freedom and jobs were offered, racial segregation was still present and inequalities in payment to local contractors. Leading to political unrest and revolts along with looting and damaging parts of the urban fabric of Punda and Otrabanda. Even though the damage was done to the urban fabric, Willemstad still preserved its unique setting in a natural harbor along with an exuberant interchange of cultures (Jimenez,2021). Emphasized within the urban fabric, the historic townscape remain relatively preserved along with the various districts. Enabling Willemstad, Curaçao to be awarded a world heritage site by UNESCO in 1997. Thus, utilizing historic preservation by aligning the current local agenda to the historical narrative of the urban place can stimulate revitalization (Hurley, 2010).

While it has showcased patterns of dependencies it also demonstrates a pattern of resilience specifically, urban resilience in the Historical port city. Throughout time there have been tradeoffs, between economic, environment and social aspects. The aim of using the triple top line is to balance these and mitigate tradeoffs in the future.



ANALYSIS CONTEXT OF PLACE: WILLEMSTAD BASED ON TTL (TRIPLE TOP LINE) BRAUNGART & MCDONOUGH 2009

2.3.1 Analysis Perspective: Stakeholder

This section explores the different stakeholder perspectives used to shed a varying light on the urban redevelopment of Willemstad, Curacao. The analysis of stakeholder perspective provides insights into how diverse stakeholders whether public, private or the local user view the redevelopment of the historical port-city Willemstad, in regards to process, product, and place (See figure 10). Moreover, by sharing their expertise and opinion, makes it feasible to explore the problem in an explorative way, in order to form a clear understanding of the experiences that each stakeholder has.

These empirical research findings lead towards to either to confirming, modifying, rejecting or advancing the theoretical concepts, or finding new concepts that arise throughout the research (Yin, 2009). Accordingly, the goal of the empirical research is to collect data through the diverse perspective from a practice, which allows to compare them with each other as well with the theoretical research. Hence, throughout the research multiple questions are asked yet the overarching and main ones are the following:

- What are the bottlenecks when it comes to developing historical buildings ?
- Why would/ do people apply adaptive reuse to historical buildings ?
- How can stakeholder values align in historical redevelopment?

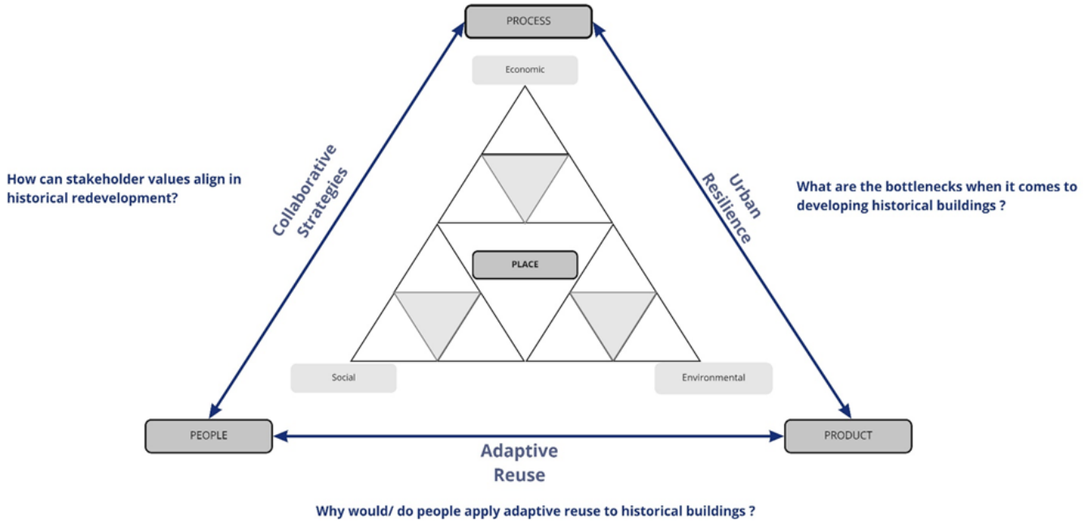


FIGURE 10: ANALYSIS STAKEHOLDER PERSPECTIVE BASED ON 4P MODEL OWN ILLUSTRATION

2.3.2 Methodology & Structure Empirical Research

To further understand the case study framework the analysis focuses on the various stakeholder perspective in regards to the process, product, people and their relation to Willemstad. Thus, rather than identifying policy changes, because of the limited scope of the study the various perspective allow to identify challenges and limitations, which offer qualitative insights. By adopting an in-depth case study analysis of Willemstad through participant observation, semi-structured interviews and surveys help to provide a detailed understanding of stakeholder goals and ambitions towards the redevelopment of historical port-city Willemstad. Moreover, by participating in the SDG action week held in September 2020 allowed to have an overview of the ambitions the island has in regards to resilience and sustainability

Using a convergent mixed method approach through semi-structured interviews and structured survey, helped to generate confirmatory results despite differences in methods of data collection, analysis, and interpretation (See figure 11).

The semi-structured interviews had a duration of around an hour and were held with a total of 12 experts related to the urban redevelopment of Willemstad. Resulting in collecting qualitative data offering more in-depth insights on participant experience. knowledge, and experience. These qualitative data was analyzed based on an inductive form, which enabled an ongoing dialogue between theory and the empirical findings throughout the research process. While the surveys provided more quantitative data through descriptive statistics, which illustrated the patterns amongst a larger population of 93 locals in this research. The aim of descriptive statistics is to summarize data for a population, providing answers to who, what and where but not specifically to why (Ewing & Park, 2020). These findings led to quantitative data being collected through surveys done in google forms which provided visual representation in the form of graphs.

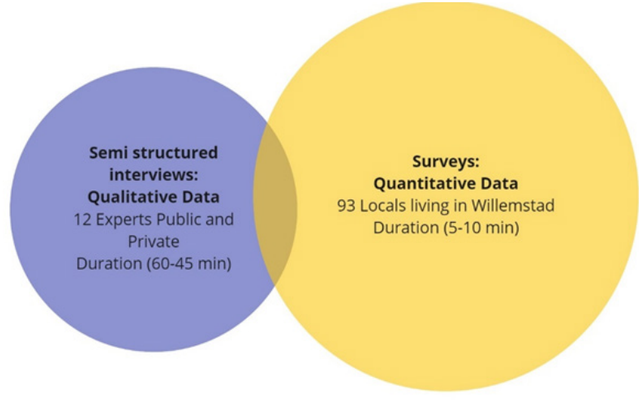


FIGURE 11: METHODOLOGY FOR DATA COLLECTION OWN ILLUSTRATION

2.3.3 People

People refers to the organizations or individuals involved in the area redevelopment of Willemstad, acting either for themselves or on behalf of a larger group. This section focuses on getting to know the people involved within the case study of Willemstad better through interviews and surveys. Based on the perspective of public and private side more insights could be acquired regarding the process, product and place. An essential stakeholder is the user and how they experience the urban life, Therefore, the interviews and surveys objective is quite exploratory and thus by comparing the findings with each other as well as with the theoretical framework the following question could be answered:

How can stakeholder values align in historical redevelopment?

The interviews were conducted in a explorative manner serving as an indication of what experts perspectives are regarding the redevelopment of Willemstad. The stakeholder analysis consisted of a total of 12 semi-structured interviews, with the aim of aligning the diverse stakeholder goals as well as finding areas of strength and weakness in regards to process, product and place. Thus, the qualitative data collection is based on the perspective of multiple involved public and private parties. Whereas, the quantitative data is collected via surveys considering the perspective of the users, in this case the local residents of the four districts in Willemstad.

Public: Governmental Institutions and foundations

Public entities such as the ministry of urban planning and infrastructure can influence the urban redevelopment through different means such as policies, visions, masterplans, incentives and partnerships, By interviewing the public side, specifically the department of urban planning in regards to the historical redevelopment of Willemstad an overview is offered on what their goals and ambitions are currently and for the future.

Primarily, the government appraises the rich historical and monumental value of the built heritage encountered in Willemstad, by stimulating the preservation of monumental buildings through policies and funds. An example is the Curaçao Monuments Fund Foundation (MFC), which subsidizes projects on behalf of the government, as a contribution to the restoration and maintenance of protected monuments (Interview Jukema, 2021). Yet, the capacity to fund is limited to approximately 10 projects a year mainly due to lack of financial and human capacity available.

Besides, aiming to protect the historical value of the port-city the government also has ambitions in regards to the New Urban Agenda for 2030 provided by the UN to achieve certain Sustainable Development Goals (SDG), Nevertheless, while a vision was created in collaboration with the United nations office for Public Services (UNOPS) the implementation of specific strategies remains limited due to lack of human capacity and systems for development planning. Hence, throughout the interview the public side made clear their willingness to stimulate the development in Willemstad, However, they currently lack on ways of implementing an adequate strategy to achieve the vision mainly due to the lack of capacity and communication within the public side alone, which is not sufficient to redevelop Willemstad (Interview VVRP, 2021). Thus, acquiring capacity is essential regarding finance along with the adequate people who are specialized and have an affinity towards the urban redevelopment of the historic center and its heritage, which in tails additional complexity. Moreover, the political commitment is another institutional uncertainty as every four years another party could be elected with different goals and ambitions. Therefore, the interviewee emphasized that in order to align the multiple stakeholders involved within the Public side itself a better overall Inner-city development plan with zonings (stedelijk ontwikkelingsplan) is needed to enhance collaboration and achieve a strategy towards a shared vision for the place, in this case all four districts of Willemstad would require a more detailed vision and zoning plan to enhance the identity. The following statement represents the perspective of the public side in regards to their goals and ambition to achieve them.

"We have to formulate much more clearly what we want for each district it can't be more of the same. I think if we make better use of Public Private Partnership (PPP) we can achieve this."
-Ir. Caroline Manuel (VVRP Ministerie)

Private: Developers and investors

The private sector has stimulated the development in the historical port city over the last years, whether multinationals like Shell in the past towards mid-size developers and smaller entrepreneurs mesmerized by the potential that the rich historical and cultural city has to offer. A total of 10 Interviews were held with diverse individuals each with their own expertise and experience of developing in Willemstad. It became evident through the interviews that there were a lot of Dutch experts whether developers or architects involved in renovating historical buildings, many of which acquired knowledge and experience in Holland regarding these transformations and have a deeper understanding of the value of heritage. Almost all interviewees have had a long relationship of approximately 20 years or more with developing on the island (Interview). As one of the developers expressed it is with passion and perseverance that one must develop in Curacao, then only is the result worth more than the profit. Hence, long-term thinking is something that many of the developers share in common in regards to redeveloping in Willemstad

The impact of areas being repurposed such as Pietermaai has been immense, not only at a market level which significantly increased prices in the area but also the social safety and livability of the area has stagnated over the last years. Nevertheless, the entrepreneur and passionate developer behind achieving the redevelopment of Pietermaai district had envisioned the transformation since the early 2000s (Interview Hendrikson, 2021).

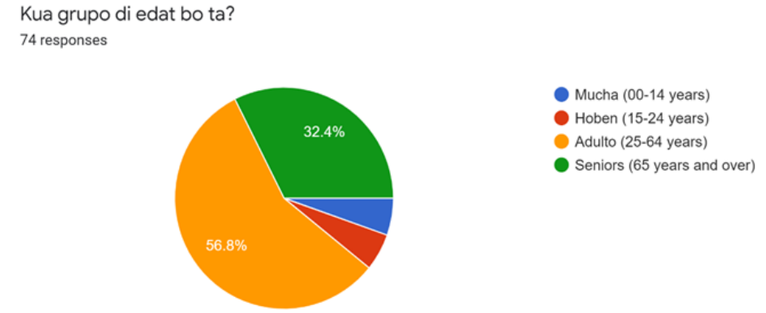
In his perspective, the government lacked collaboration during this time and thus it was his perseverance over the years that led to what Pietermaai is today, a vibrant neighborhood. There is also increasing local capacity, in regards to development and expertise with complex mixed use projects. One interviewee expressed how it showcases the potential within the island as well as contributing to better communication between both public and local residents. Moreover, there is an increase interest in private parties and investors to revitalize the livability of the city through larger mixed use development helping to target the increasing demand for housing on the island as well as benefiting from commercial, hospitality and even cultural functions (Interview A & B).

I envision an active policy from the government to encourage locals and foreigners to invest in all 4 districts of Willemstad. Once you decide to do this, also act to it, with related decisions.
- Dhr. Wilfred Hendriksen

Local: Neighborhood and Residents

The users are a crucial stakeholder, in regards to the urban redevelopment of the four districts of Willemstad: Punda, Otrobanda, Pietremaai and Scharloo. While the built environment sets the activity and spatial context, the people specifically the end user give it meaning and purpose. The users can be seen as temporary visitors or permanent residents, this research focused more on the local residents of the area to understand their perspective regarding the livability of the area and their overall experience. A total of 93 surveys were conducted during the field research allowing to collect data from a larger population. For the theme of people the survey focused on questions related to demographics, occupation and duration of living in the area as well as some qualitative findings in regards to what they consider strengths and weakness of their district and neighborhood. Primarily, the demographic of people living in the four district's tend to be adults (57%) along with an increasing amount of elderly (33%), whom are above 65 many older than 80 (Survey) (See fugure 12 &13).

IMAGE BY: GABRIELA JIMENEZ 2021



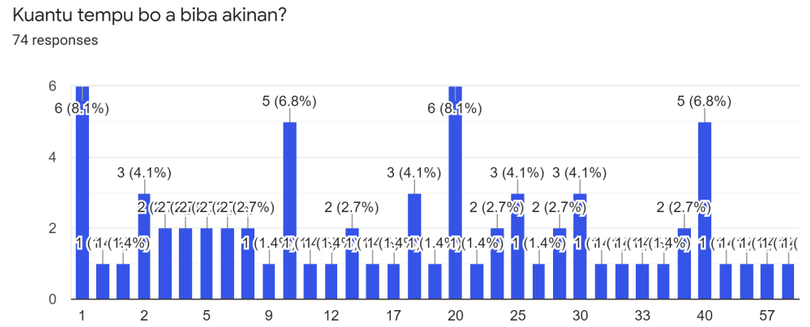


FIGURE 12: DEMOGRAPHICS -DESCRIPTIVE STATISTICS VIA GOOGLE FORM SURVEYS WITH LOCALS
FIGURE 13:DURATION/ YEARS OF LIVING- DESCRIPTIVE STATISTICS VIA GOOGLE FORM SURVEYS WITH LOCALS

2.3.4 Product:

Why would/ do people apply adaptive reuse to historical buildings ?

Public: Governmental Institutions and foundations
The public entities own land as well as governmental buildings located in the historical inner city, the majority of them being monuments. Hence, the original governmental house in Fort Amsterdam, is still being utilized for political functions such as the office for the ministry of general affairs and Directorate of Legislation and Judicial Affairs. Along with other monumental buildings applying adaptive reuse towards office space for diverse public entities. Yet, the interview focused not on the specific buildings as products but rather the application and stimulation from the public side toward preserving the monuments in all the four districts. The government has invested in policy, legislation and regulations to preserve the heritage values of these buildings (Interview VVRP). The focus tends to be on the exterior of the monumental buildings having specific rules regarding: plot layout, building height, facade layout, construction materials, roof shape. Furthermore, 50% of the inner-city of Willemstad is a protected monument. It is emphasized that each district offers different value and thus a different approach is needed for each district Punda, Otrobanda, Scharloo and Pietermaai. Currently, a more detailed implementation is lacking in regards to what can and cannot be done in regards to monumental buildings. While preserving seems to be the current dominant strategy there has been a possibility to move forward with conserving the heritage value by offering more flexibility to new developments in regards to architecture. However, with change always comes criticism in regards to how a specific building should look to respect the historical and cultural identity of Willemstad.

Facts and figures
Surface: approx 170 ha
760 listed monuments
1972: 7665 residents <2>
2011: 2020 residents
(InvestWillemstad, 2019)

While the public side tries to protect and stimulate the renovation of historical buildings. There is so much that we are capable of doing alone in regards to ownership and finance. Many privately owned buildings in the area, an example is Punda district where private parties own 80% of the buildings, thus a rather fragmented land ownership. In recent years more initiatives increasing interest from private parties to develop commercial, living and boutique hotel or cafes. Showcasing, the potential that these buildings offer to the island's overall economy attracts locals and tourists towards the inner city.

Private: Developers and investors

The majority of developers investing in Willemstad have previous experience in transforming and renovating monumental buildings. They tend to be fascinated by the historical and cultural value these buildings offer. One developer stated that when he bought his first monument he was captivated by its unique architecture, regardless of the state of the neighborhood at the time which was quite unsafe (Interview Ouborg, 2021). Today, the 18th century Dutch 'Landhuis' with the other historical buildings on the estate accommodates up to 20 guests and makes the Sirena Bay estate an ideal place for visitors to experience the heritage value of the inner-city. In addition, the affinity for culture, art and entertainment is seen throughout the estate with a distinctive art collection from local artists and world-class pieces, creating an authentic atmosphere, striving to offer pleasure and quality as an experience. He accentuates how the neighborhood has already developed and became safer in the four years since he bought the state in 2016, due to other developments happening simultaneously such as small bars and restaurant opening in the surrounding area as well as complete districts rising from the ashes to life such as Pietermaai.

The revitalizing of the Pietermaai district took almost 20 years since the initial vision of Mr Hendrikson in the early 2000,s intending to create a vibrant and livable district from the monumental part of the downtown, which deserved better than being desolated and a playing field for drugs dealers and addicts. A quite inspiring story from Mr. Hendrikson, unlike other developers he started as a restaurant owner and entrepreneur with a vision and lots of passion. From a rather deserted district, with zero boutique hotels, bars and restaurants towards a hotspot in Curacao for both locals and tourists. Offering about 500 rooms, 20 restaurants and bars now it has become a place to visit and live in Pietermaai is a hip trend now, which has led to real estate prices in this district becoming one of the highest on the island.

Initially, it started by renovating and repurposing monumental buildings for student housing by buying dilapidated houses before constructing them, which prevented higher buying costs.

Along with financial backup, enormous perseverance, lots of creativity were they able to restore the historical value of unique monumental buildings influencing the whole Pietermaai district and city (Interview, Hendrikson, 2021). Besides hospitality and residential functions some developers see the opportunity to repurpose monumental buildings into commercial functions such as office spaces, mainly in the district Scharloo and Otrobanda. With, increasing interest for companies to be in historical downtown area where both private and public companies are located. The Triangle Curaçao is an example of a combination of the historic building being conserved and combined with modern architecture, offering an office complex centrally located in the prominent business district of Otrobanda.

Besides developers, other private companies such as Heren2 a local architect, project manager, and real estate consultant company founded in 2005 on Curacao, have worked on diverse projects at a larger scale, thus cooperating with institutional and private investors. From creating community centers and sports fields, they also collaborate at a bigger scale with other developers in projects such as "The Wharf" in Scharloo. The Wharf is a mixed development at a large scale for the island, while it isn't adaptive reuse of an existing building it is a sort of repurposing of an empty land "Kliene Werf" which had only temporary functions in the past and most of the time was rather excluded to the public (Interview Heren2, 2021). The integration between water and the districts is taken into consideration, while the architecture is modern it aims to integrate within the city view lines, Hence, the unique architecture can be experienced as the city skyline from a modern environment, this attracts a different type of target group to the inner city. The combination of modern and old offer opportunities to expand and serve multiple uses (Interview Den Heijer, 2021).

The scale of this project is more complex not only due to the size but also in regards to being a mixed-use development, which is one of the first being developed in the historical inner-city. Moreover, the complexity requires collaboration between different private parties sharing different expertise. Such as the real estate company Heren2, architectural firm Den Heijer, engineering firm C + CC Engineers, and Algemeen Pensioenfonds van Curaçao (APC). Another partner is Curaçao Ports Authority (CPA), which made the long leasehold land available (Curacao Chronicle, 2020). Three out of these five companies were interviewed on separate occasions, allowing to obtain their perspective in regards to the different mixed-use developments being created in the historical port-city of Willemstad.

The majority of the interviewees emphasized that mixed-use developments are needed when dealing with a larger scale offering diverse functions within one project allows creating a unique atmosphere where each function contributes to the other but also to the whole district (Interview APC, heren 2). Another exemplary mixed-use project that is to be redeveloped is the Plaza project in the Punda district. The Plaza hotel has had a rich history being built within the walls of Fort Amsterdam in 1957 and having been operated by different hotel chains throughout time. Yet, since the early 2000's the quality of the buildings commenced to deteriorate and thus finding new owners to maintain and operate the building became more challenging being auctioned almost three times. In September of 2020, the building was auctioned and bought by APC for an estimate of 6.4 million guilders, seeing the potential of the location and being the tallest building in the inner-city offers possibilities to create a landmark for the island that pursues the character of the UNESCO World Heritage Site (Interview APC, 2020). To help stimulate livability in this area creating more residential functions is vital along with more unique cultural and educational functions. Introducing a new pull factor for the area by offering a 'Rijksmeusem' with top quality art collections, which are currently stored in basements in the Netherlands, will attract people from neighboring countries such as North and Latin America,

Diverse functions are added value for the district of Punda, which are essential to attract long-term visits for locals and tourist to the city rather than a typical hotel and casino development. Another new function that APC is considering to add in its development is higher education from the Netherlands that stimulates studies in sectors such as hospitality or agriculture, being beneficial for the socio-economic status of the island overall. Also, students are one of the target groups that can bring livability back to the area. Other functions are required to support the project's financial feasibility, such as luxury apartments (Interview APC, 2021). Currently, the district of Punda is mainly a commercial district with a wide variety of retail stores, attracting locals but also aimed towards cruise tourism with a lot of souvenirs stores. Yet, during the night and presently due to Covid-19, this district has become a ghost town. With the plaza project, their aim is towards developing a catalyst for the district offering multiple functions that create new opportunities for both locals and unique experiences for visitors,

A few challenges are encountered in regards to the product and maintaining the quality of these buildings in the long-term. The restoration along with the maintenance of these monumental buildings, which are located close to the ocean, lead to extensive damages caused by salt and moisture (interview Heren 2, 2021). The maintenance of these buildings tends to be expensive and leads to a lack of interest in maintaining these buildings by several property owners, who lack expertise in restoration or development. Rather, there is a rising concern that many property owners are waiting for the area to develop as a whole, so the value of their land or building will increase without them needing to make a large investment. However, this sort of mentality leads to buildings becoming even more deteriorated or obsolete and vacant, making the neighborhood vulnerable to undesirable usages such as drugs and prostitution. Yet, while the last years there has been an increased interest to redevelop in the historical city of Willemstad it remains a rather fragmented market, not clear what the trends would be in the long-term, due to each district varying from the other(Interview developer C, 2021)

Throughout the interviews, projects were mentioned as ongoing projects or potential projects regarding being a catalyst for the district and the city as a whole. These specific products/ buildings or projects are considered potential for the urban development in each district, showcasing that adaptive reuse can be a sustainable way of developing while enhancing the cities' identity. The historical city has potential to become a downtown, where people work, live and recreate.

In this case, these are the variables that were considered to define each product/ project better:

- Inner-city location
- Period/ Time
- Historical- Cultural Value
- Complexity

Local: Neighborhood and Residents

By surveying the local residents living in all four districts, an overview is found regarding their perspective regarding their homes. Most people pay a rent lower than 1000 guilders a month (54.7%), of which a significant portion from FKP social housing which is an average of 300 guilders a month.

Yet, there is a lot of house ownership 39%, many of which were passed from generation to generation. Showcasing, the emotional value these properties have for certain individuals. The current average household consist of pairs, two people living together (30%). There are a lot of single households, many of which are elderly (21%). A majority of reisdents stated being satisfied with their home environment (60%). Yet, some of them (30%) did state that the quality of the house could be better especially the roofs, which tend to have leakages when heavy rain and storms pass by. A small minority wasn't satisfied with their home (10%), stating they felt unsafe at home.

In the last decade there has been an increase of mid-income and high rental properties in some districts such as Pietermaai and Punda, these were excluded from the surveys due to many of these properties being located at the oceanfront and are apartment complex with security thus not easily accessible. These properties tend to be targeted as vacation rentals and therefore have a temporary experience compared to locals who lived for a longer term in the area.

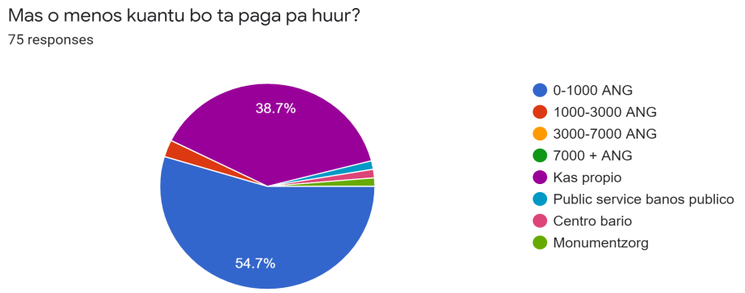


FIGURE 14: HOUSING OWNERSHIP AND RENTAL -DESCRIPTIVE STATISTICS VIA GOOGLE FORM SURVEYS WITH LOCALS

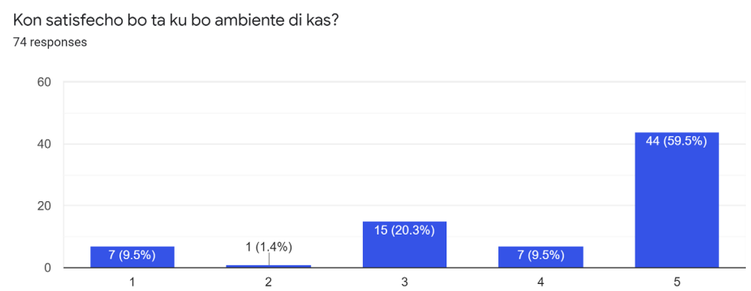
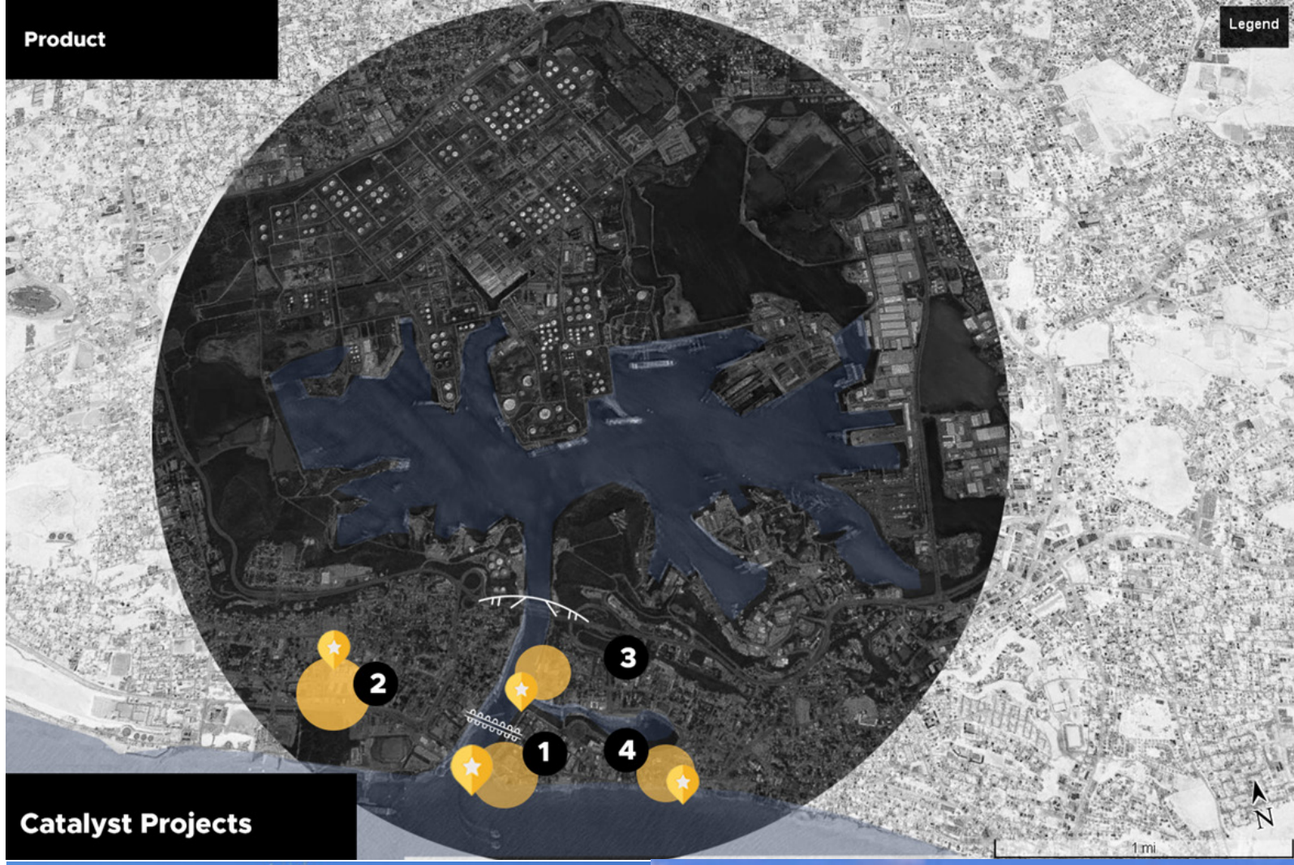


FIGURE 15:SATISFACTION LIVING CONDITIONS- DESCRIPTIVE STATISTICS VIA GOOGLE FORM SURVEYS WITH LOCALS

Location: District	Project Description	Period/Time	Historical, cultural value	Complexity (multi-Stakeholder) environment
1.Punda	Plaza Project: (Interviewed APC, 2021)	Building year: 1957 Project: 2020-2025	Built within the walls of the historic Fort Amsterdam, the first structure to be built in 1634. Plan towards mixed-use development integrating cultural functions such as a museum	APC: Algemene Pension funds Curacao & HPC: Heritage Plaza Consortium
2.Otrobanda	St. Elizabeth Hospital, (Mentioned in Interview)	Building year: 1855 Project: 2025	First hospital on the island. has now existed for 163 years and has a Roman Catholic foundation. Although no monument status yet this property has a certain historical value for Curaçao. Plan towards mixed-use development	Stichting SEHOS Still part of Roman Catholic Church Government partnership
3.Pietermaai	Pen Resort Project (Mentioned in Interview)	Building year: 1857 Project: To be announced In talks since 2015	Two Original 'Landhuizen' listed as protected monuments, plan to renovate them and incorporate them within hotel design	Autograph Collection hotels: Marriot & developer
4.Scharloo	The Wharf Mixed-use project (Interviewed Heren 2 & Den Heijer Architect)	Building year: 1957 Project:	No historical building but the historical function of a Wharf for the port throughout time being excluded from public use. While a new built modern design is offered in considers the view lines of the historic cityscape. Aiming towards creating livability and offering some commercial functions	CPA: ground lease JCC Development N.V -APC: invetsor -Heren2: Management & Development - Den Heijer: architect - C+CC Engineering

TABLE 5: PROJECTS, BUILDINGS MENTIONED IN INTERVIEWS AS POTENTIAL CATALYST FOR EACH DISTRICT IN WILLEMSTAD 2021



2.3.5 Process

What are the bottlenecks when it comes to developing historical buildings?

Public: Governmental Institutions and foundations
The process in regards to policy implementation to preserve the historical and cultural value of Willemstad initiated since around 1995-1997, when Willemstad acquired the UNESCO World heritage site our policies focused on the preservation of heritage and monumental value. Hence, Willemstad is still considered a site under the kingdom of the Netherlands (Interview VVRP). Local policy initiatives and aid of the Netherlands was a start in the approach towards the conservation and restoration of monuments started in 1989 with the joint effort between several governmental organizations of the Island in collaboration with some Dutch organizations such as the Federal agency for Monuments (Rijksdienst voor Monumenten).

The Historic Area of Willemstad, Inner City and Harbour	*C(ii) (iv) (v)*

"The Committee decided to inscribe this site on the basis of cultural criteria (ii), (iv) and (v), considering that the Historic Area of Willemstad is a European colonial ensemble in the Caribbean of outstanding value and integrity, which illustrates the organic growth of a multicultural community over three centuries and preserves to a high degree significant elements of the many strands that came together to create it."
(UNESCO & WHC, 1997)

The historical and cultural heritage value is seen as essential in our economy, being part of the island's identity and attracting tourists. The public side finances the monument fund, providing subsidies and loans to private individuals and organisations to restore monumental buildings (Interview Jukema, 2021). Throughout the 25 years of operating the monument funds has offered financial contributions of approximately 110 million guilders, equivalent to 50 million euros. Leading to be able to provide subsidies to around 10 projects a year.

Also the public side offers tax-benefits as positive incentives towards renovating monumental buildings. While progress has been made throughout the years in regards to preserving the historical buildings in Willemstad the impacts remain quite limited and some even resulting in negative impacts according to the Periodic report conducted in 2013 by the World Heritage Conservation (See Appendix E). A monitoring report of UNESCO before the appointment as 'Wolrd Heritage site', was positive on the developments and plans of the Heritage site related to overall awareness and political support. The slow pace of implementation and revitalization of the inner city and deteriorating residential and economic function was a major weakness.

According, to the interviewee while policies are in place the management of the historical city remains difficult, mainly due to the fuzzy understanding in regards to preservation and conservation making it challenging to further implement. This is also due to the outdated overall zoning plan of the island Eiland Ontwikkelingsplan dating back to 1995, while there has been plans to update the plan according to the interviewee the article 4 regarding the inner city has yet to be revised and updated.

"There has been no evaluation of EOP and no new interpretation of Article 4 Binnestad Inner City. It is true that we have started this, but it really requires expert support."
-Ir. Caroline Manuel

Before the EOP is reformed, a vision needs to be established for the urban redevelopment of each district of Willemstad. Together with the United Nations Development Programme (UNDP), an inclusive vision was formulated in 2019 for the inner city, which aims towards co-ordination strategies in accordance with priorities set in a more specified development and land management plan. The implementation of the vision remains a bottleneck due to certain districts being almost completely privately owned such as Punda making the Public sides influence less impactful.

Private: Investor & Developers

The private parties involved in developing Willemstad shared a similar perspective concerning the challenges encountered for acquiring a permit and the overall process of developing in Willemstad. Due to the outdated zoning plan the current legislation is rather limited and could be interpreted in different ways such as the building height for example, which refers to surrounding buildings rather than a height limit per zone (Interview A). JCC is a partnership between three private companies and a pension fund with a shared vision to develop this high-quality apartment complex in downtown Willemstad It strongly will contribute to bringing livability back into the city center, offering apartments along with commercial functions. Even though, the aim was to offer flexibility yet it leads to a rather inefficient and long permit processes (Interview B).

There seems to be a lack of transparency regarding acquiring information on specific permits such as for conservation areas or mixed use projects, as these are rather new and complex developments. The permit and tender process remains very bureaucratic and politically intertwined, the process tends to be quite nepotistic, referring to favoritism shown to relatives or close friends by those in power (Interview C). Emphasizing that transparency is needed to create trust between the public and private parties. One interviewee explained that while digitalization could be a solution to have a more transparent permit process, the implementation of this would not be accepted easily by the civil servants, who have worked for a long-time based on quite an old fashioned system. An example to showcase how old fashioned it is, you are still required to get a postal stamp for your application to be valid. Besides, being a long and inefficient process also allows for bribes due to the lack of transparency and short-term mentality. Thus, while Willemstad offers many opportunities to redevelop the process remains a bottleneck for both investors and developers due to the political instability and slow process, as a consequence more risks are associated. Some developers did state that the public side does offer some positive incentives specifically regarding investing in heritage preservation through UNESCO World Heritage properties located in Willemstad. Such as a waiver of Transfer Taxes for the purchase of registered monuments and buildings. Also, offering an Investment Tax Deduction of 30% for any investment in monuments. Furthermore, by provides subsidies through Stichting Monumentenfonds for the restoration of monuments (Interview cfg). These incentives help attract investors to invest in Willemstad through adaptive reuse of existing monumental building. Recently, in 2018 The Curaçao Heritage Fund is the first initiative of The Curaçao Financial Group N.V. (cfg) to structure a real estate fund. The Fund's mission is to invest in income-generating real estate properties located within the UNESCO World Heritage boundaries of Willemstad, Curaçao. It is the Fund's strategy to structure more of these vehicles as part of a larger platform of funds, while adhering to the main objective of holding commercial real estate with existing and stable income from sustainable long term contracts (Interview Cfg).

According to some investors and developers another bottleneck for the overall process is the current currency of guilders (Interview A & Cfg). Since the independence of the Netherlands Antilles in 2010, Curacao became a constituent country of the Kingdom of the Netherlands yet they remained using the guilders as currency. Throughout, time there has been talks of shifting to dollarization in times of crises, yet there seems to be disagreement into what the impacts will be. One interviewee explained that while it might seem like the guilder is a stable currency in reality it is not, the cash reserves have been stabilized multiple times by the Netherlands to keep the inflation from rising. Moreover, dollarization could be beneficial for the socio-economic status of the island. Changing currency is rather outside the scope of the research, yet it plays an essential role in stimulating investors and creating more opportunities for diverse industries stimulating employment and brain gain to the island (interview B).

Local: Neighborhood and Residents

Through the surveys it became apparent that many locals tend to feel excluded from the process of development in their neighborhood. Almost 60% of people are unaware of the current and future developments going on their neighborhood. Yet, there is an increase in community activities participation with 40% especially in seru di Otrobanda with initiatives to paint houses and organize cultural and music events (see figure 19). Also locals expressed their admiration for art, music and sport and are most likely to participate in an event if it includes one or a combination of these activities. Most, people enjoy being part of the development process and community activities

a total of 72% said they enjoy events in their neighborhood and will like to be part of it, while 20% said maybe depending on event and 10% said no due to noise disturbance (See figure 18). The perspective also differed per district, in Otrobanda majority of locals expressed satisfaction with the art murals in their neighborhood and enjoy receiving visitors. While, in Scharloo district regardless of an increase of murals and artistic value many locals still feel that their needs are still being neglected, especially for the older and younger generations. The district of Pietermaai, had a divided perspective between locals, while some are glad for the overall improvement in the area through the development of boutique hotels, café, and restaurants enhancing the quality of life and providing activities and job opportunities close by. Others, were dissatisfied on the noise disturbance, especially the student housing offered in the area.

FIGURE 18: PARTICIPATION IN COMMUNITY ACTIVITIES -DESCRIPTIVE STATISTICS VIA GOOGLE FORM SURVEYS WITH LOCALS

FIGURE 19: WILLINGNESS TO HAVE MORE COMMUNITY EVENTS- DESCRIPTIVE STATISTICS VIA GOOGLE FORM SURVEYS WITH LOCALS

IMAGE BY: GABRIELA JIMENEZ 2021

Findings link People & Process

The process of urban redevelopment in Willemstad is perceived differently between public and private parties as well as the locals having separate experiences depending on the district. Initially the public parties are aware that policies should be updated, focusing on the revision and update of EOP. Yet, regarding the specific articles such as article 4; the development of the inner-city still remains limited due to lack of expertise into implementing specific zoning plans. The public parties stated they are aware of the value that the historical port city of Willemstad has to offer and to stimulate the preservation of monumental buildings subsidies and tax benefits are provided as a method to stimulate yet the process is too politically intertwined. The private side agrees that due to political influence the developing process seems to have multiple setbacks such as slow permit process and unclear legislation. However, the public side is willing to collaborate with private parties but admit the communication remains a bottleneck, this is due to misalignment between goals and vision. There are some cases where hybrid forms of companies, which act as private companies but are publicly funded serve as a driving vehicles for the urban redevelopment of the area such as Curacao Port Authority (CPA) and Algemeene Pensiondfund Curacao (APC).

To better understand the relationship between the stakeholders throughout redeveloping in Willemstad, an onion diagram was used. By utilizing the stakeholder onion diagram the characterization of each stakeholder's role in the process can be identified along with their relationship to each other(Alexander & Robertson, 2004). Thus, the onion diagram illustrates which stakeholder is involved directly or indirectly, depending on their closeness to the center. The onion diagram is categorized into three domains which relate to the perspective of the state (public parties), the market (private) and the civil society (locals)(Czischke, 2018). The primary stakeholders in this specific research are various from the public side to the ministry of infrastructure and urban planning.

Also publicly funded private companies such as monument funds, algemeene pension funds and Curacao port authority play a role as primary stakeholders. These parties contribute to the development process as stimulators towards reusing monumental buildings by offering subsidies to land providers and even investors. On the other hand, many public parties are involved at different scales from investors, developer towards project managers, and architects, each contributing by sharing their expertise.

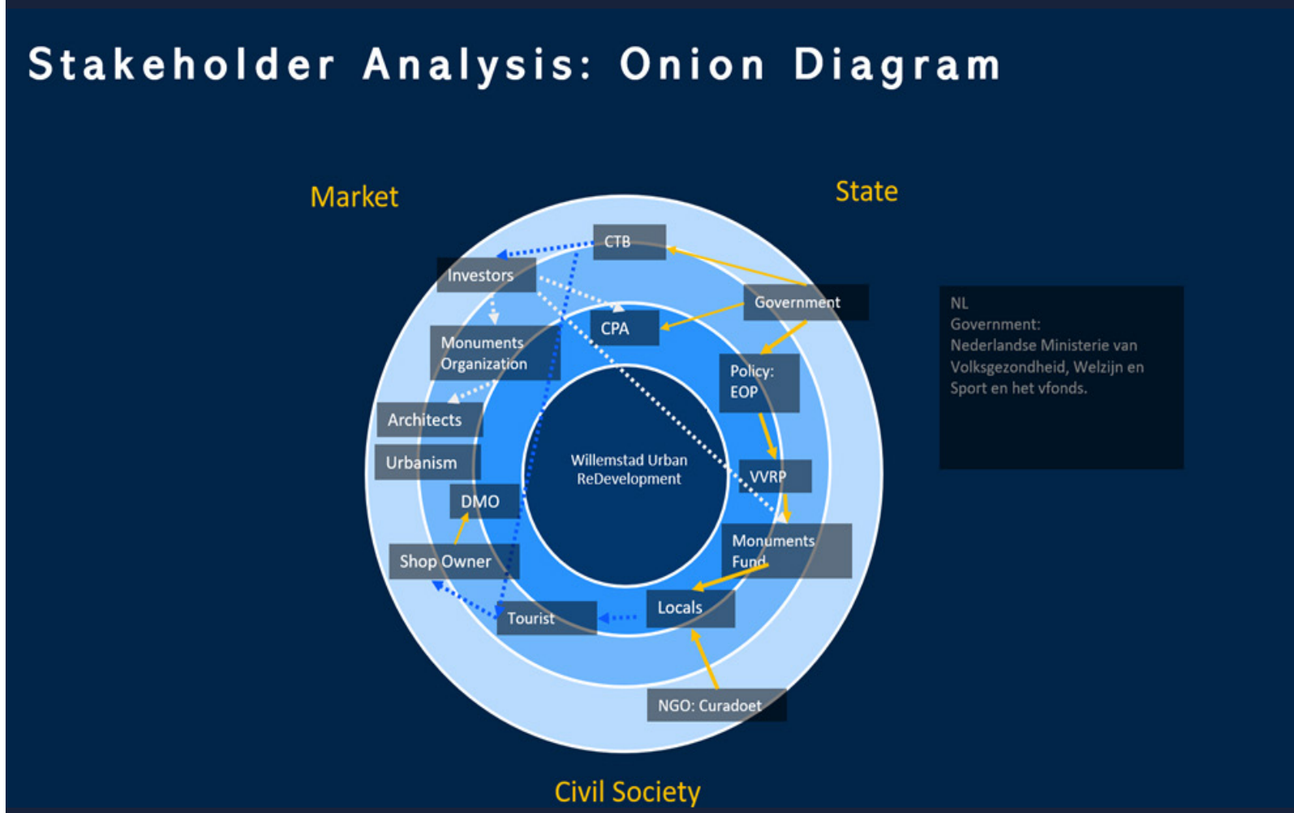


FIGURE 20: WILLEMSTAD REDEVELOPMENT STAKEHOLDER DIAGRAM (OWN ILLUSTARTION)

2.3.6 Impact on Place

By understanding the diverse perspective of the involved stakeholders regarding each theme, people, product, and Process helps to articulate what influence they have on the Place itself. For the historical-port city of Willemstad the place was analyzed in-depth considering the environmental, economic and social aspects throughout time. It became evident that tradeoffs had occurred in the cities development throughout time and therefore this section aimed to better understand why and how these tradeoffs occur. The focus on place is to reflect the significance of the urban experience as a whole rather than specific buildings. Undeniably the link between place and product is derived from individual pieces of architecture and their connection to the urban fabric and the people that use it (Adams et al., 2012). Therefore, the way places work and look contributes to the various stakeholders' experience and perception. It concerns the relationship between people and places, along with the connection bounded by the urban fabric and its natural or built products, and the processes for ensuring successful cities (DETR and CABE 2000: 8). Hence, the overall quality of place tends to display distinctiveness and how it functions for the people who use it (Adams et al., 2012). Emphasizing the importance of identity and authenticity along with the strong historical character that shapes the historical port-city of Willemstad.

Public: Governmental Institutions and foundations
Public parties such as the ministry of urban planning and infrastructure emphasize that the redevelopment of the historical inner city of Willemstad is essential for the islands socio-economic status. Emphasizing that it is what makes us so unique to other surrounding Caribbean islands harboring a natural port and the heritage and its significant rich cultural influence. The title of UNESCO world heritage site leads to attracting diverse target groups of tourism whether it is cruise tourism, hotels but also boutique hotels and Airbnb are a rising trend in the inner-city (Interview VVRP, 2021). Together in collaboration with UNOPS and the community, a common future vision is formed for curacao 2030.

"In 2030 Curacao is characterized by a livable Willemstad, being the capital and World Heritage City, with more urban characteristics within a functional city region. The city region is surrounded and complemented by attractive rural and natural areas, with restored and preserved unique natural and cultural heritage. The rural area consists of a functional network of well-maintained rural villages. Sustainable urban and rural settlements, combined with ecotourism, is the key to economic resilience." – (UNOPS, 2019)

In the last decade, we have stimulated the revitalization of central plazas that act as a gathering and connecting public space such as Whilemenpark, offering an area that attracts locals and tourists. Besides creating a space for social events with a podium, promoting the identity of the island with large words representing DUSHI and CURACAO offers a great background for pictures and branding for the inner city. Nevertheless, there are some challenges encountered throughout the research we realized that besides the current decline in regards to physical deterioration of buildings and public spaces, there are also physical and psychological barriers, that influence the accessibility and experience of its users (Interview VVRP, 2021). Due to the dependencies in cars for mobility throughout the island, roads and some large parking spaces/lots lead to dividing the city. While there is still an increasing need for more parking space within the inner city it also creates barriers and hinders the heritage value of the surrounding cityscape.

Regarding psychological barriers people tend to feel unsafe in certain areas, due to empty terrains or homeless people roaming the streets. These barriers tend to divide the four districts rather than connect them. Thereby diminishing accessibility to human activity in certain districts and preventing people from exploring what is beyond (UNOPS, 2019).
These barriers could lead to the loss of the district's identity and being rather exclusive than inclusive areas (See figure 13). Showcasing current weaknesses there are also concerns regarding the long-term sustainability and resilience of the city-forming the main threats.

To mitigate unsustainable behaviour and further decline of the inner city we elaborated that the main strategy just focuses on the livability of the area attracting more people to live, work and recreate. It is quite impactful to see how once the main city to live offering a vibrant lifestyle today only houses less than 2% of the island's population. As public parties, the development of a vision for the inner city was essential to understand the strengths and weaknesses of the place and offer a starting point towards the implementation. Yet, it is also evident that each district encounters different challenges and requires another approach to reach its full potential and revitalize its identity.

Private: Investor & Developers

The majority of private parties that are interested in developing or investing in Willemstad stated that the UNESCO World Heritage site is an attractive status that is internationally recognized. Yet, there is a decline in the current quality of the overall place, which could be due to the lack of adequate policies at an urban scale rather than just building scale (Interview Wilfred, 2021).

The private side has taken the initiative to revitalize parts of the urban fabric regarding renovating monumental buildings and creating certain public spaces surrounding their development. While, these initiatives have had a tremendous impact on conserving the historical and cultural value of the place, they are rather building or district oriented than as a whole place for Willemstad (Interview B). Showcasing that the four districts have different values yet they all share the same historical architecture, there seems to be more of a division on a daily life between the districts. When events occur, such as the 'pagara' (street firework) in new year or kingsday, the districts connect with each other, becoming a connected city that enhances social interactions. A reason besides the event being a gathering occasion it could be influenced by car roads becoming walking roads which enables a smoother transition from district to district. Nevertheless, car remains the main mode of transport on the island. When these events happen it tends to lead to long traffic jams entering the one way route of the city center towards only a few centralized parking spaces which often don't meet the increasing demand for parking spaces (See figure 21).

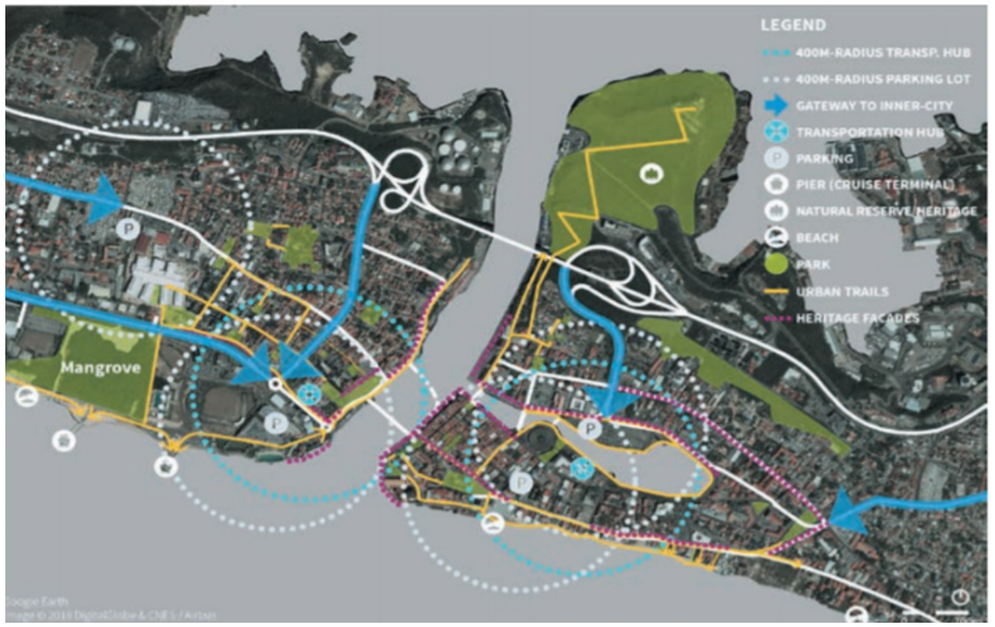


FIGURE 21: UNOPS VISION TOWARDS FACILITATING ACCESS TO THE INNER CITY (UNOPS,2019)

Besides the temporary large events throughout the daily life parking seems to remain an issue in certain areas. With an increase in the last decade of young entrepreneurs opening up cafes, bars and other entertainment activities in the area, nightlife has bloomed. These night activities have actually help stimulate safety in the area, more security has been implemented along with the more movement on the streets. Whereas, other districts remain unsafe at night due to illegal activities taking place such as drugs and prostitution. Hence, there is still progress to be made to revitalize the historic port-city of Willemstad to its full potential

"A well maintained historical downtown is an asset for every country and or island. This is almost always a place to be, with monuments, boutique hotels, people living there, restaurants, bars, little shops, museums."

Due to the lack of tourism there has been drastic changes for what once used to be a hotspot for nightlife and gatherings has slowly been diminishing, The economic impact it has had on small restaurant café and hospitality owners is huge leading to instability regarding this market sector. Another sector that has been strongly affected is the retail in the Punda district specifically also influenced by the lack of cruise tourism that has become nonexistent due to covid, leading towards a rather ghost town effect (Interview Cfg, 2021). On the contrary, certain markets are rising such as demand for housing and long-term vacation rentals.

By creating more housing for diverse target groups within the city center, other functions such as restaurants and retail will also benefit, creating a win-win situation for the overall Place.

Local: Neighborhood and Residents

The locals perspective on place could be seen in the scale of their district and the overall city scale. Therefore, it was relevant to know which districts had a higher concentration of housing.
The district with the most housing was Otrobanda (44%), following is Scharloo (30%) and Pietermaai (15%) (See figure 22). Punda had the lowest number of inhabitants, with most people being visitors to the market space or bus terminal. This area remains a pull-factor for many locals from other rural areas outside the city center. Hence, the surveys were conducted during the day so the district experience tends to differ at night.

When asked what the locals would like to see more in the area's redevelopment, the majority replied with sports (53%). Showcasing, the cultural importance sport plays for the community, and all generations from playing the sport to watching it. Followed by wanting to have more cultural activities such as museums and art galleries (46%) (See figure 23).

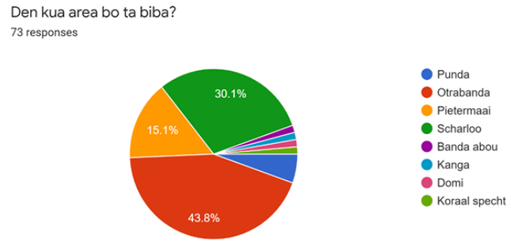


FIGURE 22: LIVABILITY/ RESIDENTS PER DISTRICT
-DESCRIPTIVE STATISTICS VIA GOOGLE FORM SURVEYS WITH LOCALS

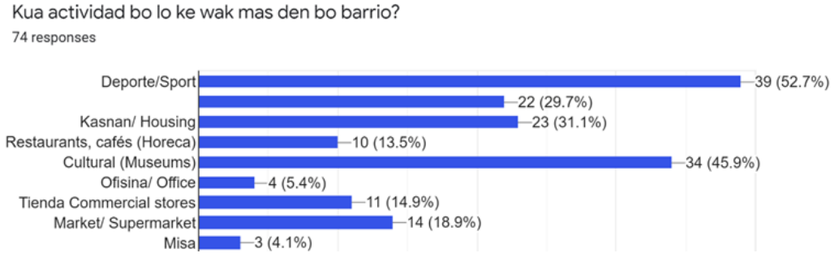


FIGURE 23: DESIRED ACTIVITIES FOR WILLEMSTAD- DESCRIPTIVE STATISTICS VIA GOOGLE FORM SURVEYS WITH LOCALS

2.3.7 Findings: Swot Analysis

To summarize the findings from the stakeholder perspective a SWOT analysis is created offering a broad overview regarding the different themes: Place, Product, People and Process (See figure 24). The aim is to determine the relevant aspects in composing the adequate approach by showcasing the potential advantages or disadvantages of Willemstad, Curacao helps to maximize strengths and opportunities, and at the same time identifying threats and weaknesses.

Currently, all themes have strength and weakness, some lead to stimulating development such as the World Heritage status of UNESCO and subsidies towards renovating monumental buildings. While others discourage redevelopment, such as the high maintenance cost and fragmented land ownership, the slow permit process leads to the threat of the overall decline of the inner-city losing its historical and cultural value throughout time.

Strength

- Place: UNESCO World Heritage site rich History& Architecture
- Product: Renovation & adaptive reuse for existing monumental buildings
- People: Diversity in culture, community feeling
- Process: Subsidies are granted for monumental restoration

Weakness

- Place: Lack of livability, especially at nighttime sense of unsafe in certain districts
- Product: High maintenance cost of monumental buildings. Fragmented land ownership
- People: Racial segregation still present
- Process: Outtraded zoning plan, slow permit process & lack of transparency

Opportunity

- Place: Inclusive Environment, Work live & recreate
- Product: Reusing existing buildings and urban landscape for publics good enhancing cultural value
- People: Unity & participation as well as opportunities for employment
- Process: Subsidies are granted for monumental restoration

Threats

- Place: Diminish of historical value due to new build buildings that don't comply with the regulations
- Product: Obsolete buildings due to lack of maintenance and use
- People: Gentrification leading towards unequal housing market
- Process: Lack of collaboration and corrupt behaviors

FIGURE 24: SWOT ANALYSIS FOR WILLEMSTAD BASED ON 4P'S (PLACE, PRODUCT, PEOPLE, PROCESS) OWN ILLUSTRATION ANALYSIS

2.3.8 Sub Conclusion: Stakeholder Perspective

Relation with Theoretical framework

The findings from the semi-structured interviews were qualitative findings that allowed to have a thorough understanding of the perspective of both public and private parties. Throughout the interviews, various stakeholders' perspectives were collected and categorized into either positive or negative examples, which offered to understand the impact different themes such as the product, process, or people have on the redeveloping of the historical port-city of Willemstad (See Appendix C). Hence, in this specific case study of Willemstad, Curacao the overall impact on the theme of place was seen as having the most potential and therefore positive examples from both public and private parties. Whom stated that the UNESCO world heritage site offers many opportunities and unique character that is seen as historical-cultural value locally and globally.

The place is formed by the unique products encountered in the historic urban fabric, mainly the private parties had the most positive examples in regards to specific product or projects they had renovated or repurposed. The public side states their willingness to help stimulate these renovations of monumental buildings through subsidies, understanding that some of these projects can strongly contribute to improving the city's socio-economic status. Nevertheless, there were fewer positive examples regarding the process, leading to a rather negative perspective from the private side regarding the slow permit process and the outdated zoning plan. While the government is aware that the zoning plan is outdated, it is important to first align goals towards a shared vision for the overall place before changing the zoning plan. Yet, reaching a shared goal between these parties tends to remain a challenge due to miscommunication lack of transparency and trust (See figure 25).

Relation with Terminology

The findings from the interviews are further analyzed based on the co-occurrence of statements or examples related to the terminologies; Adaptive reuse, urban resilience and collaborative strategies (See figure 26). These findings showcased that adaptive reuse was the term that came forward most often in practice. The private parties seemed to have expertise in renovating and repurposing monumental buildings. As well as the public parties aiming towards stimulating the preservation of monumental buildings through subsidies. Due to the complexity of larger scale mixed use developments on the island there is also an increase interest in collaborative strategies between different private parties creating consortiums as a driving vehicle for certain projects. Yet, these collaborative strategies remain limited in practice between public and private parties due to lack of transparency and trust. While urban resilience is a trending term in practice, this term was the least mentioned throughout the interviews. Most private parties agree that a long-term perspective and vision are needed, yet regarding the implementation of urban resilience or the SDGs, many private parties remain unaware of what these are. While the public side understands the relevance of the SDGs to achieve resilience it remains an overall approach for the island remains rather goals oriented than specific and target oriented. To understand the perspective of the public and private parties related to their knowledge or expertise in comparison to the terminology researched in the literature review the following questions were answered throughout the interviews.

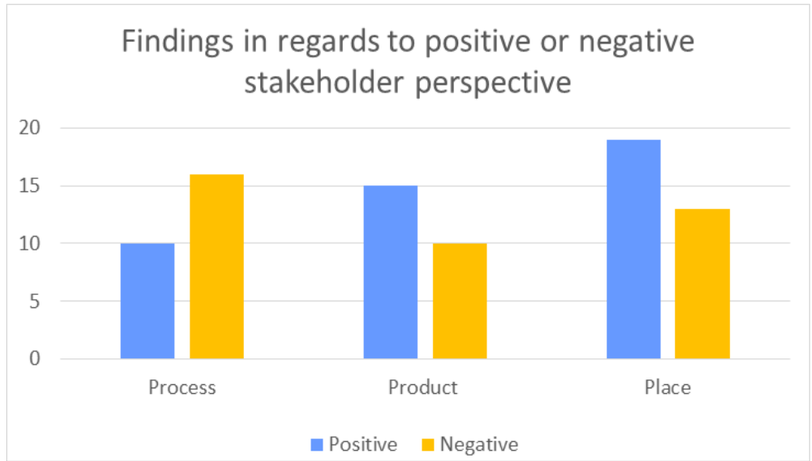


FIGURE 25: AMOUNT OF EXAMPLES THAT WERE IN A POSITIVE OR NEGATIVE TONE DURING INTERVIEWS REGARDING THE 4P MODEL (SEE APPENDIX D: FINDINGS)

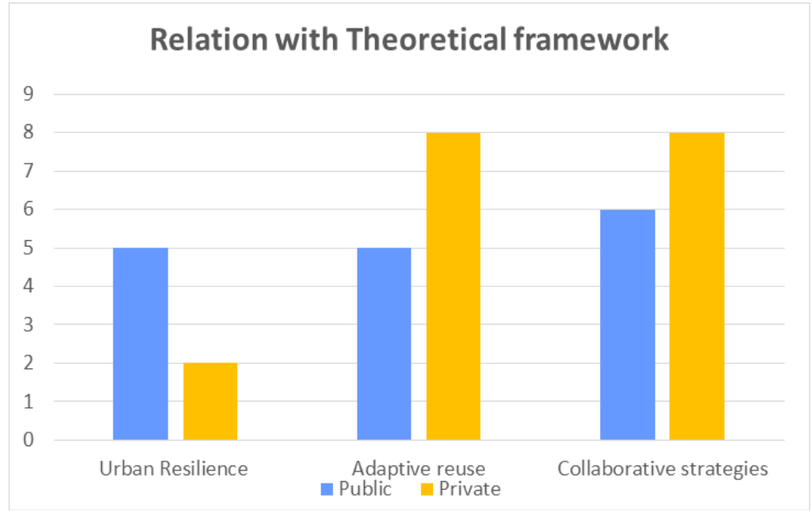


FIGURE 26: AMOUNT OF STATEMENTS MENTION IN INTERVIEWS IN RELATION TO TERMINOLOGIES

Relation between People and Product

Why would/ do people apply adaptive reuse to historical buildings ?

Adaptive reuse- Enhance Identity

The findings of theme people, showcased that there is a wide amount of stakeholders involved in the redevelopment of the historical inner-city of Willemstad with different expertise, specifically in renovation or transformation of monumental buildings. The monumental and heritage buildings of Dutch colonial architecture are renovated and repurposed by some private parties such as developers who see the potential to cater to diverse functions, whether for hospitality, commercial or residential functions, or even mixing these functions. Leading to collaboration between the privatesector towards creating mixed-use development that could act as a catalyst for the district. Hence, using adaptive re-use as an approach towards developing explores the alternatives of repurposing an existing building to serve a new function while respecting the heritage vale. By creating a new purpose, the building or property can seek to continuously evolve with time rather than seeking to freeze it at a particular moment in time(Clark, 2013).

There are also bottom-up initiatives from locals regarding creating murals and stimulating art on abandoned monumental buildings offering a different experience of art at a human scale, by also reusing these buildings to serve a new purpose even if it is temporary. Enabling adaptive reuse to become part of the history of an urban area while introducing a new urban layer without erasing earlier layers (Clark, 2013). Thus, preserving the cultural-historical identity is becoming increasingly important in historical-inner city urban redevelopment plans to integrate heritage preservation through adaptive reuse (Wilkinson et al, 2014). The public parties stimulate the preservation of the heritage value through subsides for renovations. Aiming towards enhancing the experience and cultural value of Willemstad, which can prosper to create an identity or brand image for the city and its surrounding (Wilkinson, et al., 2014). Nevertheless, the implementation of adaptive reuse requires extensive criteria of financial, social and environmental aspects,

Making it challenging to stimulate through the current urban planning and policy present. which remains limited in practice. Therefore, urban planning should include adaptive reuse strategies for existing and future buildings to meet new demands. Hence, showcasing that adaptive reuse is currently being used as an approach by diverse people, either experts or locals, revitalises existing buildings and enhances each district's rich historical and cultural identity and even the city.

Relation between Product and Process

What are the bottlenecks when it comes to developing historical buildings ?

Urban Resilience – Mitigate Tradeoffs

The findings related to the adaptability of various built environment products, whether buildings or infrastructure demonstrate the capacity of the historical urban fabric of historical port cities such as Willemstad to endure change overtime. Hence, urban resilience is understood as a response to adapt to change and challenges facing urban areas (Crowe, et al., 2016). Thus, enabling to transform urban systems that limit current or future adaptive capacity stimulates urban resilience in the long term. According, to the interviewee, while policies are in place regarding preserving the heritage value of monumental buildings the actual management of the historical city remains difficult, mainly due to the fuzzy understanding in regards to preservation and conservation, making it challenging to further implement or redevelop. Another reason is the outdated overall zoning plan of the island Eiland Ontwikkelingsplan dating back to 1995. There have been plans to update the plan according to the interviewee the article 4 regarding the inner city has yet to be revised and updated (Interview VVRP, 2021). While these policies' current aim is more focused on preservation of the historical heritage, it could be extended to consider adaptive resilience as a holistic implementation of resilience on urban planning and policy to adapt to future changes (Wilkinson, 2012).

The public side, including various governmental institutions, aims to achieve urban resilience in implementing several SDGs within Curacaos national priority and aligning it with the Urban Agenda of 2030. However, throughout the interview and the SDG action week, the approach is currently goal oriented at a larger scale for the whole island. Rather than at a specific target level which focuses on a smaller scale, such as the redevelopment of the historical port-city of Willemstad. Therefore, it remains a challenge to implement a specific strategy towards urban resilience using the SDGs, as the public side emphasized in the interviews before a specific policy can be implemented a better vision for the overall place is needed taking into consideration the long-term impacts it will have on the socio-economic status of the island. Moreover, in practice, tradeoffs tend to occur between economic, environmental and social aspects. Due to Willemstad being dependent on historical moments, structured by spatial linkages, and characterized by a non-linear structure it creates a complex context to manage (Wilkinson, 2012). Thus, embracing cultural and economic systems undergoing constant changes throughout time influenced by various historical or economic events is essential.

Several bottlenecks remain regarding implementing urban resilience both related to the theoretical and the practical domain of the concept (Brunetta, et al., 2019). According to the interviews public parties could have managed the process to stimulate development rather than allow for further decline. While, certain districts such as Pietermaai have managed to be redeveloped from being desolated area and playing field for drugs towards a vibrant hotspot with boutique hotels restaurants and cafes. The process took a long period of around 20 years due to the lack of adequate policies, a long permit process, and no interest from the public (Interview Hendrikson, 2021). Even though global development policy commitments have adopted urban resilience over the past few years, such as the Sustainable Development Goals (SDGs), how cities are going about implementing resilience is still limited (Croese et al., 2020).

This is the case for Curacao while having the willingness and ambition to use SDGs there lacks a concrete policy actions that adopt the SDG's within strategies or instruments. These policies could significantly benefit from implementing just a few of the SDG for the island and its populations (Kumar et al., 2016). Besides the context the dependability of governments on private parties also influence the realization and implementation of resilient policies. Also vice versa the dependability of private parties on governmental institutions tends to slow the process of redevelopment. Thus, for the redevelopment of complex urban transformations such as Willemstad, it is necessary to choose and localize the policy instrument in consultation with actors involved in the project's scope and the policy area (Wilkinson & Remøy, 2018). Nonetheless, when implementing resilient policies or frameworks it is crucial to mitigate the tradeoffs due to the evolving demands of society, economies, and changing functions of land use and processes that stimulate and respond to urbanization (Chelleri, et al., 2015).

Relation between Process and People

How can stakeholder values align in historical redevelopment?

Collaboration- Aligns Goals

The findings of the theme people and process of the urban redevelopment in Willemstad are perceived differently between public and private parties and the locals having separate experiences depending on the district. Hence, the urban redevelopment of Willemstad is a social process in which relations between people determines the outcomes and impacts. Such relations are time and place-specific, emphasized by all three parties; public, private and local residents was the long-term perspective towards the redevelopment. Hence, making it harder to map out a people-based model of the development process than an event or product-based one, since participants perspective varies significantly per project and development (Adams et al, 2012). Initially, the public parties are aware that policies should be updated, focusing on the revision and update of EOP.

Yet, regarding the specific articles such as article 4; the development of the inner-city still remains limited due to lack of expertise into implementing specific zoning plans. The private side agrees that due to political influence the developing process seems to have multiple setbacks such as slow permit process and unclear legislation. However, the public side is willing to collaborate with private parties but admit the communication remains a bottleneck, this is due to misalignment between goals and vision. However, the expectations of what each party contributes remains in discussion. There seems to be lack of trust between the stakeholders, and meetings lead towards a rather point finger mentality and, thus, a long negotiation process without concrete outcomes (Interview VVRP). Moreover, the political commitment is another institutional uncertainty as every four years another party could be elected with different goals and ambitions

Various stakeholders interviewed have either already developed in the inner city or are planning to in the future. Hence, complex adaptive reuse problems call for joint strategies among the various stakeholders towards the realization of shared constructive outcomes. Due, to the strong relation between spatial quality, finances, and process adaptive reuse of cultural heritage adds quality to urban redevelopment projects but requires substantial investments (Baarveld & Smit, 2011). To obtain financial feasibility, various possibilities to integrate mixed functions and involve more actors are achievable through collaboration during the urban planning process. There are some cases where hybrid forms of companies, which act as private companies but are publicly funded serve as a driving vehicles for the urban redevelopment of the area such as Curacao Port Authority (CPA) and Algemeene Pensiondfund Curacao (APC). Mainly, CPA, a limited liability company whose main shareholder is the island government of Curaçao, has managed all of Curaçao's ports. In addition, CPA owns an amount of property in the historical port city such as the cruise terminal. Most of the wharves and pother properties adjacent to the harbor are leased to private operators (CuracaoPort, 2019). Whereas, APC has also increased interest in the last year to invest and develop projects such as "The Wharf" and "Plaza Hotel", which are larger scale mixed-use developments. Consequently, these parties collaborate with other private companies and experts such as Heren 2 and Den Heijer Architects. It becomes evident that many private parties share a rather similar vision for the area. Thus some goals align with each other and are more willing to collaborate.

Certain limitations remain on how the public and private side could collaborate for larger urban redevelopment scale. Requiring long-term partnership contract forms, such as a Public Private Partnership PPP or Develop Apart Together DAT, which have still not been applied island. Yet, there is currently ambition to proceed with a PPP for shared bottlenecks between both private and public stakeholders such as the parking capacity in the inner-city (Interview DMO). Furthermore, it would be beneficial to all stakeholders involved in an adaptive reuse decision-making process to mitigate any destructive outcomes if they comprehend how to effectively collaborate by being transparent regarding their interests (Innes et al., 2010). Primarily, the financial agreement remains challenging to attain when dealing with urban redevelopment projects. While long-term returns on investments are generally expected to be positive, the initially needed financial investment is often far higher (Baarveld et al., 2011). Resulting in a rather uneven number of parties that profit from investments to preserve and or transform cultural heritage without contributing to the costs.

Collaborative strategies are needed for complex adaptive reuse projects to enhance the urban resilience of the historical port city.

In conclusion, the empirical findings showcased that product and people are strong pillars and have enhanced the area's identity. Yet, to reach full potential and effectively manage the urban resilience of the historical port cities, the process could be optimized to manage both the people and products more effectively, leading to a positive impact on the long-term. Thus, the following part 3: Implementing will focus on improving the process. This was the theme that lacked according to the interviewed public and private parties. There is a current gap between urban policy planning and its implementation.

IMAGE BY: GABRIELA JIMENEZ 2021

CHAPTER THREE

IMPLEMENTING

3.1 Framework to Asses Urban Resilience using SDGs in Historical Port-Citiy Willemstad, Curaçao

This section focuses on synthesizing the findings from the literature review, case study analysis and empirical findings by merging them into specific SDGs relevant to the urban redevelopment of historical port cities. Throughout the literature review, resilience strategies were mentioned in this research; there is a particular focus on the SDGs, considering their overarching with the ambitions of Curacao meeting the New urban agenda by 2030. In addition, it offers an extensive monitoring and review framework, which includes goal-specific target levels and indicators (Kumar et al.,2016). Hence, this section focuses rather on improving the process as this was the theme that was perceived as a bottleneck according to the interviews and surveys conducted throughout the empirical research. Therefore, this section focuses on the following sub-question to help answer the main question of the research.

How can SDGs help create a framework for Historical port cities to manage urban resilience?

The relevance of urban resilience to manage the risks and challenges arising in a globally changing world is essential, yet the knowledge on ways to implement urban resilience remains limited (Croese et al., 2020). Therefore, several global development policy commitments, such as the Sustainable Development Goals (SDGs) have been adopted. The SDGs offer an extensive monitoring framework that could assess how the global policy alignment of the resilience strategies is being implemented. Throughout theory and practice, it is emphasized that the governance dimension and the actual implementation of sustainable development are essential in applying the SDGs (Meadowcroft, 2011). The introduction of SDGS was primarily formulated due to dissatisfaction with rather unsustainable development patterns, generating tradeoffs between environment, economic, and social aspects. Although all 17 goals proposed by the UN are of paramount importance in urban areas, this research focuses on four SDGs related to historical port cities and their urban resilience and their connectedness with other goals.

However, identifying these interrelations tends to be complex, with certain goals and targets interacting differently. While some reinforce each other and creates synergies others may conflict with one another leading towards trade-offs. Accordingly these interactions between SDGs demonstrates that substantial economic, environmental and social benefits can be achieved from coordinated actions that stimulate synergies between multiple SDGs (Scharlemann et al., 2020). Achieving the SDGs by 2030 will require the engagement, participation and allocation of resources and various stakeholders, particularly the governmental institutions and ministries related to urban planning and policies (Browne & Weiss, 2016). This was the case for Willemstad, Curacao where the willingness to achieve certain SDG goals has been stated at a rather goals level. Yet, the implementation regarding specific target level is still limited. Hence, the SDGs need to be localized to serve as a tool to manage the various urban developments and projects regarding stimulating sustainability while preserving the historical and cultural value of the cities identity.

3.1.1 Historical Port Cities – Sustainable redevelopment – SDG 11 Sustainable cities & communities

In the analysis of place the case study of Willemstad, Curacao demonstrated how the historical port city has evolved over time shaped by various patterns of path dependencies throughout time from colonialism to industrialism to tourism. Yet, it also demonstrates a pattern of resilience specifically, urban resilience. Representing a remarkable historic port town in the Dutch Caribbean, Willemstad, has developed continuously while preserving some significant town planning and architectural qualities. The aim of using the triple top line framework to analyze the context of the place is to mitigate tradeoffs in the future by managing these properly a balance could be achieved. Hence, these tradeoffs tend to depend on the specific context of the place, and therefore cities play an essential role in achieving sustainable development goals (See figure 27).

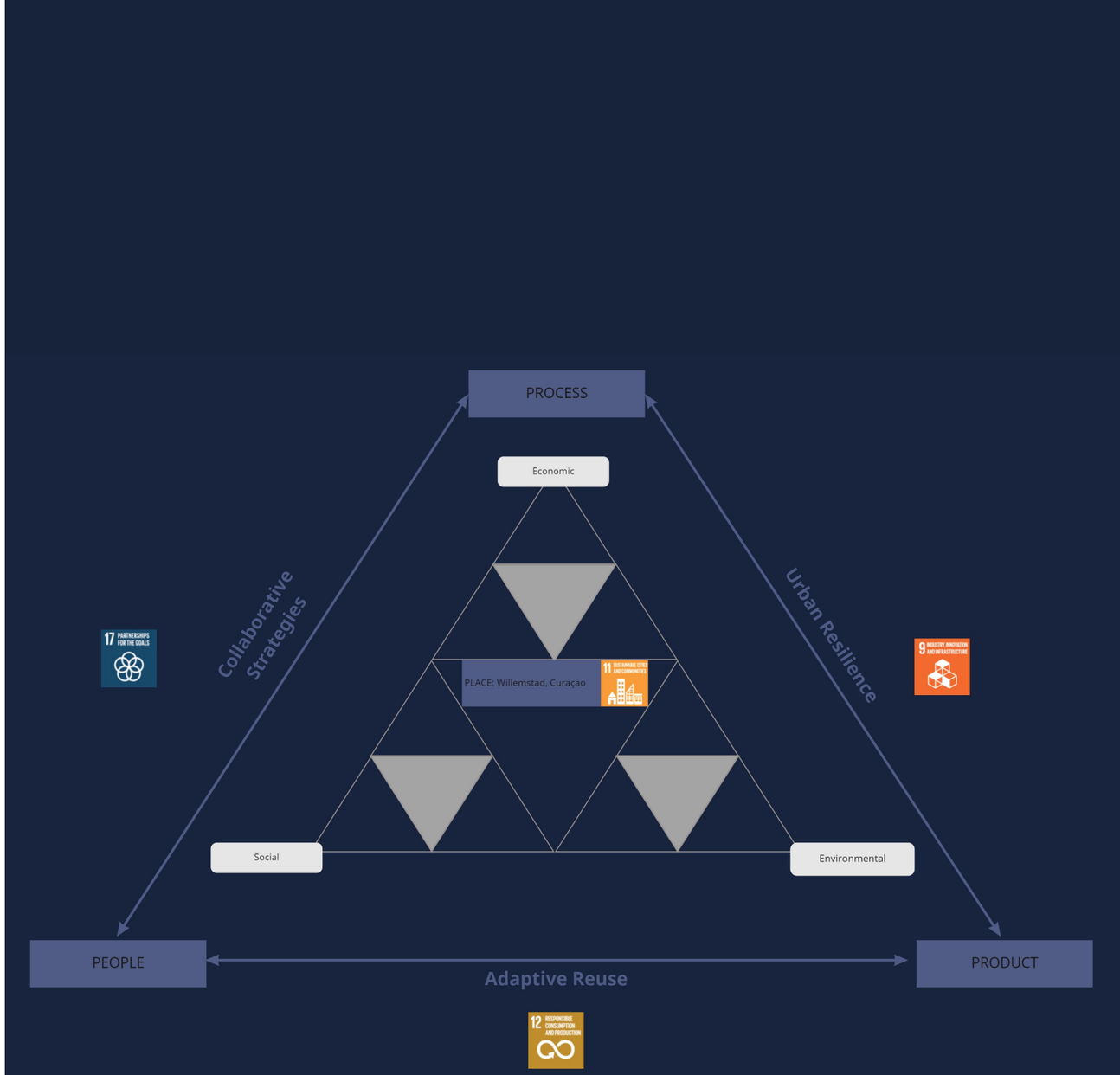


FIGURE 27: FRAMEWORK TO ASSES CASE STUDY USING SDGS (11, -9,12,17) BASED ON MCDONOUGH FRACTUAL TRAINGLE (OWN ILLUSTARTION)

The relationship between cities and sustainable development is recognized in the SDG 11: Sustainable cities and communities, which its main objective is to make cities and human settlements inclusive, safe, resilient and sustainable. Sustainable development cannot be achieved without transforming our approach to designing, building, and managing our urban space. Thus, putting urbanization and city development at the heart of sustainable development

3.1.2 Urban Resilience – Mitigate Tradeoffs – SDG 9 Industry, Innovation & Infrastructure

Dealing with complex transformations entails a unique context of the historical place evolving throughout time to serve the ever-changing needs of society. Throughout time threats to the historic area have risen, such as political unrest leading to burning a significant portion of the urban fabric and the decline in quality and safety due to abandonment and vacancy of historic buildings. These buildings continue to deteriorate due to the lack of maintenance as well as the environmental damages from climate and saltwater. Thus, having to adapt from acute shocks in the past and presently dealing with new challenges such as the increase of unemployment due to the COVID-19 pandemic and the long-term challenges faced such as climate change. The surveys showcased that many locals living in Willemstad are currently unemployed due to depending either through a formal or informal job on tourism (Surveys, 2021). The tourism sector has been strongly affected by Covid-19 leading to an increase in unemployment and decline in the socio-economic status of the island. In various districts such as Scharloo and Punda, most local residents live under the poverty line, leading to certain areas being cut off from economic opportunities locking residents towards low productivity and poverty (Kumar et al, 2016).

Besides the unstable industry of tourism, the oil refinery of Isla, which is older than a 100 years and outdated, is facing a challenging time in finding a new operator in the short-term and in the long-term is highly dependable on petroleum encountered in neighboring countries. Hence, while it offers employment opportunities this unsustainable industry of refining crude petroleum causes sever air pollution as well as toxic waste to the environment.

To mitigate these barriers encountered in Willemstad SDG 9 is applicable towards stimulating a resilient infrastructure, by fostering innovation, which helps promote inclusive and sustainable industrialization, which allows for new job opportunities and increases employment and the overall gross domestic product (UN, 2018). Stimulating functions such as museums, education or leisure centers, can show both public and private sector that a desolated area has a positive and prosperous future leading towards an increase in the socio-economic status of the area. As well as being more inclusive to the needs and wishes of the local community, a majority wanted to see more sport functions offered in the city centre (53%). Second, cultural activities such as museums and art galleries was considered an added value for many residents (46%). Implementing these functions to serve the communities needs requires extensive investments in inclusive infrastructure and technologies. Helping to shift away from the barriers and lower carbon emissions created by unsustainable industries, simultaneously, creating jobs is essential to meet the 8 targets of SDG 9 (UN, 2018).

3.1.3 Adaptive reuse- Enhance Identity - SDG 12 Responsible Consumption & Production

Awarded as a World Heritage site by UNESCO Willemstad has further stimulated the preservation of the heritage through renovating monumental historical buildings. Throughout the interviews, it became evident that the historical and cultural value of Willemstad is seen as a strength to enhance the identity of each district: Punda, Otrobanda, Scharloo and Pietermaai. Dutch colonial architecture's monumental and heritage buildings are renovated by some private parties such as developers and repurposed to serve multiple functions such as boutique hotels, commercial or residential functions, some even mixing these functions(Interview developers). Representing the cultural-historical identity is becoming essential in urban redevelopment plans utilizing adaptive reuse of monumental buildings in historical-inner city to preserve the heritage (Wilkinson et al, 2014). Aiming towards enhancing the experience and cultural value of Willemstad, which can prosper to create an identity or brand image for the city and its surrounding (Wilkinson, et al., 2014).

Revitalizing historical buildings and districts can be stimulated through adaptive reuse while preserving the heritage value (Hurley, 2010). Hence, applying adaptive reuse to redevelop can benefit the urban environment in multiple scales, from enhancing the historical and cultural value to the responsible use of resources such as materials, water and energy profiting environmental aspects (Clark, 2013). Also, adaptive reuse helps to mitigate the demolition of buildings and is beneficial in using less building material and producing less construction waste. Consequently, adaptive reuse could be linked to SDG12, referring to responsible consumption and production. Due to the scarcity of resources and increase in carbon emissions, the relevance for cities to start acting upon their consumption and production behaviour. This linear way of producing and consuming today's human society leads to scarcity of resources. Hence, if continued to develop at the current pace, it is estimated that global resource use will quadruple within the next two decades (United Nations HLFP, 2017).

Public authorities can stimulate sustainable development and create awareness towards the targets and indicators the SDG 12 could have transformative powers to encourage a change in consumer attitudes and behaviour. Specifically in regards to construction materials such as concrete and steel, which negatively impact the environment. Thus, instead of producing more new buildings that demand more material and resources, attention should be put on the existing urban fabric and using existing built structures. Implementing adaptive reuse in the construction industry requires innovative approaches towards urbanization and planning, such as tools to monitor development impacts for sectors such as reducing carbon footprint through sustainable tourism (Freyling, 2015). The implementation of adaptive reuse at an urban scale requires the development of adaptive capacity (Wilson, 2012). Building adaptive capacity is dependent on unified mechanisms for actions in communities, which are recognized as social systems that are impacted by internally and externally driven forces (Plummer et al., 2012). Even though SDG 12 aims to ensure sustainable consumption and production patterns, there are significant gaps regarding implementation efforts, which have been under-resourced and lack awareness of local communities (United Nations HLFP, 2017).

3.1.4 Collaboration- Align Goals – SDG 17 Partnership for the Goals

The historically rich urban fabric of Willemstad, Curacao, requires proper development and management, which requires collaboration between the extensive stakeholder network to reach its full potential and adapt to the changing demands of today's society and those of future generations. Throughout the interviews and surveys, it became evident that each party had their perspective regarding their vision and goals for the redevelopment of the historical port-city. Leading towards misalignment and lacking an overall shared value leads to many visions being created while a few are realized. The reason for the lack of implementation is due to multiple aspects such as the financial agreement remaining challenging to attain when dealing with urban redevelopment projects. Thus, while adaptive reuse of cultural heritage adds quality to urban redevelopment projects, it requires substantial investment to renovate and maintain and manage (Baarveld et al, 2011). While the public side gives subsidies for initial renovations, there are no subsidies for maintaining these buildings in the long term. There is a strong relationship in urban transformation projects stating that development and management often go hand in hand (Heurkens, Verheul, & Daamen, 2020).

New financing arrangements and subsides could offer a solution to eliminating the "hard cut" between development and management by seeking smart connections to use future operating income as a source of funding. However, there are currently not many proposed instruments and thus a lack of stimulation for long-term investments. In some cases, it requires adjustment of policy frameworks and/or laws or regulations on the part of the government (Heurkens et al., 2020). Requiring the private side to have long-term commitment and thus willingness to invest more in the area transformation is difficult to relate to the limited policy agreements. For Willemstad, Curacao the urban redevelopment is already seen as a long-term commitment in the perspective of many private parties due to the overall development of the place taking longer to achieve.

Currently, districts like Pietermaai which smaller developer and entrepreneurs initiated, were able to revitalize the area into a vibrant and livable neighbourhood. Yet, due to a lack of interest and support from the public side, the development process was very long around 20 years from the initial idea (Interview Hendrikson, 2021). This example showcases how bottom-up initiatives lead towards creating a starting point for urban redevelopment, which functions as catalysts for the area by enhancing the identity of an area attracting the attention of other actors to an area as a result of place-making activities (Strydom, Puren & Drewes, 2018)

A vital essence of integral area transformations between the involved stakeholder is striving towards multiple common values. Think of cultural values that contribute to a pleasant living environment or values for social mobility. Both public and private parties need to align towards a shared goal to achieve an effective transformation, requiring collaboration or partnership. The applicable SDG 17 aims to strengthen the means of implementation and revitalize the global partnership for sustainable development, offering 19 targets with specific indicators towards building capacity and stimulating financing agreements between stakeholders (See Appendix E).

The SDG 17 consists of the most indicators creating an interconnectedness with other goals, aiming to help build capacity regarding financing and collaboration, which addresses implementation challenges. To effectively implement the SDGs, integration is necessary by developing the capacity for reaching beyond the current fragmented practice. Hence, some call for 'a systems view' towards implementing SDGs to understand the interconnectedness and strengthen collaboration between the involved stakeholders(Le Blanc 2015). This integrated and multi-stakeholder approach mentioned in SDG 17 aims towards implementing the other SDGs. Implying the need for systems thinking in practice, using systems theories and tools and techniques that facilitate better communication and collaboration between stakeholders. Also, besides adequate tools, it requires awareness and the ability to work constructively with constraints and opportunities presented by institutional and cultural contexts in which practitioners involved with SDG implementation work, thus localizing (Reynolds, Blackmore, Ison, Shah, & Wedlock, 2017).

3.2.0 Proposal for Willemstad, Curaçao

For Willemstad, Curacao to enhance its authentic historical and cultural identity, the built environment requires better quality and higher standards of redevelopment, the essential question is not whether, but how to manage urban resilience throughout the evolving and ever-changing demands that the historical port-city faces. Enabling to transform urban systems that limit current or future adaptive capacity stimulates urban resilience in the long term. Therefore, as Willemstad has evolved it is characterized by a rather non-linear structure that is dependent on historical moments and shaped by spatial linkages (Wilkinson, 2012). Requiring holistic implementations of resilience considering environmental, economic and social impacts on urban planning and policy to adapt to future changes (Wilkinson, 2012). Yet, in practice, unsustainable projects are still created far too often, important signs of hope can be recognized in recent debates around the governance of place (Adams et al., 2013). Understanding the importance of urban resilience and its role throughout time allows creating a visionary, inclusive and action-orientated approach to planning the future of the historical port- city of Willemstad. The adequate policy tools or instruments need to be specified to enable policy-makers to stimulate sustainable development that enhances the identity while adding value. Moreover, due to outdated zoning plan (EOP), the development and permit process remains constrained by a shortage of tools (Adams et al, 2012).

Developing the right policies to reverse the unsustainable trends often observed in urban development is challenging. Throughout the analysis of the context of the place and the urban development of the historical port-city of Willemstad, it became evident that various path dependencies influenced the spatial development. To a certain extent, social and ecological aspects of development were ignored or handled insufficiently as priority was put into the economic aspects. Therefore, it is essential to balance the economic, environmental and social aspects and shift away from the pure entrepreneur market-driven planning influenced by unsustainable

The framework proposed is based on the findings from the context analysis and stakeholder perspective of the case study: Willemstad, Curacao. Which led towards integrating the finding with specific SDGs related to the urban redevelopment of the historical port-city (11, 9, 12, & 17). Hence, urban and property redevelopment are the main drivers to enhancing the built environment, which is influenced by institutional structures and spatial policy instruments (Adams et al, 2012). The impact of these spatial planning policy tools on urban development projects operates through diverse types of policy tools, such as shaping, regulating, stimulating and capacity building to influence the real estate markets (Tiesdell & Allmendinger, 2005). During the interviews, it became evident that the process for the urban redevelopment of Willemstad required more collaboration as well as stimulation from public and private parties to encourage urban resilience of the historical urban fabric.

The proposal focuses on introducing a stimulating policy tool, which consists of translating the rather global indicators of the relevant SDGs to more tangible urban development indicators to assess both the urban and building scale of various development within the city centre Willemstad (See Appendix E). Also by stimulating diverse developers and private parties to develop more inclusive and sustainable projects taking into consideration the impact the project has on the overall place and its historical identity. While Willemstad, Curacao has been awarded a UNESCO world heritage site, it remains enlisted as a heritage site of the Netherlands. Thus, requires both national (Netherlands) and local government (Curacao) to stimulate the redevelopment and private investments in conserving and revitalizing this unique urban fabric. One way to achieve this is by offering multiple subsidies and building general trust through kick-starting developments with the introduction of public functions in these areas. While there are currently various subsidies and funds promoting the restoration and renovation of monumental buildings these remain rather limited in regards to financial capacity and are focused on the building scale rather than the integral urban scale.

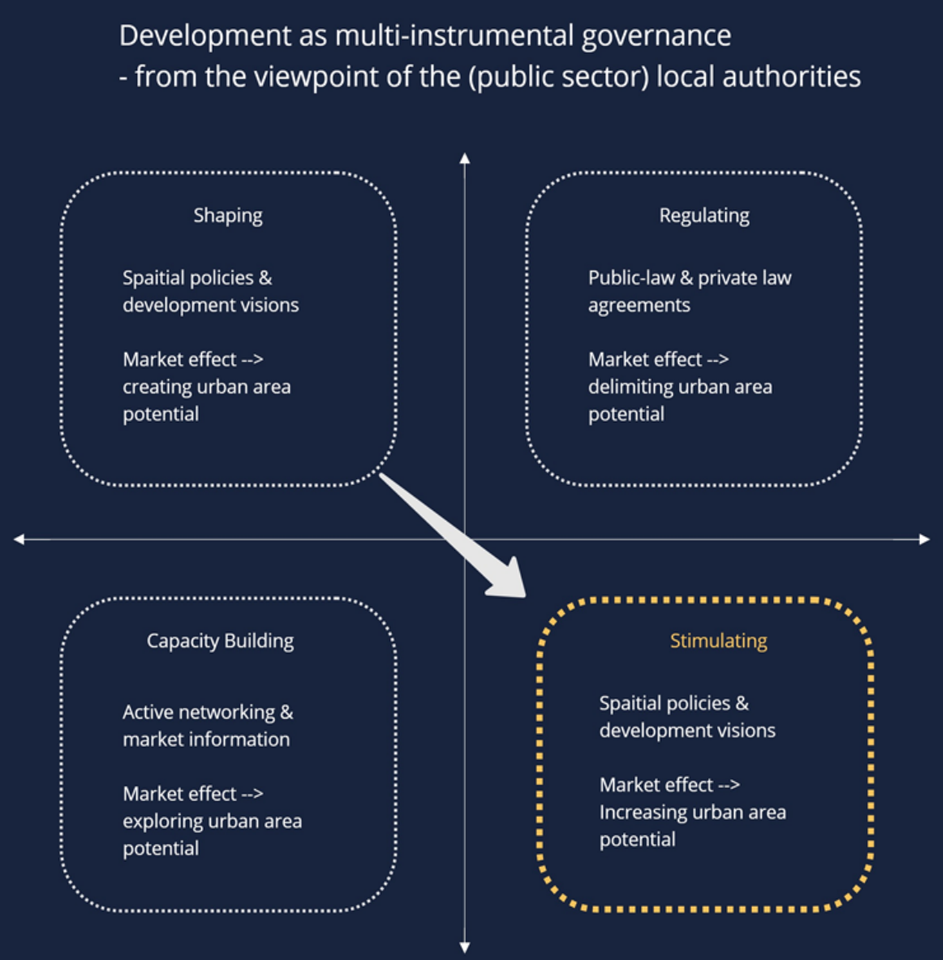


FIGURE 27: DEVELOPMENT INSTUMENTS FOR GOVERNANCE BASED ON HEURKENS, ADAMS & HOBMA 2015 (OWN ILLUSTARTION)

Several challenges remain regarding the process of redevelopment, such as aligning the goals of multiple stakeholders involved and the fragmented land ownership. Throughout the interviews, it became evident that the regulatory policy tools tend to be outdated and are based on the 1995 EOP(eiland ontwikkelingsplan, zoningplan), acting more as a regulatory policy tool. By regulating through a negative incentive approach lacking flexibility leading to a lengthy permit process. To mitigate any further decline of the historical port-city, a new policy instrument should be introduced which focuses on the long-term urban redevelopment offering flexibility and stimulus for the private parties rather than just serving the purpose of regulating. Hence, in the last decade, most development in the historical inner city has been private-led due to dissatisfaction with the visible shortcomings of the classical permitted planning (Hobma, 2005). This dissatisfaction with a traditional permit and rather outdated spatial planning procedure is due to the dependency on government rather than governance. The reasons to shift to governance as a strategy towards policy implementation was that top-down produced spatial plans no longer reflected and incorporated spatial needs and interests of the current and future market demand from private parties and civic society (Heurkens, 2012). Proposing to shift away from the government trying to shape and regulate the urban redevelopment of the historic port city towards focusing on governance (See figure 27). By offering a framework for the stakeholders to be stimulated through positive incentives that balance the social and economic and economic environmental aspects.

IMAGE BY: JUAN F. BAIZ, 2021

3.2.1 Stimulus SDGs through incentives

A policy stimulus tool in the form of a checklist could be rated and used to provide more extensive incentives and subsidies linked to sustainable redevelopment in Willemstad (See Appendix E). Utilizing a market stimulus is often associated with urban regeneration combined with a rather entrepreneurial policy approach or leverage planning (Brindley, Ryden & Stoker, 1996). Allowing to lever private-sector investment into thin markets by making public-sector finance available as an enticement, introducing stimulus policy instruments intended to motivate market behaviour by increasing the likelihood of reaching a shared value by offering rewards attached to particular urban redevelopment indicators. By connecting the SDGs and the urban redevelopment indicators four main sets of stimulus action can be taken in the form of incentives to encourage development; land, financial, technical and regulatory incentives.

For Willemstad, the context of the place allows for interconnection between all social, economic and environmental aspects and is therefore linked to SDG 11 and its target indicators. Moreover, to enhance the urban resilience of the historical port-city relevant SDGs 9, 12 & 17 are used as means to implement and asses the various developments and their impact. These indicators provide by the United Nations are rather global and could be used for diverse developments and scales. Therefore, these indicators were translated towards more specific urban redevelopment indicators focusing on managing urban resilience by making them more tangible and achievable indicators that could be linked to the following incentives.

1. Land incentives: Focuses on spatial planning and land use aspects - SDG 11 (Sustainable Cities and Communities)

Refers to an essential part of the redevelopment stimulus for Willemstad allowing public parties to make governmental owned land available for development by others. The acquisition and disposal of land provide a powerful instrument by which the state can directly influence development. Yet, conflicts could arise due to the short-term mentality often pursued through various political parties that maximize the immediate financial profits rather than seeing the long-term value of sustainable developments. Requiring public agencies to resist the temptation to sell off their landholdings for immediate capital gain and political interest. Instead, shift to a long-term mentality to use them strategically to help create better places in less prosperous areas as much as in buoyant ones. Hence, local authorities do not always see their landholdings as a significant resource that can be deployed creatively to shape places for the better. The incentives for land consider the indicators of SDG 11 which are related to enhancing the historical and cultural identity of the urban fabric. The indicators consider the building density, livability, and inclusivity of Willemstad, helping to secure the development type and quality. Allowing resident participation helps to reduce potential conflict and enable local people to benefit from a better-planned environment with good infrastructure and service provision (Li, 2007). In the case of Willemstad, accessibility in regards to parking spaces is a shared challenge faced by both public and private parties as well as the local residents to allow the livability in the city center to grow. Enhancing the livability also requires better infrastructure and mobility. aspects that could improve accessibility, provide new opportunities, and offer diverse functions that serve multiple purposes to live, work, and recreate.

2. Financial incentives: Focuses on monetary and financial aspects- SDG 9 (Industry, Innovation and Infrastructure)

The financial incentives refer to price-adjusting instruments that impact the developments based on projected costs and revenues (Adams et al., 2012). Hence, the incentives are related to stimulating the economic status of the historical port-city of Willemstad. To encourage the private sector to focus on catering functions towards the local community such as education and sports facilities but also contributing towards necessities such as affordable housing or small industrial units. Shifting towards a more mixed-used development approach rather than focusing solely on functions catered towards external target groups such as tourist accommodation and attractions, Striving towards creating a more diversified economy as well as enhancing the rich historical and cultural identity through various financial benefits such as development grants and tax incentives.

Currently, these financial incentives are being offered by the Stichting Monumentenfonds Curaçao (MFC) provides subsidies for the restoration of officially designated monuments in Curaçao. An owner or developer of a monumental building can receive a subsidy of up to 60% for residential functions, while for a commercial function, 40% will be subsidized (Curconsult, 2018). Hence, these development grants provide a direct public subsidy to encourage the private stakeholders to develop within the historic districts of Willemstad and invest in declining buildings with heritage value. While development grants are individually negotiated and approved development, taxation incentives are applicable to various type of developments of the class to which they apply. Unlike grants, which primarily reduce the costs of development, taxation incentives can affect either costs or revenues. Taxation Incentives provide exemptions from national taxation systems and are less closely. Investing in heritage preservation through UNESCO World Heritage properties located in Curaçao can provide significant tax benefits. Such as to waiver of Transfer Taxes for the purchase of registered monuments and buildings located in the UNESCO World Heritage Site of greater Willemstad. This includes an Investment Tax Deduction of 30% for any investment in monuments (Heritagefund, 2018).

Also, fiscal incentives are applicable for investments and restorations of monuments in Willemstad. Primarily, the accelerated depreciation of business assets is considered as well as offering an annual investment allowance of 12% of the total construction or renovation cost for the first 2 fiscal years. Also, another stimulus offered is the tax holidays, for developers or private parties who contribute to broadening the economic base by offering extensive job opportunities and diverse functions. The current tax incentives consist of exemptions of import duties, income tax on dividends, a corporate tax rate of 2%, and property tax exemption. Under certain circumstances, the rate may be up to 15%. The tax holiday is granted for a period of 5 to 11 years and requires an investment of at least 250,000 or 1,000,000 ANG for hotels (Curconsult, 2018). Normally exemption from import duties, economic levy and sales tax are included in the tax holiday on all imported good for construction and equipment to make the activity operational. An example of a district that has benefited from some of these incentives is Pietermaai. Being one of the first districts to have enhanced the value and benefited from these incentives for monumental buildings at an urban scale. Nevertheless, the investment and time it took to implement these were extensive due to a lack of transparency regarding the policies and spatial planning. Without adequate stimulus policies, the extent of development could otherwise have taken decades to achieve (McGreal et al., 2002). Thus, expanding the financial incentive currently offered for monumental buildings to a larger urban redevelopment scale where mixed-use development are stimulated to serve various purposes for the public good.

3. Technical Incentives: Focuses on design and technical quality aspects -SDG 12 (Responsible Consumption & Production)

To achieve high-quality redevelopment in Willemstad, a combination of development and design stimulus instruments is necessary to think towards the long-term value of the overall urban area and enhance the place's identity. Yet, too often, a market stimulus is used to promote development, disregarding design and technical considerations (Adams et al., 2013). Creating trade-offs where profit is chosen over quality tends to lead to rather disintegrated developments impacting the overall value of the place.

There are subsidies for the maintenance of monumental buildings provided by MFC of around 30% for residential houses and 20% for commercial buildings. So far hardly any use has been made of this facility. By offering a checklist based on the SDG indicators these subsidies could be expanded and implemented in practice more effectively. However, the current subsidies while stimulation still remain restrictive. For example for restoration construction costs are subsidized yet any new additions are excluded. Leading to approximately half of the renovation costs are being subsidized in practice (Curconsult, 2018). Furthermore, in practice, the whole building life cycle tends to be disregarded when developing a project where the focus tends to be on the overall feasibility. Yet, the long-term mentality is necessary to manage urban resilience, due to buildings having direct and indirect impacts on the environment. Throughout the building life cycle from design to construction, occupancy, renovation, and demolition, buildings use multiple resources ranging from raw materials to water and energy. Once constructed, these buildings' users perform various activities that generate waste and emit potentially harmful atmospheric emissions. While the built environment shapes human behaviour, it is humans behaviour that gives meaning to it. Therefore a shift is needed in regards to the current human mentality from a linear 'take-make-waste towards a 'waste-is-wealth' mentality, which can be turned back into resources in a Circular Economy (Remøy et al., 2019).

Influencing the consumption and production of materials as well as other resources. These facts have prompted the creation of green building standards, certifications, and rating systems aimed at mitigating the impact of buildings on the natural environment through sustainable design (OECD, 2018). In recent years certain certifications such as LEED, BREEAM and Living Building Challenge have been introduced globally allowing to asses buildings quality through rating and certification. Hence, public entities should stimulate developers to achieve green building certifications, by offering additional subsidies. Expanding from stimulus instruments that promote development towards those that encourage developers to invest in place-making (Adams et al., 2013). Another way to stimulate better-quality development is to release surplus public land on a competitive basis in which financial return and design quality are seen as equally important determinants of the competition. This requires the design merit of competition entries to be evaluated separately from the financial bid.

Besides the sustainability aspects of the design receiving subsidies, the function and purpose of the building and surrounding area also allow receiving positive incentives. By offering project bonuses as a development stimulus in exchange for higher quality design and community benefits, disregard specific regulatory restrictions. Restrictions such as building ratios could be disregarded if the area is provided to enhance accessibility and mobility aspects. Thus, stimulating developers to improve public areas and create open space while preserving the historic building or creating a cultural facility can all claim additional floorspace bonuses (Hack & Sagalyn, 2011). Rather than developments being constrained by regulatory restrictions, project bonuses allow to potentially add more to marginal revenues than to marginal costs, stimulating development and providing funds to pay for public goods and the capacity actually to build them.

4. Regulatory Incentives: Focus on administrative and organizational aspects- SDG 17 Partnership for goals

The regulatory incentives include a combination of risk-reducing instruments that offer accurate market information, policy certainty and stability (Adams et al, 2013). Stimulating a holistic place management approach includes administrative, institutional and regulatory incentives, due to the importance of time for many investors. Hence, utilizing these incentives facilitates permit procedures and licensing during all project stages, by legislative and regulatory frameworks that protect the investment process from any obstacles regarding the project planning (Zhang, 2005). While policy certainty and accurate market information could effectively attract development due to diminishing risk in administrative and organizational aspects, it remains a rather dependent incentive on governmental institutions. These public authorities tend to suffer from a lack of capacity, both financially and knowledge related, their often unsophisticated understanding of the development industry leads to a short-term mentality. Thus, it is suggested that public agencies offer transparency and measurability of stimulus indicators to share their knowledge, expertise and involvement in the decision-making process, enhancing success. Utilizing capital-raising instruments to provide or facilitate access to development finance, including loan guarantees, revolving loan funds, and public-private development partnerships.

To implement this a more transparent and flexible method of funding and collaborating is needed. By using information technologies (IT) as means for communication and transparency certain project developments could be supported by multiple stakeholders from public to private parties, locals or tourists. Digitalizing the indicators allows the collection of relevant data to assess the performance of the urban development throughout time. This can be achieved through the formation of collective clusters enhancing productivity, innovation, and flexibility between stakeholder involved (Van den Berg et al., 2001).

Another capital raising organization form could be in the form of civic funding, due to the limited private and public financing options, and the increased commitment of civic organizations and individuals to their built environment. Such as crowdsourcing used for some small-scale development projects worldwide. In Willemstad, there has been an increasing number of initiatives in the historical port city by the civic society using creative ways and an entrepreneurial mindset for repurposing buildings and areas. This leads to an increase of bottom-up approaches which public and private stakeholders should stimulate. By allowing crowdsourcing to take place a new web-based business model is offered that stimulates a network of individuals to develop creative solutions resulting in an open call for proposals (Howe, 2008). Thus, stimulating an integrative part of crowd sourcing, where civic stakeholders financially contribute to the development and thereby become shareholders of the project. Moreover, crowdsourcing or funding can be seen as an active public participation process that stimulates innovation in development (Heurkens, 2012).

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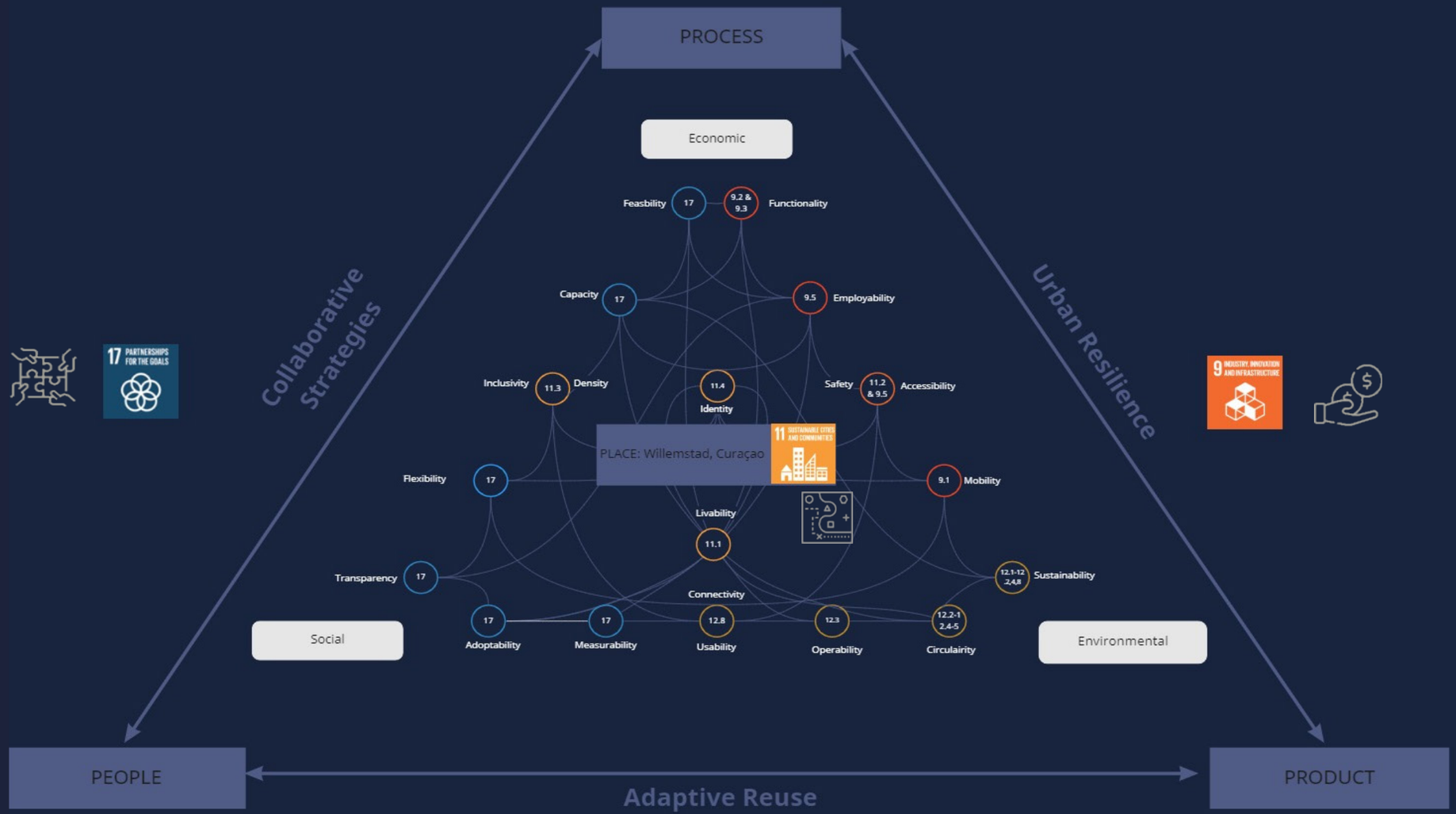
The proposal for Willemstad, Curacao is focused on enhancing the urban redevelopment process through stimulus policies that could be linked to the overall urban resilience framework consisting of SDGs that are related to historical port-city aspects of this case study. Offering a list of indicators that interconnect with each other creating astructure with standards rather than a fixed masterplan allows for flexibility and could be assessed as well as adjusted throughout time. Hence, the proposed stimulus is obtained through various forms of incentives such as land, financial, technical and regulatory incentives. Therefore, facilitating private stakeholders and markets by making development more attractive, allowing developers to create their visions within a proposed framework that is more objectively assessed rather than subjective decision-making process. The proposed stimulus policy can be employed by various stakeholders initially a governmental body, either central or local, or a quasi-governmental agency, to encourage various stakeholders both public- and private-sector developers, to undertake redevelopment projects on the urban revelopment of UNESCO World Heritage sites, and surrounding districts (Heurkens, 2013).

These stimulus allow developers to strive towards better quality development contributing to public benefits, which would otherwise not occur without this specific stimulus. Nevertheless, while public land may serve as an immediate development stimulus, the chances of also creating successful and sustainable places are highly dependent on the terms and conditions on which any development takes place (Syms & Clarke, 2011). For Willemstad, the identity of the place is a leading indicator stimulating developers to consider the unique heritage and cultural value of the existing urban fabric (See figure 28). To achieve this the proposal of 'We Willemstad' stands for collaboration between the multiple stakeholders with the freedom to envision a shared value through diverse inputs at different scales leading to balanced outcomes that enhance the overall socio-economic and environmental status of the historical port-city.



1. LAND INCENTIVES:
FOCUSES ON SPATIAL PLANNING & LAND USE ASPECTS
- SDG 11 (SUSTAINABLE CITIES AND COMMUNITIES)

2. FINANCIAL INCENTIVES:
FOCUSES ON MONETARY AND FINANCIAL ASPECTS
- SDG 9 (INDUSTRY, INNOVATION AND INFRASTRUCTURE)

3. TECHNICAL INCENTIVES:
FOCUSES ON DESIGN AND TECHNICAL QUALITY
-SDG 12 (RESPONSIBLE CONSUMPTION & PRODUCTION)

4. REGULATORY INCENTIVES:
FOCUS ON ADMINISTRATIVE AND ORGANIZATIONAL ASPECTS
- SDG 17 (PARTNERSHIP FOR THE GOALS)

FIGURE 28: STIMULUS POLICY FRAMEWORK BASED ON RELEVANT SDG LINKED TO POSITIVE INCENTIVES FOR WILLEMSTAD (OWN ILLUSTARTION)

3.2.2 Managing resilience at different Built Environment scales for Willemstad

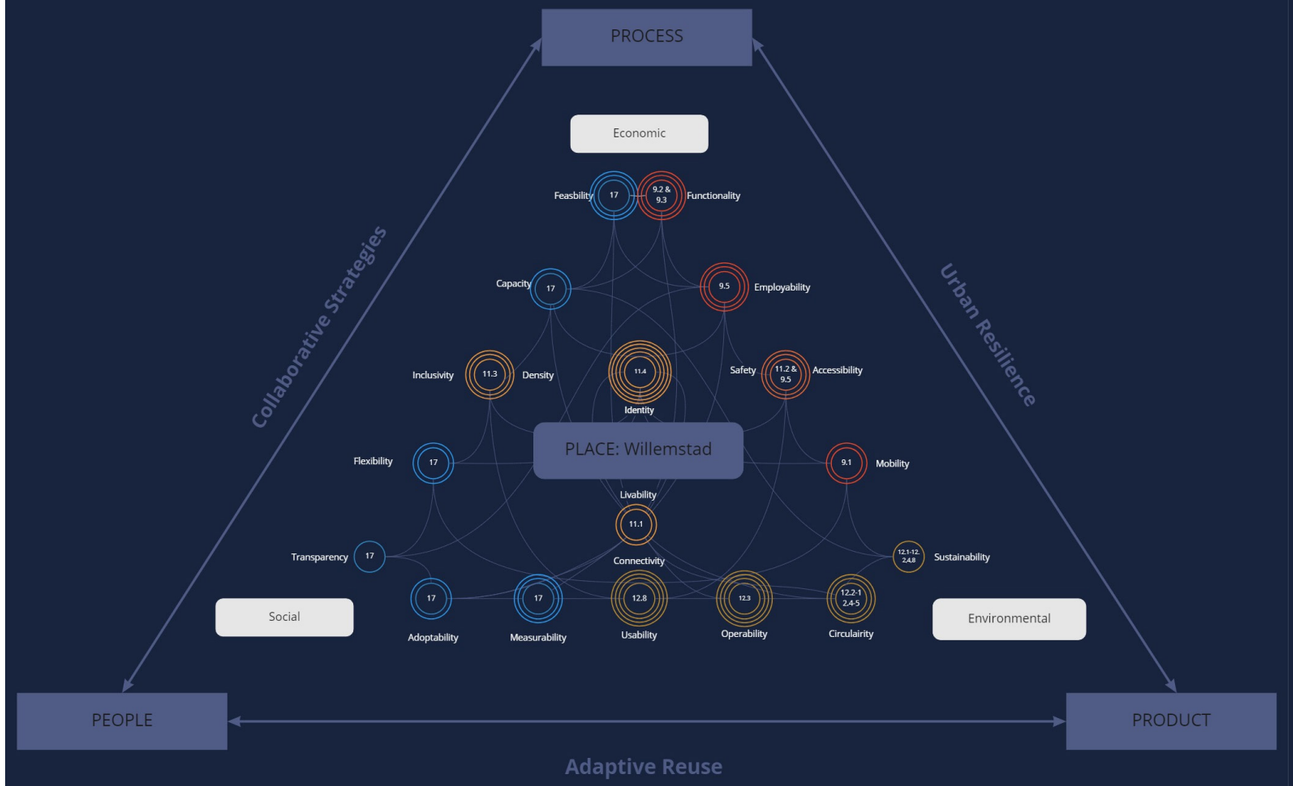
A stimulus instrument is defined by its purpose rather than its scale, with small-scale actions to promote development potentially being just as effective as large-scale ones (Adams et al., 2013). Showcasing that impact that each development has on the overall place is significant as well as vice versa the influence that the urban scale has on each district and the buildings they consist of. This section aims to showcase how the policy stimulus could be used at different scales to assess the urban resilience in Willemstad by mitigating tradeoffs between the economic, environmental and social aspects. Hence, by using the checklist along with the rating an overview is provided of the performance of each indicator, these are currently based on the interview and survey findings along with a few assumptions to demonstrate how the instrument could be used (See figure 29). Aiming to offer an overview based on the ratings (1-5) that each indicator receives from the involved stakeholders, allowing for the decision-making process to be based on facts rather than only politically based agendas which tend to be short term (4 years). The urban management of the historical port-city requires a long-term approach to be more efficient and effective in redeveloping while stimulating to enhance the identity of the place and balancing the economic, social and environmental aspects. The framework could be used in three scales; the overall urban scale of the historical port-city of Willemstad, the district scale and the project or building scale. Throughout, each scale different stakeholders are involved influencing either the input or overall output. Hence, it is advised for the framework and stimulus instrument to be digitalized as the data inputs could be set by urban planners, and the various developments in each district could be assessed in real-time, allowing to show the impact these specific projects have.

1. Urban Scale UNESCO heritage site Willemstad, Curacao- Netherlands

The urban scale focuses on the historical port-city of Willemstad, Curacao which was enlisted as a UNESCO heritage site in 1997 under the Netherlands, today it is still considered a world heritage site of the Netherlands.

Thus, the stakeholders involved at the urban scale could be both the national (Netherlands) and regional (Curacao) public parties as they both understand the value that the historical port-city offers. Another, stakeholder involved at the urban scale is UNESCO, which monitors the status and quality of the world heritage site. In the report of UNESCO of 2006, a rather positive evaluation was given based on the developments and plans related to the Heritage site about awareness of the value that conserving the rich historical and cultural identity has. Yet, a weakness was the slow pace of implementation of restoration and revitalization of the inner city and deteriorating of the residential and economic function, thus lacking livability. Moreover, in the report of 2014 UNESCO had evaluated the status of the historical port-city slightly negative. Especially regarding the management of the UNESCO World Heritage Property, stating that there was a lack of inclusivity and participation with businesses and the local people. Furthermore, the funds received for management are acceptable but could be further improved, enhancing the financial capacity and feasibility. While there is awareness there remains very limited adoptability of concrete aspects to improve the management. Aiming to improve the management the Minister of VVRP had a report drafted consisting of suggestions on how to manage the UNESCO area yet it has not been formalized nor implemented.

Urban Scale: Willemstad, Curaçao



Legend

FIGURE 29: EXAMPLE OF USING STIMULUS POLICY FRAMEWORK AT URBAN SCALE FOR WILLEMSTAD (OWN ILLUSTARTION)

2. District Scale: Punda, Otrabanda, Pietermaai, Scharloo

The UNESCO heritage site with a total area of 87 hectares covers the districts of Punda, Otrobanda, Pietermaai and Scharloo. For the district scale each of the four districts is assessed individually to have a better understanding of the strengths and weakness and where trade-offs tend to occur (See figure 30). To demonstrate how each district could be assessed an example is done for the oldest district of Punda. That still preserves some of the first urban developments from colonial times dating back to 1634 and thus represent the historical identity. Fragments of the Fort Amsterdam wall are still intact as well as the original governmental house and protestant church, which formed the first permanent settlement by the Dutch on the island. Today, these buildings are still used for governmental functions and remain well preserved. In Punda, most of the buildings were of established merchants along the harbour, now known as the Handelskade; further in the Breedestraat and the Herenstraat. Consisting of Dutch colonial architecture houses of two to three stories high utilizing the ground floor, as a shop while the merchant would live above it.

While still catering commercial functions on the ground floor a vast majority remain vacant on the top floors. Also, with time the commercial functions have shifted to be targeted specifically for cruise tourism offering souvenirs. Yet, due to the current pandemic the cruise tourism has been largely affected and has become nonexistent over the last year showcasing a vulnerability and dependency this district has on an external target group, leading to a rather ghost-town effect without cruise tourism and impacting the economic income it receives. The last years more initiatives have been made by private owners of real estate to develop more residential functions it remains limited. The main reason for the limitations is the fragmented land ownership as well as the lack of support and incentives to stimulate the residential function within this district. Moreover, while the district offers accessibility through public bus transportation it has a limited capacity of parking spaces, especially if there were to be an increase of residential functions making mobility and livability a challenge.

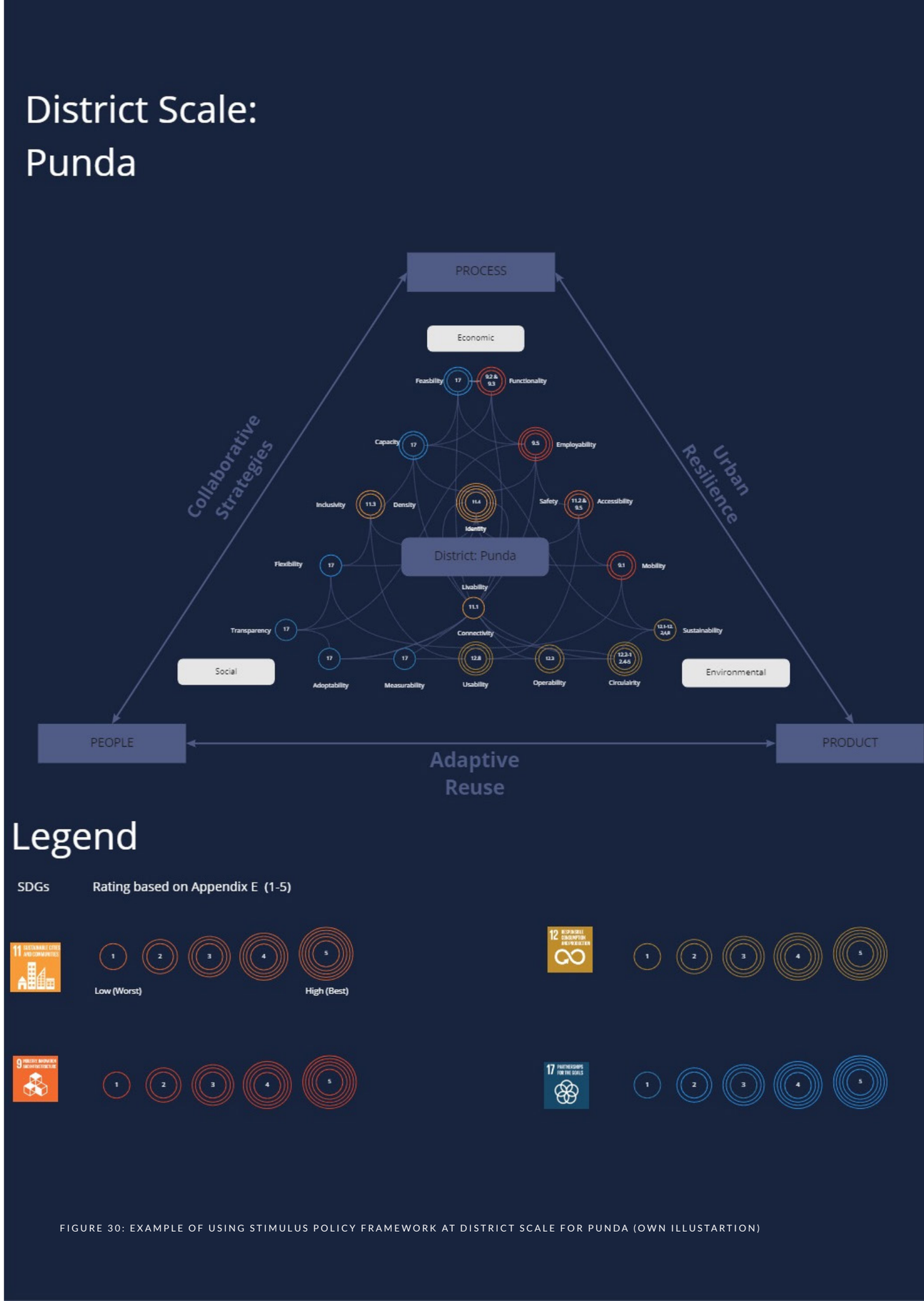


FIGURE 30: EXAMPLE OF USING STIMULUS POLICY FRAMEWORK AT DISTRICT SCALE FOR PUNDA (OWN ILLUSTARTION)

3. Building/ Project Scale:

At the project/building scale the focus is on a specific project considering the functionality as well as the design and construction method. Hence, at this scale, the developers, architects, contractors and the end user have more influence to achieve higher ratings to obtain certain incentives related to each indicator. By using the plaza project as an example of a project that could be a catalyst for the district but also have a significant impact on the whole urban scale of Willemstad. The project could score high in regards to functionality as it was emphasized that mixed-use development was a priority in their vision, helping to stimulate the livability in this district by creating more residential functions is vital along with more unique cultural and educational functions.

Such as introducing a 'Rijksmeusem' with top quality art collections, helps attract tourist but also offers new job opportunities for locals. In addition, APC is considering the function of higher education from the Netherlands that stimulates studies in sectors such as hospitality or agriculture, being beneficial for the socio-economic status of the island overall, as well as being more inclusive. Nevertheless, other functions are needed to support the financial feasibility of the project such as luxury apartments (Interview APC, 2021). Becoming a potential catalyst for the area by offering new functions creates new opportunities for both locals and unique experiences for visitors. Besides the tangible aspects of the project, the process itself also showcases the potential to score high ratings in regards to the indicators related to SDG 17. Due to the increasing collaboration between many professional parties from both the Netherlands and locally, the partnership consists of the consortium of APC and HPC (Heritage Plaza Consortium). Currently, the approach taken in the initial phase is to allow the participation of multiple relevant stakeholders, enhancing the transparency as well as adoptability of the project. Thus, instead of following the typical developer route of presenting a ready-made plan to the stakeholders, the approach was more inclusive by first listening and gather relevant insights before the plans are further elaborated.

Hence, while the feasibility study remains an important indicator to test the programmatic interpretation, and discuss the spatial opportunities and challenges the process remains rather flexible. Emphasizing the impact that the redevelopment of the Plaza area has for the district of Punda but also for Willemstad as a whole making it is much more than just a real estate project, it is a catalyst to strengthen the socio-economic position of Punda and Curaçao (APC, 2021). The framework showcases, that almost all SDGs are interconnected to each other, and thus a holistic and balanced approach of development is motivated by this specific stimulus policy instrument (See figure 31). Whereas, traditional regulatory and shaping instruments tend to be less flexible and more restrictive leading to rather a long process and conflicting interests between stakeholders.

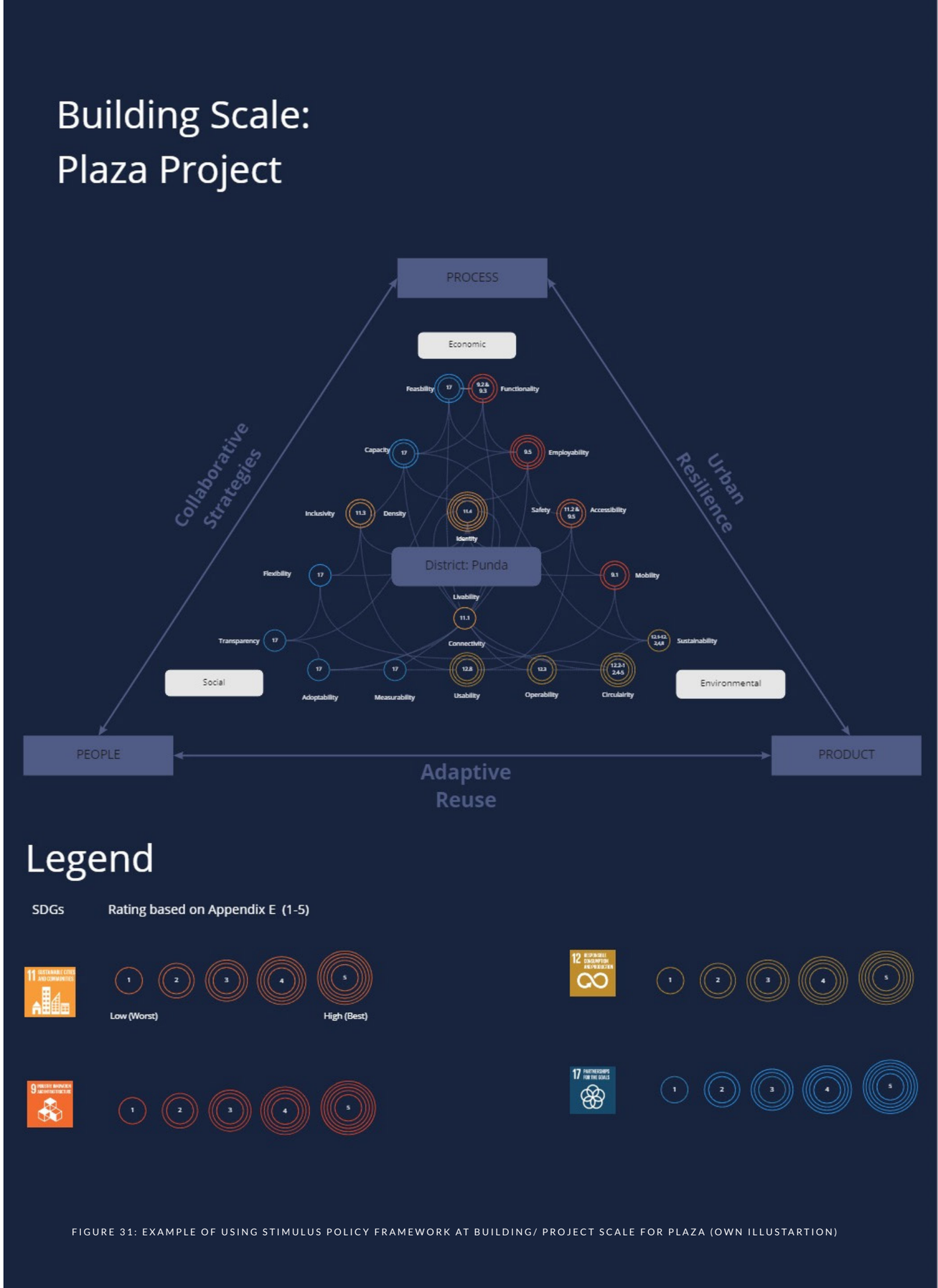
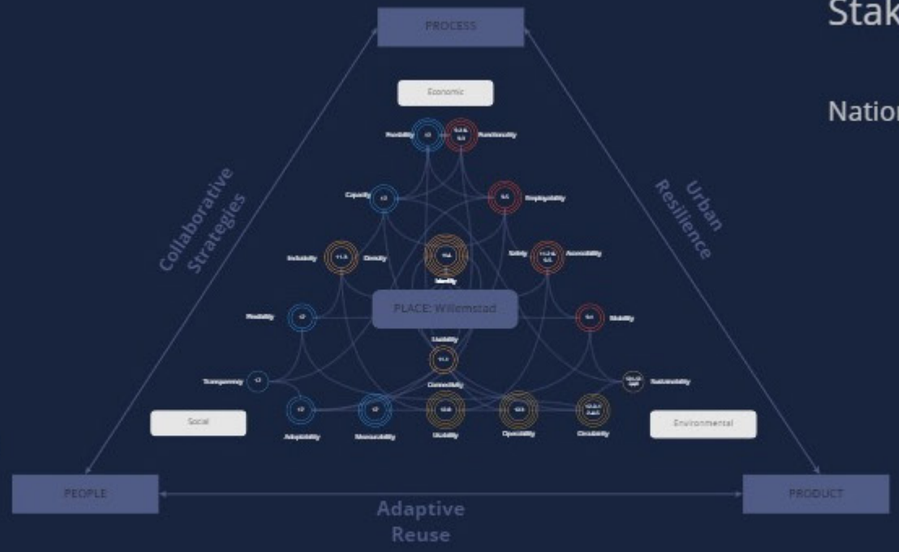


FIGURE 31: EXAMPLE OF USING STIMULUS POLICY FRAMEWORK AT BUILDING/ PROJECT SCALE FOR PLAZA (OWN ILLUSTARTION)

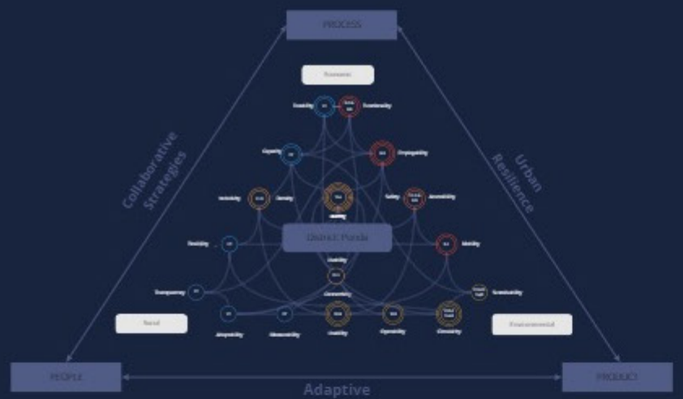
Scale:



Urban Scale:
Willemstad,
Curacao

OUTPUT

District Scale (x4):
Punda



OUTPUT

Building Scale:
Plaza Project

Stakeholder:

National & regional

INPUT

Public & Private
& Civil Society

INPUT

Private &
User

FIGURE 32: OVERVIEW OF ASSESSING DEVELOPMENTS AT DIFFERENT SCALES THROUGH THE STIMULUS POLICY FRAMEWORK INFLUENCING THE INPUT AND OVERALL OUTCOME (OWN ILLUSTARTION)

3.2.3 Sub Conclusion

Through synthesizing both literature and empirical findings along with additional literature in regard to the implementation of SDGs an answer could be provided to the following sub-question:

How can SDGS help create a framework for Historical port cities to manage urban resilience?

Historical port-cities such as Willemstad showcased the need to be developed sustainably through mitigating tradeoffs between economic, environmental and social aspects. In addition, it is important to enhance the identity of the city by aligning stakeholder goals. These findings were related to terminologies and specific SDGs to offer a policy instrument that manages urban resilience and stimulates diverse projects. Hence, policymakers must provide the basis for a comprehensive and action-oriented approach to innovation for SDGs, which could be linked to positive incentives such as subsidies or tax reductions (Croese et al, 2020). Public agencies could apply stimulus interests, by using policy instruments that deploy public land ownership as an investment within some form of development partnership (Adams et al, 2012). It is essential to strategically understand social and environmental value benefits rather than just economic, leading to a short-term mentality for immediate capital gain. The SDGs offer a framework that considers beyond the economic value to help create better places with a long term approach to measuring their performance by using indicators. Hence, these goals and indicators allow for securing value for public parties and stimulating transparency and sustainable development with private parties, which helps to ensure that development meets the needs of a broad range of social groups and the environment.

The report proposes a framework for specific and ambitious instruments for policy approaches to help historical port cities become more resilient as new challenges are encountered. The relevant SDGs are: 11 sustainable cities and communities focusing on the specific context of the place. Whereas the other SDGs act as means to achieve urban resilience through SDG 9: Industry innovation and infrastructure helping to mitigate trade-offs and enhance the socio-economic status of the island.

Implementing the SDGs at the target level and using the relevant KPIs properly require action from sub-national urban governments. For resilient policies to become implemented, governance activities are required to enable and motivate developing integrated approaches of policy, which can be done through collaboration or partnership SDG 17 (Roberts, 2014). By providing an instrument or means to asses and give practical effect towards enhancing the redevelopment process in urban planning of historical port-cities in the Caribbean sharing similar path dependencies as Willemstad, effective governance is necessary. There is no one-size-fits all model. It is imperative that the implementation requires coordination, integration and ultimately effective and coherent policies and governance (SDGs 9, 12, and 17) will guarantee meeting essential needs of historical port cities SDG 11 (see figure 33).

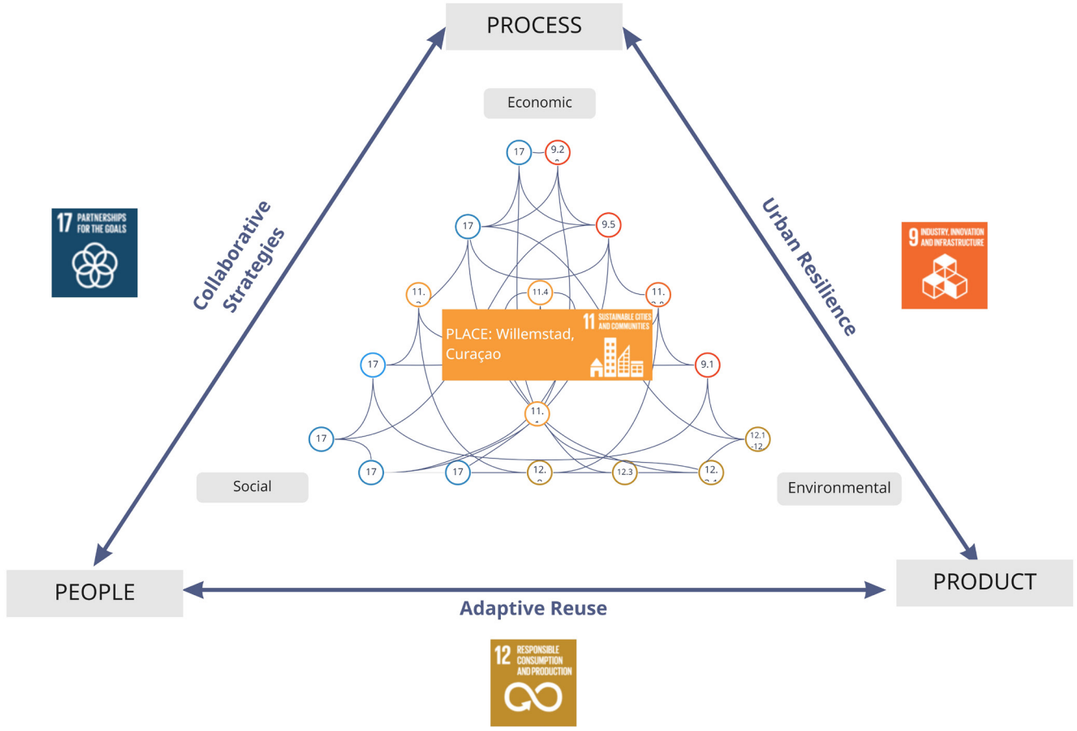


FIGURE 33: PROPOSED FRAMEWORK BY SYHTHESIZING THEORY & EMPIRICAL FINDINGS = FRAMEWORK TO ASSESS & STIMULATE = SOLUTION BASED ON KPI OF EACH SDG (SEE APPENDIX E)

3.2 Conclusion

This section discusses the overall conclusions of this research's three parts: understanding, analyzing, and implementing. The theoretical and empirical analysis brought together new insights and aimed towards synthesizing theoretical and practical solutions regarding the use of adaptive reuse and collaborative strategies to manage urban resilience in historical port cities. Thus, helping to provide a holistic perspective towards answering the main research question:

How can urban resilience be managed in complex urban transformations within the historical port-city of Willemstad, Curacao?

As the era of the unprecedented is ushered faster than the built environment can prepare for its onset. Urban resilience is increasingly seen as essential to managing the risks and challenges, influenced by how cities function, grow and respond to acute stresses or chronic shocks, The focus of the research is in the field of complex urban redevelopment, investigating the adequate long-term strategy or policy instrument to revitalize historical port-cities. By using Willemstad, Curacao as a case study the results can become an example for other small islands developing states (SIDS) in the Caribbean that share a common colonial history and urban fabric.

Part 1 Understanding:

How are the terminologies: urbans resilience, adaptive reuse and collaborative strategies defined in literature and do they relate to each other?

The findings from the literature focused on having a better theoretical understanding of the relevant terminologies and their relationship with each other. In the scope of this paper, the term urban resilience is understood as a response to adapt to change and challenges facing urban areas (Crowe, et al., 2016). Hence, this definition refers to the ability to adapt to change across various spatial scales of an urban system embedded within a preexisting socio-ecological network (Meerow et al., 2016). this definition refers to the ability to adapt to change across various spatial scales of an urban system embedded within a preexisting socio-ecological network (Meerow et al., 2016).

Since the current theory on the implementation of urban resilience remains limited, the broad term of resilience is not fully supported by a host of terms from well-established bodies of theory (de Jong et al. 2015). The aim was to support urban resilience through adaptive reuse and collaborative strategies. It became evident that all three terminologies were linked to each other in theory. However, certain terminologies had stronger links due to more research mentioning the connection between adaptive reuse and collaborative strategies. In theory, collaboration is essential when dealing with complex adaptive reuse problems by sharing risk and expertise towards the realization of shared constructive outcomes. Hence, while adaptive reuse of cultural heritage adds quality to urban redevelopment projects it also requires substantial investments (Baarveld et al., 2011). Various possibilities to integrate mixed functions and involve more actors are achievable through collaboration during the urban planning process to obtain financial feasibility. Thus, the role of collaboration is to seek to enhance the process in adaptive reuse decision-making by aligning stakeholder's goals to one shared common goal. Utilizing adaptive reuse could be a preferable strategy to achieving urban resilience where appropriate, by taking advantage of current resource found in existing monumental buildings, which conserve cultural and heritage values for the benefit of future generations (Conjeos et al. 2011).

While, the findings showcased that the relevance of urban resilience to manage the risks and challenges arising in a globally changing world also demonstrated that knowledge on ways to implement urban resilience remains limited (Croese et al., 2020). Therefore, several global development policy commitments, such as the Sustainable Development Goals (SDGs) have been adopted. The SDGs offer an extensive monitoring framework that could assess how the global policy alignment of the resilience strategies is being implemented. However, the implementation of these differ due to scalar realities, few SIDS have the sustainability challenges of larger urban populations (Mycoo et al, 2017). Hence, these theoretical findings emphasize that the chosen strategy or policy instrument might differ per case due to having a

Part 2: Analyzing

What are characteristics of the context and stakeholder network that define the historical-port city of Willemstad, Curacao?

The empirical research utilizes the case study of Willemstad, Curacao located in the Dutch Caribbean. The analysis was divide into two specific analysis of the case study, one focusing on the context of the place while the other analysis explores the stakeholder perspective. Primarily, the first analysis is based on the specific context of place, which economic, environmental and social aspects have influenced. Studying the past present and future of Willemstad Curacao demonstrates how historical port-cities have delt with urban resilience throughout time constantly evolving to serve societies changing demands and influenced by different path dependencies yet conserving the essential values of a port. One of the main characteristics of ports is water, representing connectivity and flexibility to serve multiple uses throughout time. Yet, there have been significant tradeoffs over time regarding social and environmental aspects being seen as less important than economic and geopolitical aspects. Whether environmental, economic or social, the evolving path dependencies were influenced and formed by a rather individualistic approach or cultural thinking of Western European cultures. Over the last decade the historical port city of Willemstad has seen initiatives from various actors to create social value through murals, playgrounds and enhancing livability with housing, restaurants and boutique hotels. These bottom-up approaches are more inclusive towards the urban development and inspire others to see the historical and cultural value that Willemstad has to offer.

The second analysis dives deeper into the case study focusing on the various stakeholder perspectives regarding the process, product, people, and relation to Willemstad. These stakeholders are categorized as public, private and the local users, by viewing through their lens it became evident that there is misalignment in regards to their vision and goals. The findings showcased that the overall impact on place was seen as having the most potential and therefore positive examples from both public and private parties, stating that the UNESCO world heritage site offers a lot of opportunities and unique character that is seen as historical cultural value locally and globally. The place is formed by the unique products encountered in the historic urban fabric, mainly the private parties had the most positive examples in regards to specific product or projects they had renovated or repurposed. The public side states their willingness to help stimulate these renovations of monumental buildings through subsidies, understanding that some of these projects can strongly contribute to improving the city's socio-economic status. However, for the locals, the quality of their homes could be improved in certain districts, illustrating a rising concern about gentrification in certain districts.. The theme of process deals with multiple bottlenecks, leading to a rather negative perspective from the private side regarding the slow permit process and the outdated zoning plan. While, the government is aware that the zoning plan is outdated, it is important to first align goals towards a shared vision for the inner city of Willemstad and each of its four districts before changing the zoning plan. Yet, reaching a shared goal between these parties tends to remain a challenge due to miscommunication lack of transparency and trust.

Part 3: Implementing:

How can SDGS help create a framework towards urban resilience in historical port-cities?

Throughout the theoretical and empirical research SDGs were mentioned, as a potential method to stimulate sustainable development. There are 17 Sustainable Development Goals (SDGs) that take into consideration economic, environmental, and social aspects. Therefore, the SDGs and their indicators offer potential to stimulate society to shift from the dominant model of purely economic towards a more holistic and resilient policy framework using the SDGs (Kumar et al, 2016). Yet, both in theory and practice there remains a gap in how to implement these, due to each country having a different context and stakeholder network. The implementation of resilient policies differs regarding the context, considering what type of system aims to govern

or which policies measures should be developed. Besides the context the dependability of governments on private parties also influence the realization and implementation of resilient policies. By synthesizing the findings from both literature and empirical research and providing additional literature specifically towards resilient polices, such as the SDGs that stimulate the process of managing urban resilience, adapt to climate changes and new demands of society. For resilient policies to become implemented, governance activities are required to enable and motivate developing integrated approaches of policy, which can be done through collaboration (Roberts, 2014). The SDGs relevant to historical port city transformation are the following (See Appendix E).

SDG-11: Sustainable cities and communities (Place):

The relationship between cities and sustainable development is recognized in the SDG 11, which its main objective is to make cities and human settlements inclusive, safe, resilient and sustainable by mitigating tradeoffs from occurring. Hence, sustainable development cannot be achieved without transforming our approach to how we design, build and manage our urban space.

SDG-9: Industry Innovation and infrastructure: Link urban resilience (Process - Product)

Applicable towards stimulating a resilient infrastructure, by fostering innovation, which helps promote inclusive and sustainable industrialization, which allows for new job opportunities and increases employment improving the socio- economic status of historical port-cities, while considering the impacts these industries have on the environment.

SDG-12: Responsible consumption and Production: Link Adaptive reuse (Product-People)

The approach of adaptive reuse could be linked to the SDG12 referring to responsible consumption and production. Due to the scarcity of resources and increase in carbon emissions, the relevance for cities to start acting upon their construction methods and reusing existing structures. Helping to reduce the waste and production of unsustainable building materials such as concrete and steel, while preserving the heritage value and enhancing the overall identity.

SDG-17: Partnership for the goals: Link Collaborative Strategies (People-Process)

The applicable SDG 17 aims to strengthen the means of implementation and revitalize the global partnership for sustainable development, offering 19 targets with specific indicators towards building capacity and stimulating financing agreements between stakeholders. Hence, SDG 17 consists of the most target levels due to its interconnectedness with almost all goals, helping to build capacity regarding financing and partnership/ collaboration.

In conclusion, implementing adequate policies aligned with specific SDGs as a policy tool towards assessing and stimulating historical port cities helps manage urban resilience throughout time. The case study of Willemstad, Curacao helped to analyze the relevant context and stakeholder network encountered in the complex transformation of historical port cities. These findings were synthesized with literature, particularly with SDGs offering a framework and checklist to sustainably develop and create transparency and collaboration between the diverse stakeholders involved, helping to align goals and mitigate tradeoffs. By creating priorities for policymakers, who provide the basis for a comprehensive and action-oriented approach for implementing relevant SDGs, they are a starting point for historical port-cities to manage the resilience of their historically and culturally rich urban fabric.

3.3 Discussion

The findings and conclusion from the theoretical and empirical research help identify a relationship between the theoretical and case study frameworks. The findings are also limited to the research scope focusing on urban redevelopment of the historical port city, Willemstad. Based on the literature review of the terminologies urban resilience, adaptive reuse and collaborative strategies related to urban redevelopment planning created a general theoretical framework for further analysis. This framework is linked to the academic 4Ps: Place, Product, Person and Process, which was used and modified to create a conceptual framework towards the in-depth analysis of the case study, Willemstad, Curacao. Nevertheless, this requires that the building blocks of the provided framework are further researched regarding other case studies to see if the findings are actually transferable to other historic port-cities in the Caribbean.

Besides the context of the place there is also differing perspectives of the involved stakeholder. Throughout the semi-structured interviews, the private side was more willing to be interviewed and offered a rather un biased perspective. Acquiring, participation from the public side was more challenging yet through connections from the private side, it was possible to obtain the perspective of a very experienced individual who was eager to share their expertise and knowledge and be passionate about the urban redevelopment of the inner city. Hence, the in-field research was done when political elections where coming up and thus could have influenced other participants from being hesitant to participate in the research. Therefore, the findings regarding stakeholder perspective tend to be unbalanced as a relatively limited number of public representatives were interviewed. Yet, some interviews were conducted with hybrid form companies which are independent but publicly funded. In total 12 semi-structured interviews were conducted, offering sufficient findings that provided valuable insights for the research

A total of 93 surveys were conducted to consider the perspective of the larger population, in this case, the locals living within the four districts. These diverse perspectives offered qualitative and quantitative findings that were analyzed compared to the literature findings and formulate new ones. While an exact recipes is not prescribed in this research a list of relevant ingredients in the form of indicators of the relevant SDGs for historical port cities: 11,9, 12 and 17 are offered. Although the SDGs have been a trending topic in research for the last five years, it remains rather a global method to achieve sustainable development and urban resilience, leaving many countries with a lack of capacity to struggle to implement these into a more specific context or project. Such as the redevelopment of the historical port city Willemstad already lacks appropriate policies to stimulate sustainable development. Therefore, governments at all levels and the private sector along with civil society become essential partners in achieving sustainability. This research aims to make an important and positive contribution towards managing urban resilience in historical port-cities through delivering the SDGs related to adaptive reuse and collaborative strategies. However, while the research aims to synthesize academic, scientific and practical findings it remains challenging to know if it will indeed be used throughout practice.

3.4 Recommendation

The research used the case study of Willemstad, Curacao, to better understand the complexity of urban redevelopment of historical port-cities. Providing valuable insights into the challenges as well as the benefits that the urban fabric has encountered throughout time in regards to its heritage value. Hence, the following recommendations are specifically for the case to improve the process by utilizing the SDG framework as a starting point for implementing an adequate long term strategy to manage urban resilience and stimulate a sustainable redevelopment.

Recommendation for Policy instrument including SDGs

The aim of introducing a policy instrument is to align the ambitions of governmental organizations from different levels in particular those related with urban planning, concerning the implementation procedure in practice consisting of private parties and the end-user. Primarily, it is necessary to coordinate within the eight ministries of Curacao instead of compete for resources at an institutional level. This tends to be the current case since most plans are specific to certain issues and sectors, thus each requiring resources simultaneously. Leading towards lacking coherence and trust resulting in limited outcomes. While, Curacao aims to achieve the Urban Agenda 2030 and has integrated six development goals to their National development Plan, in 2017 these remain at a rather goal level than target level. Regarding social, the relevant SDGs are 4: quality of education and SDG 3: Good health and well-being. The economic aspect-related goals are SDG 1: no poverty and SDG 8: Decent work and economic growth. The environmental aspects considered are SDG 7: Affordable and clean energy together with SDG 14: Life below water.

These SDGs are relevant, yet they lack interconnectedness; therefore, using the proposed framework can be added within the case-specific context and, strongly related to SDG 11: Sustainable cities and communities. Hence, using these six SDGs mentioned in the national plan in connection to the urban development allows for tradeoffs to be mitigated and stimulates more mixed-use developments that serve to meet different purpose influencing SDG 11 (See figure 34).

Within the context of place an additional three long-term goals SDG 13,10 and 16 are added, each related to a category of economic, environmental or social aspect. The SDG 13: Climate action is relevant regarding the unsustainable industries encountered currently on the island such as the oil refinery, which is the second contributor of CO2 emissions in Latin America and the Caribbean region. Besides contributing to climate change Curacao is effected by the severity of natural disasters such as hurricanes and flood which bring a huge risk to the historical urban fabric of the port-city Willemstad. Therefore, SDG 13 is related towards a long-term shift to renewable energy source and improving the environmental aspect. Regarding the economic aspect SDG:10 Reduce inequalities within and among countries is relevant even though Curacao has a rather strong Gross Domestic Product (GDP) in comparison to other Caribbean SIDS making into one of the highest standard of living in the Caribbean, The distribution is rather unequal, with an increasing amount of people being under the poverty line. As a constituent country within the kingdom of the Netherlands, there also needs to be a consideration to reduce inequalities among these countries and rather focus on encouraging official development assistance along with financial flows, which include foreign direct investment. Lastly, within the social aspect SDG 16: Peace, justice and strong institutions are seen as a long-term goal regarding developing effective, accountable and transparent institutions that mitigate corruptive behaviors and bribery at all levels, leading to a more inclusive and participatory decision-making process.

The nine SDGs named within the context of place seen in the inner triangle (See Figure 34) should be seen as rather flexible SDGs when developing a specific project in Willemstad Curacao. For example one specific project is the Plaza project developed by APC takes into consideration multiple functions besides hotel and residential adding value for the overall place such as a museum, university and a place for small companies and startups. These functions can be connected to specific SDGs like 4: quality of education and SDG 8: Decent work and economic work. These could be used to motivate developers and also to achieve the various SDGs through diverse projects by offering a checklist. Therefore the SDGs offer a framework to be connected with positive incentives, like subsidies, tax deduction or reduced land leasehold.

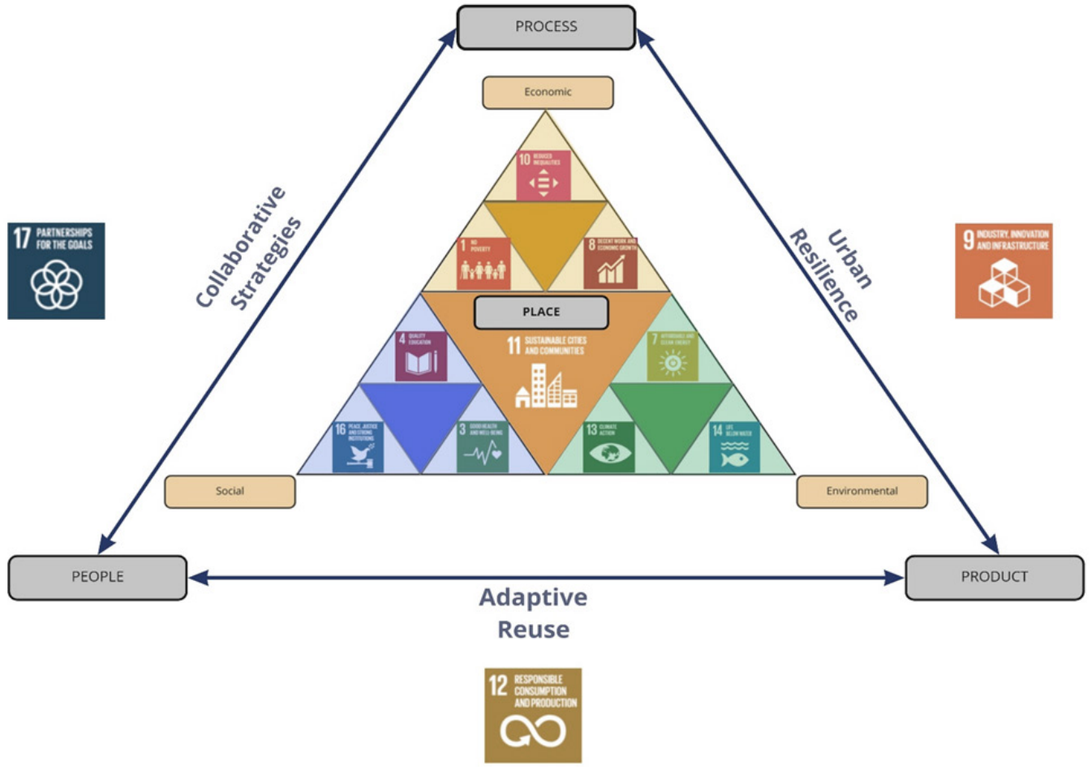


FIGURE 34: RECOMMENDATION FOR WILLEMSTAD CURACAO INTERCONNECTEDNESS BETWEEN SDGS TO REACH URBAN AGENDA 2030

For the development of the historical port-city, Willemstad requires an overarching strategy that is more established towards conserving the heritage value of monumental buildings and managing the urban resilience stimulating adaptive reuse for redevelopment and collaboration between public and private parties while considering the needs of the local residents. Although, the framework can act as a policy instrument and offer a specific checklist with indicators that could be used to measure the performance and input, allowing the decision-making process to be more effective and transparent. However, it is recommended that this policy instrument be digitalized to assure transparency and capacity, which is necessary to achieve the specific indicators of the SDGs linked with positive incentives. By viewing urban planning with a holistic approach, integrating several SDGs in digital services for a broad range of functions, whether economic, social or environmental, helps facilitate transparency and easy access to information. Allowing to have an overview of the diverse developments within the historical port-city could be monitored throughout time by using the indicators as a form of data set. Hence, this helps to facilitate collaboration between the stakeholders as communication could be based on facts rather than opinions.

Recommendation for Process & Partnership

The policy instrument offers a starting point towards aligning goals and building up on communication between the public and private parties. Yet, it is recommended to enhance the process by creating concrete collaborative strategies such as public-private partnerships (PPP). A gap exists in the process between the public sector creating urban planning and the private parties for implementing these policies (See figure 35). Hence, to close the gap, the policy instrument and the capacity building require transparency and trust and the willingness to create partnerships to achieve a mutual added value, which leads to desirable outcomes for the historical port-city of Willemstad (Adams et al , 2012).

There are diverse forms of PPP, which aim towards an expected mutual added value by working together and aligning goals through agreements—leading to joint steering and sustaining long-term relations. The empirical findings demonstrated that while public and private parties have a different perspective, there are some common bottlenecks that both parties have in common. Such as solving the parking issue and the connectivity between districts by adding more green areas allows for a better flow and social connection. The current approach has been a private sector-led urban redevelopment, consisting of different scales from smaller projects towards more significant mixed-use projects. Nevertheless, throughout the interview, it was emphasized that the development time is relatively long due to a lack of support from public parties, who currently do not have the capacity to support these developments fully.

Thus, it is recommended to use a rather light partnership of Developing Apart Together (DAT), a new PPP model known as the ultra-light Joint Venture. This partnership is suitable for complex urban transformations consisting of multiple stakeholders and dealing with fragmented land ownership. Being more flexible than traditional PPPs allowing market parties to develop individual projects within a the larger urban area of the historical inner city of Willemstad, which requires a commonly agreed development strategy. Accordingly, it is recommended to develop the urban redevelopment strategy in collaboration between public which contains the following aspects; a global program including the urban density, infrastructure and mix of functions. Once this is established, an adequate overall planning and financing structure is advised for each district, Punda, Otrobanda, Scharloo, and Pietermaai. In conclusion, by using DAT partnership, an alignment is created between the various stakeholders, leading towards integral planning and phasing of various private investments and public spaces. This allows to effectively monitor the spatial quality and place-making activities that are connected to specific SDGs, enhancing the collaboration between multiple stakeholders and efficiently managing the urban resilience in the long term for the historical port city of Willemstad, Curacao.

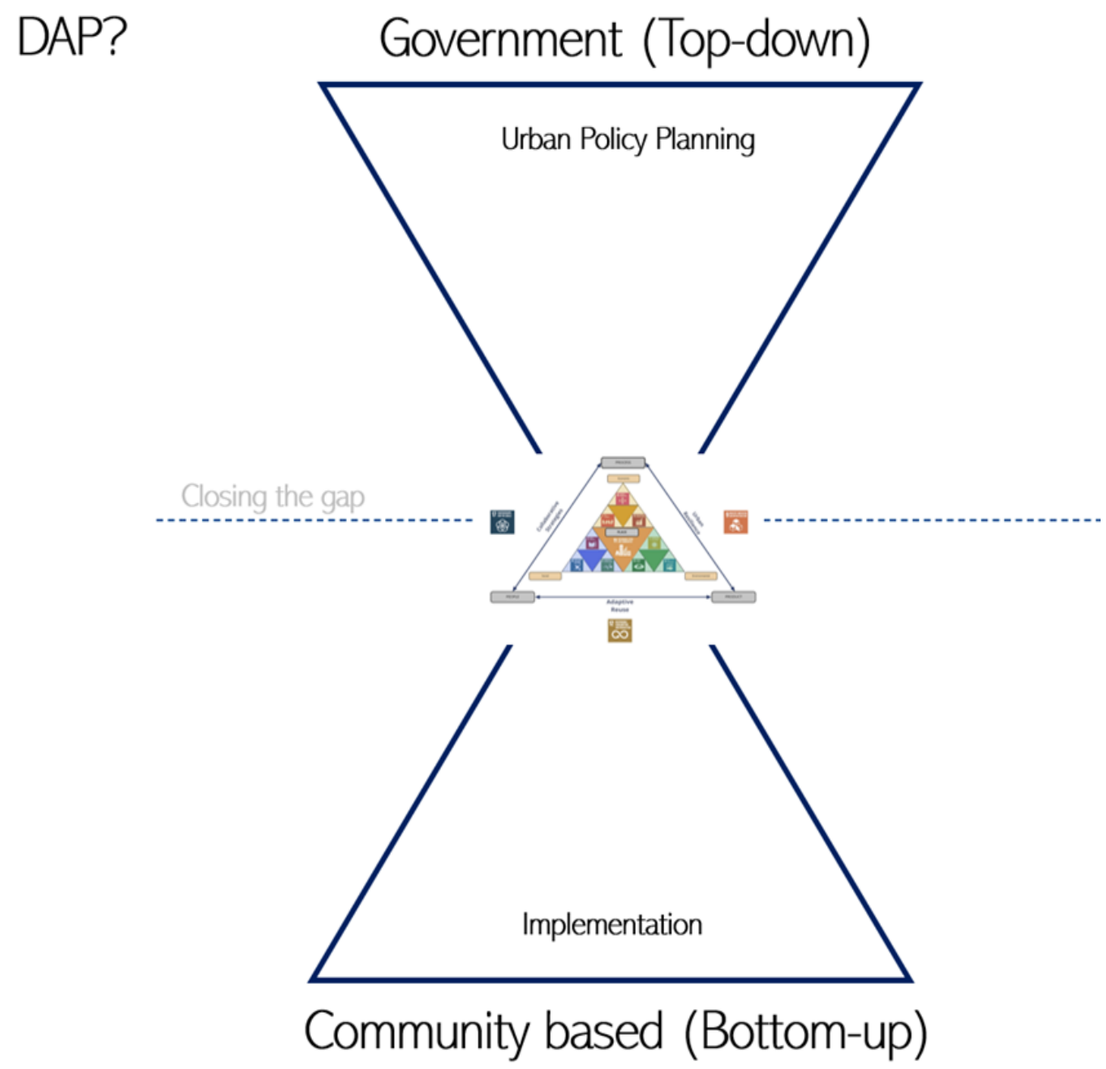


FIGURE 35: RECOMMENDATION FOR WILLEMSTAD CURACAO TO ENHANCE PROCESS BY DEVELOPING APART TOGETHER BASED ON STIMULUS POLICY & PARTNERSHIP BETWEEN PUBLIC & PRIVATE PARTIES (OWN ILLUSTRATION)

CHAPTER FOUR

REFLECTING

IMAGE BY: GABRIELA JIMENEZ 2021

4.1 Reflection Research Topic

Urban resilience is a relevant topic due to the emerging of new challenges faced globally, such as the COVID-19 pandemic and the impacts of climate change. Researching urban resilience was a challenging topic to articulate in the empirical research. It remains a global term that could be perceived differently, thus a rather broad and explorative approach to research. By focusing the scope of the paper to historical port cities allowed to specify urban resilience to the capacity to adapt to change and challenges facing urban areas (Crowe, et al., 2016). Therefore, urban resilience refers to the ability of an urban system embedded within a socio-ecological network to adapt to change across temporal and spatial scales (Meerow et al., 2016). Once defined, it was easier to support urban resilience with more specific terminologies relevant to urban transformation, such as adaptive reuse and collaborative strategies. These terminologies adaptive reuse and collaborative strategies are better established in both theory and practice than urban resilience, particularly in regards to their implementation of them in practice. Throughout the semi-structured interview with both public and private experts it became evident that adaptive reuse was seen as the most substantial and relevant approach towards redeveloping the historical port-city of Willemstad. Whereas, the relation with collaborative strategies remained limited to the willingness to implement although no concrete approaches or partnership have been applied in the case-study at an urban level. This is mainly due to the lack of trust in practice between the private and public stakeholders due to miscommunication and the absence of transparency.

Limited knowledge remains in regards to what urban resilience is in practice while the public side aims to achieve it by using specific SDGs. The interconnectedness between the SDGs remains limited and the implementation of them at a target level. Therefore, this was a moment of realization that a gap exists in practice and literature regarding specifying a framework to manage urban resilience in historical port-cities. Hence, offering a policy instrument connected to relevant SDGs helps create awareness and emphasize the interconnectedness between the SDGs and the urban redevelopment of historical port-cities.

The framework evolved throughout the research from a somewhat divided theoretical and case study framework towards synthesizing a more integrated framework applicable to asses and stimulating urban redevelopment in historical port cities. Thus, the provided framework helps to bridge the gap between academic and practice. By applying these urban planning policies and instruments, it stimulates market decisions. It motivates mixed-use development of existing urban areas, which raises questions of collaboration regarding feasibility and resilience. Yet, critically reflecting by offering a policy instrument to manage urban resilience remains an intangible aspect that could be perceived as another academic paper and ignored in practice due to not fully understanding the outcomes of implementing this policy instrument.

4.2 Reflection Research Methodology & Process

The research was initiated by my personal passion towards the heritage value encountered in historical port cities, bringing a sense of nostalgia from the past to the present such as Willemstad, Curacao where I was raised. Throughout my studies in the Netherlands I was inspired by how well these historical cities are preserved and managed at an urban level. Represented by the vibrant livability achieved through adaptive reuse of these monumental buildings to serve multiple functions that meet the changing demands of society. Nevertheless, these historic port cities encounter various challenges throughout time, such as path dependencies and how these shape the urban fabric from colonialism, towards industrialism to the present dependency on tourism. Therefore, I began my thesis research with high ambitions and motivation to contribute to helping historical-port cities enhance their identity and keep their historical, cultural value for the next generations to come while contributing to socio-economic and environmental aspects. However, with the limited time my motivation shifted towards stress to simplify a rather broad and holistic concept of urban resilience into a feasible research. Hence, to scope the research, the focus was on just one specific case study of Willemstad, Curacao.

The method of research applicable is a convergent embedded mixed-method, using both qualitative and quantitative data.

By adopting an in-depth case study analysis of Willemstad through participant observation, semi-structured interviews and surveys helped provide a detailed understanding of stakeholder goals and ambitions towards redeveloping historical port-city Willemstad. Moreover, participating in the SDG action week held in September 2020 allowed an overview of the island's ambitions regarding resilience and sustainability. However, this led to a rather explorative and divergent approach as the aim was to have unbiased research before specifying the exact solution for the problem. The problem is further investigated through multiple stakeholders' perspectives by having 12 semi-structured interviews with public and private experts. As well as considering the perspective of the locals through conducting 93 surveys, both approaches had differing results yet were very insightful.

The empirical in-field research was a very inspiring and humbling moment, to see the willingness of people to share their expertise and experience with me. The semi-structured interviews were primarily structured and set up in a rather professional manner, starting with a few private experts that led to a snowballing effect towards interviewing multiple stakeholders involved at different levels from developers to investors towards hybrid form of public organization. Also, interviewing a representative of the ministry of traffic, infrastructure, and urban planning with extensive knowledge regarding the redevelopment of the historical inner city sharing relevant information and the bottlenecks that are encountered throughout time. Yet, the research remained limited in regards to acquiring more perspectives from the public side. This could be due to other public experts being rather busy to participate in interviews as political elections were coming up during this time.

Simultaneously, the surveys were carried out with the local residents a longer process than imagined but very inspiring to see how with so little materialistic people are still happy. Showcasing the collective culture that Curacao has where what matters most is their relationship with their family, neighbors, and the sentiment they have to their neighborhood. While insightful and inspiring, it was challenging for me to limit the in-field research due to so many stakeholders being involved in the historical port city.

Intrigued by these diverse perspectives, I tended to want to hear more and understand them better. Until Curacao immensely suffered from its third covid wave, a lockdown came into place where my infield research was forced to stop and go back to desk research by analyzing and comparing the vast amount of data collected.

The method of analyzing the diverse and extensive data collected through both survey and interview was simplified by utilizing the academic 4P framework: People, Process, Product and Place. This helped immensely to structure and compare the data two methods were utilized. The examples and statements offered throughout the interviews were primarily categorized into positive or negative, allowing to see where the strengths and weaknesses are. Demonstrating the similarities and differences between public and private parties, The other method focused on comparing the findings back to the theoretical framework and terminologies based on the co-occurrence that specific statement appeared concerning urban resilience, adaptive reuse and collaborative strategies.

By conducting the surveys in person but setting the answers in google forms allowed to create graphs that showcase the descriptive statics related to the findings of the locals, the set up of these were also done according to the 4P framework which allowed to compare them with the more qualitative findings. However, writing these findings was a challenge for me to create a coherence story while trying not to set a negative tone and represent the perspectives appropriately was time-consuming. This led, to a time delay in my writing progress which was also influenced by the difficult working circumstance that COVID brought about focusing and productivity. I wanted to offer an academic solution in regards to synthesizing theory and practice and create something that Willemstad, Curacao could apply in practice rather than just advice towards improving their current process by applying a policy tool. Yet, these expectations were unrealistic in regards to the time limit. Nonetheless, the research does offer a starting point to contribute to a wider range of challenges encountered in historic -port cities by enhancing the historical and cultural identity through adaptive reuse and aligning stakeholder goals assisted by collaborative strategies. Such as PPPs, which contribute to mitigating tradeoffs employing a policy instrument integrating specific SDGs.

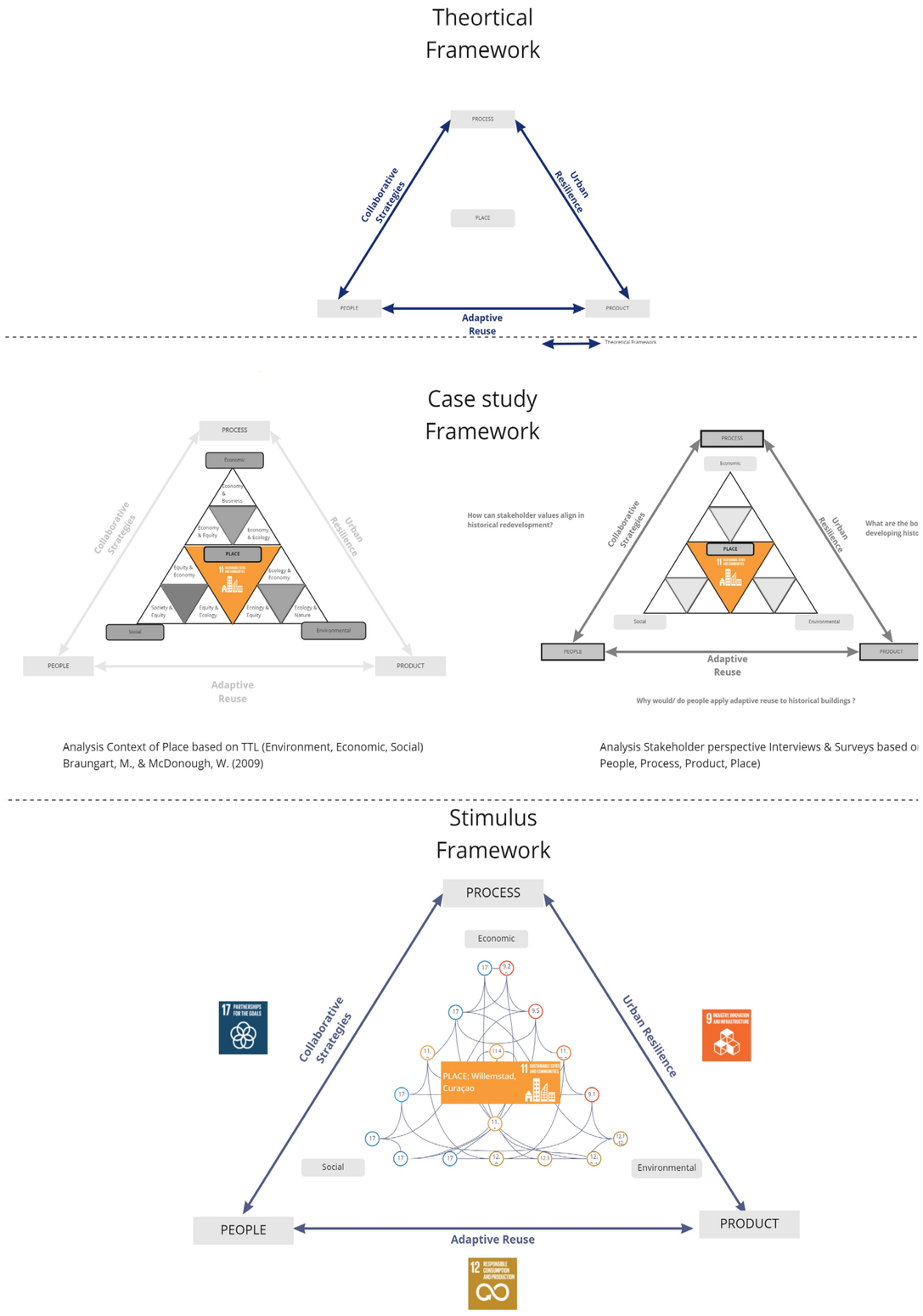


FIGURE 36: REFLECTION METHODOLOGY AND FRAMEWORK EVOLUTION - TRANSFERABILITY OF RESEARCH FRAMEWORK AND PROCESS TO ASSESS OTHER SIDS IN CARIBBEAN (OWN ILLUSTRATION)

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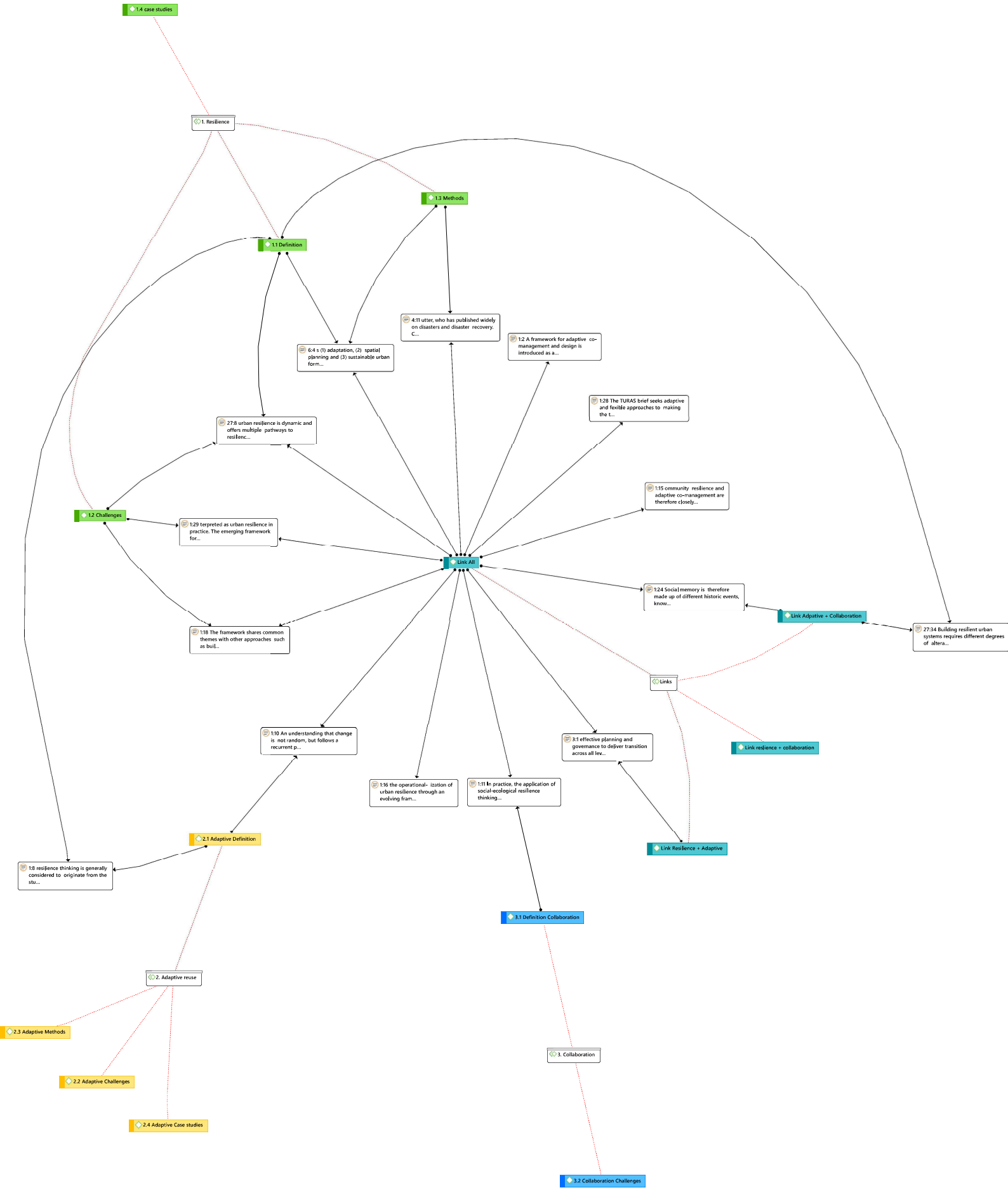
APPENDIX

A: Literature Analysis (ATLAS.ti)


1.4 case studies
1. Resilience
1.3 Methods
1.1 Definition
4:11 utter, who has published widely on disasters and disaster recovery. C...
6:4 s (1) adaptation, (2) spatial planning and (3) sustainable urban form...
1:2 A framework for adaptive co-management and design is introduced as a...
1:28 The TURAS brief seeks adaptive and fexible approaches to making the t...
27:8 urban resilience is dynamic and offers multiple pathways to resilienc...
1:15 ommunity resilience and adaptive co-management are therefore closely...
1.2 Challenges
1:29 terpreted as urban resilience in practice. The emerging framework for...
Link All
1:24 Social memory is therefore made up of different historic events, know...
Link Adpative + Collaboration
27:34 Building resilient urban systems requires different degrees of altera...
1:18 The framework shares common themes with other approaches such as buil...
Links
1:10 An understanding that change is not random, but follows a recurrent p...
3:1 effective planning and governance to deliver transition across all lev...
Link resilience + collaboration
1:16 the operational- ization of urban resilience through an evolving fram...
1:11 In practice, the application of social-ecological resilience thinking....
2.1 Adaptive Definition
Link Resilience + Adaptive
1:8 resilience thinking is generally considered to originate from the stu...
3.1 Definition Collaboration
2. Adaptive reuse
2.3 Adaptive Methods
3. Collaboration
2.2 Adaptive Challenges
2.4 Adaptive Case studies
3.2 Collaboration Challenges

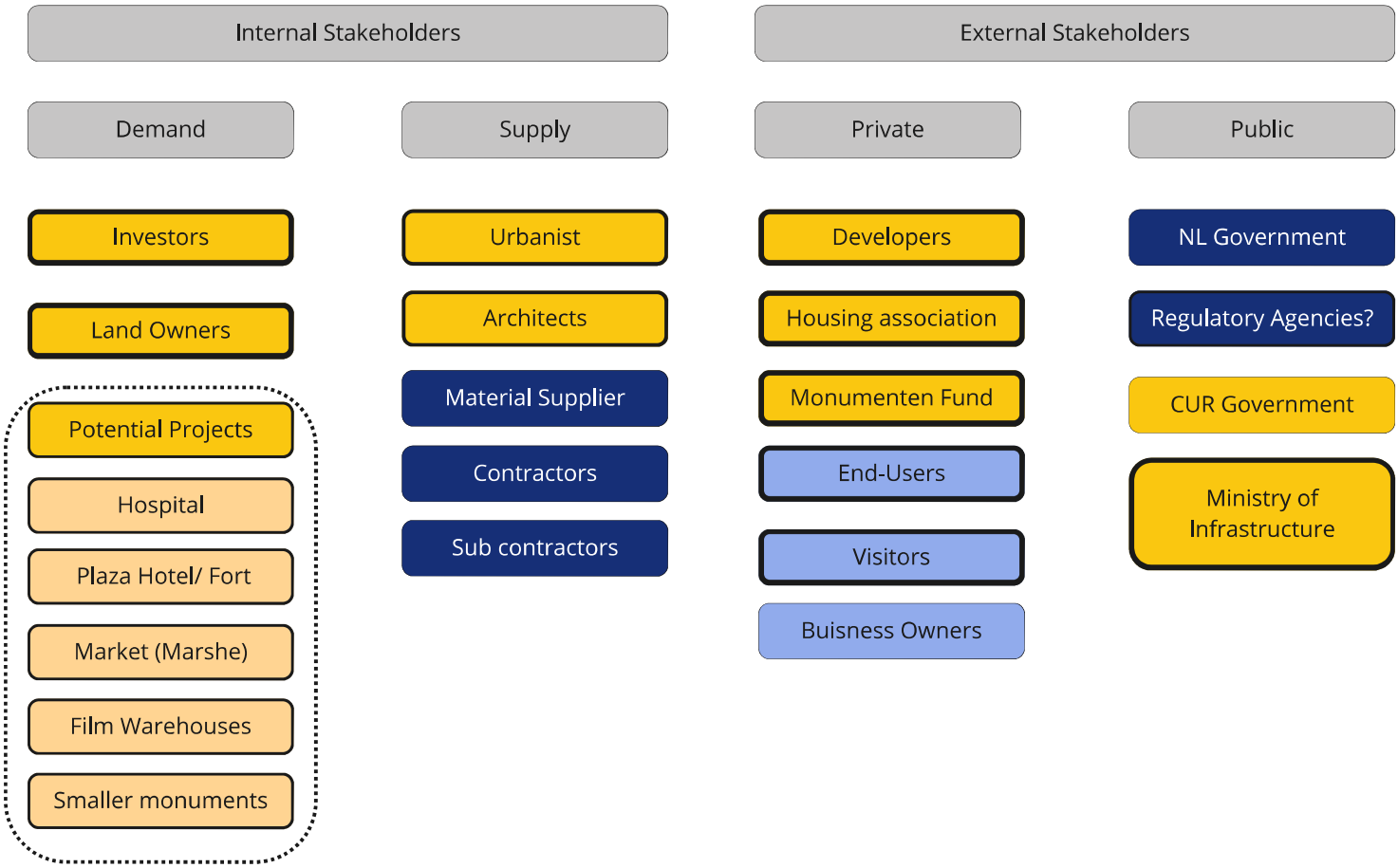
APPENDIX

B: Semi-Structure Interview

Protocol & Consent

Stakeholder Overview:

- Interview Selection



Based on Analysis: Case Study Scope Districts of Willemstad, criteria in regards to adaptive reuse & collaborative strategies

Data Collection Method:

Interview

Interview & Analysis

Survey & Demographics

Non- specific (via literature or other interviews)

Main Research Question :

How can urban resilience be operationalized in complex urban transformations of historical inner cities?

Stakeholder: Developer

Small talk and developing Rapport

Thanks for meeting with me...
nice to meet you...
introduce ourselves...
where we are from (TU, countries)...
ask about them...
where are they from...
begin interview...

Tell the goal of the interview (re phrase)
We will like to know about corona impact in your company and the way of working

0-5 mins

(5 mins)

make sure we answer these for all interviews

General Context questions

Can you describe how you got into real estate and your interest in Curacao specifically?

Previous Experience & Interest

Can you elaborate a bit on your real estate portfolio, and what your aim is when developing?

Real estate portfolio

5-15 mins

(10 mins)

Sub Question: Implementation	Theme	Specific questions:	
Sub Question: What are past, current and future challenges that Willemstad, Curacao is dealing with and how can they become more **resilient in the long term** ?	Place: Urban redevelopment Historical inner-cities	When did you start developing in Curacao, and what was your interest in Willemstad(Pietermaai)?	Development in Curacao
		Why did you decide to create a unique experience in the hotel industry?	
		Have you noticed a change the recent years pre-corona regarding more restaurants and boutique hotels opening up in pietermaai, how has this influenced you?	
Sub Question: Where and which buildings/projects can apply **adaptive reuse** in Willemstad, Curacao?	Product: Buildings(Historic & Cultural added value)	More specific regarding the Sirene Bay Estate, what was your choice in preserving the architecture and enhancing the experience for your guest?	Adaptive reuse in Curacao
	Perspective: Implemetation & Challenges	In your particular developments there is implementation of adaptive reus(thus using an existing building with a new purpose) what is the added value for you ? e	
		What projects are you interested in and why?	
Sub Question: How can the current process in urban redevelopment of Willemstad, Curacao be enhanced by **collaborative strategies?** Existing top-down collaborative strategies or new bottom-up strategies, or a hybrid between both ?	People: Stakeholder Analysis	In Comparison to holland what would be the pros and cons regarding developing?	Process in Curacao
		Are there currently any positive/negative incentives regarding investing in curacao?	
	Process: Tender procedure & Collaboration Analysis	Would you benefit more of collaboration between different parties?	
		Have you had previous experience in large urban development projects?	

15-45 mins

(30 mins)

Informed Consent Form for Semi-Structured Interviews

Institution: Delft University of Technology
Interviewer: Gabriela Jimenez Ablanque
Research Title: WE WILLEMSTAD: Urban resilience in the Caribbean through collaboration & the adaptability of real estate: The case of urban transformation in historical Port-City of Willemstad, Curaçao.

Please tick the appropriate boxes	**Yes**	**No**
Taking part in the study		
1. I consent voluntarily to be a participant in this study and understand that I can refuse to answer questions and I can withdraw from the study at any time	☐	☐
I understand that taking part in the study involves an interview which will be audio-recorded and later analysed. All recordings will be deleted one year after the submission of the final thesis report.	☐	☐
Use of the information in the study (Choose one Option A: Named B: Anonymous		
A. I understand that personal information collected about me that can **identify** me, [e.g. my name or company]	☑	
B. I understand that if I choose to, my company and personal identity will remain **anonymous** throughout the research paper and other output.	☐	
Future use and reuse of the information by others		
I give permission for the publication of graduation thesis that I provide to be archived in TU Delft Educational Depository so it can be used for future research and learning. I understand that all my personal and company information shared will be anonymised through the exclusion of personal and company names.	☐	☐

Signatures

c.m.l. Manuel	[signature]	4 mei 2021.
Name of participant	Initials or Signature	Date

I have accurately read out the information sheet to the potential participant and, to the best to the best of my ability, ensured that the participant understands to what they are freely consenting.

Gabriela Jimenez Ablanque	[signature]	[5/3/2021]
Researcher name	Signature	Date

Informed Consent Form for Semi-Structured Interviews

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Signatures

Patrick U. Virginia	_____	[5/4/2021]
Name of participant	Initials or Signature	Date

I have accurately read out the information sheet to the potential participant and, to the best to the best of my ability, ensured that the participant understands to what they are freely consenting.

Gabriela Jimenez Ablanque	_____	[5/3/2021]
Researcher name	Signature	Date

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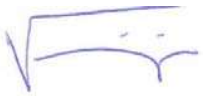
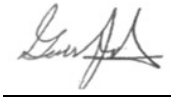
Signatures

Farley Virginia		May 3, 2021
Name of participant	Initials or Signature	Date

I have accurately read out the information sheet to the potential participant and, to the best to the best of my ability, ensured that the participant understands to what they are freely consenting.

Gabriela Jimenez Ablanque		[5/3/2021]
Researcher name	Signature	Date

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Signatures

Bharat Bhojwani		3rd of May 2021
Name of participant	Signature	Date

I have accurately read out the information sheet to the potential participant and, to the best to the best of my ability, ensured that the participant understands to what they are freely consenting.

Gabriela Jimenez Ablanque		[5/3/2021]
Researcher name	Signature	Date

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Signatures

Wilfred Hendrikse — Name of participant

[signature] — Initials or Signature

5/5/2021 — Date

I have accurately read out the information sheet to the potential participant and, to the best to the best of my ability, ensured that the participant understands to what they are freely consenting.

Gabriela Jimenez Ablanque — Researcher name

[signature] — Signature

[5/3/2021] — Date

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Signatures

Jonathan Jukema	JJ	May,3 2021
Name of participant	Initials or Signature	Date

I have accurately read out the information sheet to the potential participant and, to the best to the best of my ability, ensured that the participant understands to what they are freely consenting.

Gabriela Jimenez Ablanque		[5/3/2021]
Researcher name	Signature	Date

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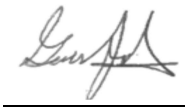
Signatures

Name of participant	Initials or Signature	Date
APC (E. van der Wilk, J. Da Silva, C. Regales)		7/5/2021

I have accurately read out the information sheet to the potential participant and, to the best to the best of my ability, ensured that the participant understands to what they are freely consenting.

Researcher name	Signature	Date
Gabriela Jimenez Ablanque		[5/3/2021]

APPENDIX

C: Survey Structure (via Google Forms)

Bon Bini

Survey: Resident

Bon Siman!

People:
Short open Question getting to know the people

Kua grupo di edat bo ta?

- ◯ Mucha (00-14 years)
- ◯ Hoben (15-24 years)
- ◯ Adulto (25-64 years)
- ◯ Seniors (65 years and over)
- ◯ Other: _____

Den kua sector bo ta traha kiko ta bo okupashon?

Your answer

Kiko bo ta hasi pa plaser/ hobby?

Your answer

Place
Multiple Choice & Short answer :

Den kua area bo ta biba?

- ◯ Punda
- ◯ Otrabanda
- ◯ Pietermaai
- ◯ Scharloo
- ◯ Other: _____

Kuantu tempu bo a biba akinan?

Your answer

Kiko bo ta gusta di bo bario?

Your answer

Kiko bo no ta gusta of bo lo ke kambia?

Your answer

Kua actividad bo lo ke wak mas den bo barrio?

- ☐ Deporte/Sport
- ☐ EEdukashon/ Education (Library, school etc.)
- ☐ Kasnan/ Housing
- ☐ Restaurants, cafés (Horeca)
- ☐ Cultural (Museums)
- ☐ Ofisina/ Office
- ☐ Tienda Commercial stores
- ☐ Market/ Supermarket
- ☐ Other: _____

Product
Living conditions Scale

Kon satisfecho bo ta ku bo ambiente di kas?

	1	2	3	4	5	
Nada	◯	◯	◯	◯	◯	Hopi

Kuantu hende bo ta biba kune?

1	2	3	4	5	6	7	8
◯	◯	◯	◯	◯	◯	◯	◯

Danki

Kon satisfecho bo ta ku e proveshon di bo energia y awa?

	1	2	3	4	5	
Nada	○	○	○	○	○	Hopi

Mas o menos kuantu bo ta paga pa huur?

- ○ 0-1000 ANG
- ○ 1000-3000 ANG
- ○ 3000-7000 ANG
- ○ 7000 + ANG
- ○ Kas propio
- ○ Other: _____

Process:
Living conditions Scale

Bo ta paticipando den un aktividad den bo kumunidad?

- ○ Si
- ○ No

si bo a kies si kua aktivdad anto ku ken ?

Your answer

Bo lo ke pa nan organiza mas evento pa kumunidad?

- ○ Si
- ○ No
- ○ Porta

APPENDIX

D: Findings Interview Table

Who: Analysis through Stakeholder Perspective

Qualitative Findings Private

Interview findings based on perspective

People			Process	Product	Place
Who	Role & Goals	Responsibilities / Task	Pros/Cons	Pros/Cons	
Private; Heritage Fund Cfg Dhr. Bahrat Bojwani	The Fund's mission is to invest in income generating real estate portfolio with diverse properties located within the UNESCO World Heritage boundaries of Willemstad, Curaçao.	Management & Investment: • Harvesting heritage • Return vs risk profile • Tax benefits • Diversified Portfolio • Sustainable & socially responsible investment	+ Initiatives for stakeholder collaboration but just talks + Private investors real estate is a stable market and with additional cultural value will seek to increase over time − Unstable Currency, beneficial to shift to dollarization − No productive outcome form stakeholder talks Collaboration is still missing	+ Cultural value, Pietermaai catalyst to transform from obsolete to a trending area with high market prices − Parking remains a huge problem especially regarding creating more livability	+ For renovations, a clear guideline and comparable to Netherlands − Mobility, lack of sustainable options − More accessible functions for livability − Ghost town effect without Cruise Tourism − Retail closing down in inner city
Private: Developer Sirena bay estate:	Dutch Developer experience since a young age in holland specialized in heritage value. Interest in entertainment and art envisions the island growing especially the historical inner city of Willemstad.	Boutique Hotel owner Spatial planning; Program and project preparation and development for urban district renewal	+ For renovations, a clear guideline and comparable to Netherlands − New developments tend to take more time for permits − Lack of transparency to acquire relevant information	+ Personal experience of how transformation and renovation can add cultural value in 15 years he has seen the area come to life − High Maintenance cost sea front location	+ New young entrepreneurs adding value through cafes. Bars, etc.. Create livability especially at night. − Safety issues, especially during nighttime to walk around dark and drugs.
Private: Developer Triangle & Green apple monument	Dutch Developer experience in hotel management shifted towards real-estate development. Interest in Curacao in development, and mixed-use development	Project development focused on commercial uses such as office spaces, retail and horeca	+ There are some subsides and stimulation in regard to private parties like heritage fund − Slow permit process, not clear on building heights, meant for flexibility yet not applicable or efficient − Instable politics and industry lead to unstable currency might be time to shift towards dollarization	+ Increasing interest for companies to be in historical downtown area Scharloo Julianplein and Otrabanda. Both private and public companies have offices here + Kurahulanda is an interesting project − Fragmented market, not clear the trends, specifically in long-term	+ Cultural value, Pietermaai, Plaza hotel catalyst to transform from obsolete to a trending area with high market prices + In a time period of 15 years a complete shift from certain areas. − Energy Sustainability is lacking to implement solar panels − Mismanagement leads for vacancy of buildings wrong targeting to cruise and mass tourism leads to ghost town effect

Who: Analysis through Stakeholder Perspective

Qualitative Findings Private

Interview findings based on perspective

People			Process	Product	Place
Who	Role & Goals	Responsibilities / Task	Pros/Cons	Pros/Cons	
Private: Developers & Entrepreneur Dhr. Wilfred Hendrikson Dhr. Ir. Patrick Virgina	Experienced individuals regarding the development of Pietermaai district. As well as experience in urban developments in Holland.	Pietermaai Boutique Hotel owner: Renovation and reuse of monumental buildings to attract a different type of tourist to the island. Host events and stimulates local employment believes in placemaking through adaptive reuse	+ Started with student housing, which allows budget and increased the value in a slower process, almost 20 years + 1 bigger developer and the rest mainly small entrepreneurs. − EOP, outdated long permits procedure − No capacity from governments side too political oriented	+ From 0 boutique hotels ,bars and restaurants there are about 500 rooms, 20 restaurants and bars now. + Living in Pietermaai is hip now. Real estate prices are the highest on the island now + Buying dilapidated houses before starting constructing them, which prevented higher buying costs, financial back up, enormous perseverance, lots of creativity	+ Other districts have different values yet share the historical architecture + More mixed use such as The Wharf project − More alignment as a downtown city. Current every district for its own
Local developer Heren2	An architectural firm, project manager and real estate advisor. Focuses on the developments of large-scale real estate projects..	Urban development Real estate development Real estate consultancy Project Management Due diligence	+ There are a few plans for binnenstad(SOP) Stedelijk Ontwikkelinsplan + There is collaboration between small plazas and market area in a sort of MoU − Mismatch between goals of government and current market demands − Only plans more of a vison plan but no implementation strategy − Dependent on government might change every four years so a short-term mentality exist	+ There are a few catalyst projects that make it more realistic to further convince stakeholders of the potential Pietermaai is an example and now Scharloo + The Wharf is a mixed development at a large scale for the island we took consideration on view line of museum − Still unsafe regarding drugs − The maintenance tends to be expensive	+ Livability is essential there is an increasing market and a lot of potential to achieve this + Other big projects with a diversity of target groups ex: Plaza + Mobility vision, with expertise + An increase in safety of violence over the last years − Fragmented land ownership, to many opinions leads to no development
Private; Architects Cees	Architecture and developer an authentic perspective to opportunities involving art, design and development	Architecture Design Project Development Project Management	+ Possibility to expand development while maintaining the value of heritage − Very bureaucratic, friends politics − Slow process unclear requirements to develop new buildings	+ Unique Architecture, not only to live in but as city skyline + Modern and old offer opportunities to expand serve multiple uses − Still unsafe regarding drugs − There are some buildings that don't fit the Historical UNESCO value	+ Multiple projects taking into consideration art, film and culture + Potential for multiple private stakeholders to collaborate CPA and external institutes − Value mainly perceived in economic feasibility
Pending Private; x3 APC					

Who: Analysis through Stakeholder Perspective

Qualitative Findings Public

Interview findings based on perspective

People			Process	Product	Place
Who	Role & Goals	Responsibilities / Task	Pros/Cons	Pros/Cons	
Public: VVRP The Department of Urban Planning Ir. Caroline Manuel	Responsible for a sustainable and balanced use of the space in Curaçao. assesses proposals for new spatial developments and existing situations based on existing government policy	Urban: • Spatial planning; • Program and project preparation and development for urban district renewal Monument: • Technical management for monuments ; • Licensing and exemptions Management of the monument register; • Policy and Circular Policy on monuments;	+ Involvement, in decision making ensuring quality + UNDP offer starting point for a vision for the inner-city, with each district serving a purpose – Lack of trust between private & public –Point finger mentality	+ Improvement in public spaces + More interest from private and Ministers to invest in heritage of city – Uncertainty on actual Implementation – Conflict with preservation & permits	+ Increase social interaction, by creating plazas & boulevard connecting. + More interest from private and Ministers to invest in heritage of city + More interest from private and Ministers to + Resilience in infrastructure & streets – Uncertainty on actual Implementation – Conflict with preservation & permits
Private & Publicly Funded Monumenten-Fonds Ir. Jonathan Jukema	Restoration & maintenance of protected monument provides restoration financing in the form of grants and loans to private individuals and organizations. Also provides information and advice in monument preservation, including on the financial	Monument & Financing: • Grants and Loans • Purchase Financing • General information and advice • Advice Monument permit	+ Financial contributions Approx.. Nafl. 110 million in the form of grants and loans(25 years) – Limited capacity for funding 10 projects yearly – EOP outdated article 4. Binnenstad (Inner-city) ± Various monumental organizations yet lack alignment to a common goal	+ Art initiatives have helped create value to obsolete buildings + Increasing interest from private parties to develop commercial, living and boutique hotel or cafes – Fragmented ownership, Punda example of private ownership ± Various monumental organizations yet lack alignment to a common goal	+ More interest from private and Ministers to invest in heritage of city + Approximately 220 restoration projects were carried out in Curaçao – Conflict with preservation & permits

APPENDIX

E: Proposed SDGs Indicator

Checklist

List of proposed Sustainable Development Goal indicators for Historical Port-Cities		Check			Rating
Sustainable Development Goal indicators should be disaggregated, where relevant, by income, sex, age, race, ethnicity, migratory status, disability and geographic location, or other characteristics, in accordance with the Fundamental Principles of Official Statistics (General Assembly resolution 68/261).					
Goals and targets (from the 2030 Agenda)	*Indicators*				
Goal 11. Make cities and human settlements inclusive, safe, resilient and sustainable			CATEGORY	URBAN RESILENT INDICATORS FOR THE BUILT ENVIRONMENT	
11.1 By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums	11.1.1 Proportion of urban population living in slums, informal settlements or inadequate housing		BUILT ENVIRONMENT - SOCIAL	**Livability (housing):** Social housing or renovating inadequate housing SOCIAL	
11.2 By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons	11.2.1 Proportion of population that has convenient access to public transport, by sex, age and persons with disabilities		BUILT ENVIRONMENT - SOCIAL	**Accessability (transport):** by public transport & equality in condition of bus stops and road infrastructure SOCIAL	
11.3 By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries	11.3.1 Ratio of land consumption rate to population growth rate		BUILT ENVIRONMENT - SOCIAL	**Density (building and population)** : Volume of building per resident SOCIAL	
	11.3.2 Proportion of cities with a direct participation structure of civil society in urban planning and management that operate regularly and democratically		SOCIAL	**Inclusivity (partcipation):** Partcipation of community is enhanced in planning through events and meetings SOCIAL	
11.4 Strengthen efforts to protect and safeguard the world's cultural and natural heritage	11.4.1 Total expenditure (public and private) per capita spent on the preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), level of government (national, regional and local/municipal), type of expenditure (operating expenditure/investment) and type of private funding (donations in kind, private non-profit sector and sponsorship)		ALL	**Identity (Cultural & Natural heritage):** Investment in regards to preservation, protection and conservation of all cultural and natural heritage, by type of heritage (cultural, natural, mixed and World Heritage Centre designation), ECONOMIC	
11.5 By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations	11.5.1 Number of deaths, missing persons and persons affected by disaster per 100,000 people[a]		BUILT ENVIRONMENT	**Safety (constructure)** : climate-future proof construction (Hurricane, Flooding, and management) BUILT ENVIRONMENT	
	11.5.2 Direct disaster economic loss in relation to global GDP, including disaster damage to critical infrastructure and disruption of basic services[a]		ECONOMIC- BUILT ENVIRONMENT	**Safety (insurance):** Insurnace on built structure incase of direct disaster damage ECONOMIC/BUILT ENVIRONMENT	
11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management	11.6.1 Proportion of urban solid waste regularly collected and with adequate final discharge out of total urban solid waste generated, by cities		BUILT ENVIRONMENT	**Sustainability (material):** Waste management of construction and materials BUILT ENVIRONMENT	
	11.6.2 Annual mean levels of fine particulate matter (e.g. PM2.5 and PM10) in cities (population weighted)		BUILT ENVIRONMENT	**Sustainability (pollution):** Production of particulate matter due to demolishen of structures or other organic or inogranic particles such as dust, smoke etc. BUILT ENVIRONMENT	
11.7 By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities	11.7.1 Average share of the built-up area of cities that is open space for public use for all, by sex, age and persons with disabilities		BUILT ENVIRONMENT - SOCIAL	**Inclusivity (Spaitial):** Public spaces for community offering a space for different target groups SOCIAL	
	11.7.2 Proportion of persons victim of physical or sexual harassment, by sex, age, disability status and place of occurrence, in the previous 12 months		BUILT ENVIRONMENT - SOCIAL	**Safety (social)** : proper community security, lighting and accesability SOCIAL	
11.a Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning	11.a.1 Proportion of population living in cities that implement urban and regional development plans integrating population projections and resource needs, by size of city		BUILT ENVIRONMENT - SOCIAL	**Connectivity (Infrastructure):** Connection between old city center and rural areas, SOCIAL	
11.b By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels	11.b.1 Proportion of local governments that adopt and implement local disaster risk reduction strategies in line with the Sendai Framework for Disaster Risk Reduction 2015-2030[a]		BUILT ENVIRONMENT	**Safety (Infrastructure):** Disaster risk reduction on infrastructure stimulated by policies for long-term resilience to disasters	
	11.b.2 Number of countries with national and local disaster risk reduction strategies[a]		ECONOMIC- BUILT ENVIRONMENT	**Safety (Management):** Strategy towards risk management BUILT ENVIRONMENT	
11.c Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials	11.c.1 Proportion of financial support to the least developed countries that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilizing local materials		ECONOMIC	**Feasbility (financial)** : support that is allocated to the construction and retrofitting of sustainable, resilient and resource-efficient buildings utilizing local materials ECONOMIC/ BUILT ENVIRONMENT	
	Total			Total	
Goal 9. Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation			URBAN RESILEINCE:		

Applicable Subsidies Suggestions

ADAMS TISDELE - Stimulus

CHECK LITERATURE

Land use incentives:

Stimulate urban redevelopment in historical inner-city

Stimulate basic amenities for all such as housing and sanitation

Stimulate inclusive, accesible and green public spaces

9.1 Develop quality, reliable, sustainable and resilient infrastructure, including regional and trans-border infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all	9.1.1 Proportion of the rural population who live within 2 km of an all-season road		BUILT ENVIRONMENT-SOCIAL	**Mobility (infrastructure):** and transportation for all SOCIAL/ENVIRONMENT	
	9.1.2 Passenger and freight volumes, by mode of transport		BUILT ENVIRONMENT-SOCIAL	**Mobility (transport):** bus stations stops, taxi area, bikes, car parking SOCIAL/ENVIRONMENT	
9.2 Promote inclusive and sustainable industrialization and, by 2030, significantly raise industry's share of employment and gross domestic product, in line with national circumstances, and double its share in least developed countries	9.2.1 Manufacturing value added as a proportion of GDP and per capita		ECONOMIC	**Functionality:** Industry of manufacturing in GDP ECONOMIC	
	9.2.2 Manufacturing employment as a proportion of total employment		ECONOMIC SOCIAL	**Functionality:** Industry:Manufacturing employment as a proportion of total employment SOCIAL/ECONOMIC	
9.3 Increase the access of small-scale industrial and other enterprises, in particular in developing countries, to financial services, including affordable credit, and their integration into value chains and markets	9.3.1 Proportion of small-scale industries in total industry value added		ECONOMIC SOCIAL	**Functionality (small Industry):** Proportion of small-scale industries in total industry value added SOCIAL/ECONOMIC	
	9.3.2 Proportion of small-scale industries with a loan or line of credit		ECONOMIC	**Functionality (small Industry):** Proportion of small-scale industries with a loan or line of credit ECONOMIC	
9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities	9.4.1 CO_2 emission per unit of value added		BUILT ENVIRONMENT	**Sustainability (Infrastructure + Construction):** CO_2 emission per unit of value added, Material and energy BUILT ENVIRONMENT	
9.5 Enhance scientific research, upgrade the technological capabilities of industrial sectors in all countries, in particular developing countries, including, by 2030, encouraging innovation and substantially increasing the number of research and development workers per 1 million people and public and private research and development spending	9.5.1 Research and development expenditure as a proportion of GDP		SOCIAL ECONOMIC	**Workability (Research Innovation):** Research and development expenditure as a proportion of GDP ECONOMIC	
	9.5.2 Researchers (in full-time equivalent) per million inhabitants		SOCIAL ECONOMIC	**Workability (Innovation)** : Researchers (in full-time equivalent) per million inhabitants SOCIAL	
9.a Facilitate sustainable and resilient infrastructure development in developing countries through enhanced financial, technological and technical support to African countries, least developed countries, landlocked developing countries and small island developing States	9.a.1 Total official international support (official development assistance plus other official flows) to infrastructure		ECONOMIC BUILT ENVIRONMENT	**Feasibility (Investment):** Total official international support (official development assistance plus other official flows) to infrastructure ECONOMIC/ BUILT ENVIRONMENT	
9.b Support domestic technology development, research and innovation in developing countries, including by ensuring a conducive policy environment for, inter alia, industrial diversification and value addition to commodities	9.b.1 Proportion of medium and high-tech industry value added in total value added		ECONOMIC-SOCIAL	**Workability (Technology Innovation)** : stimulating working or coworking spaces for a larger prroportion of medium and high-tech industry value added in total value added ECONOMIC	
9.c Significantly increase access to information and communications technology and strive to provide universal and affordable access to the Internet in least developed countries by 2020	9.c.1 Proportion of population covered by a mobile network, by technology		ECONOMIC-SOCIAL	**Accesability(Network WiFi)** : Proportion of population covered by a mobile network, by technology SOCIAL	
Goal 12. Ensure sustainable consumption and production patterns				ADAPTIVE REUSE	
12.1 Implement the 10-Year Framework of Programmes on Sustainable Consumption and Production Patterns, all countries taking action, with developed countries taking the lead, taking into account the development and capabilities of developing countries	12.1.1 Number of countries with sustainable consumption and production (SCP) national action plans or SCP mainstreamed as a priority or a target into national policies		BUILT ENVIRONMENT	**Sustainability (Building life cycel):** for sustainble consumption and production throughout the building life cycle (Design, Build/ Reuse, Operate and Maintain) BUILT ENVIRONMENT	
12.2 By 2030, achieve the sustainable management and efficient use of natural resources	12.2.1 Material footprint, material footprint per capita, and material footprint per GDP		BUILT ENVIRONMENT ECONOMIC	**Circularity (Production)** Build or Reuse: Material footprint, material footprint per capita, and material footprint per GDP BUILT ENVIRONMENT/ ECONOMIC	
	12.2.2 Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP		BUILT ENVIRONMENT	**Sustainability (Material consumption):** Domestic material consumption, domestic material consumption per capita, and domestic material consumption per GDP BUILT ENVIRONMENT / SOCIAL	
12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses	12.3.1 Global food loss index		SOCIAL	**Operationality(Food consumption):** of function in food waste production ex. Hotels, restaurants, cafes etc. SOCIAL	
	12.3.1 Global food loss index- Mitigate		NATURAL ENVIRONMENT SOCIAL	**Operationality(Food Production):** Stimulating agriculture activities or community gardens for food NATURAL ENVIRONMENT/ SOCIAL	
12.4 By 2020, achieve the environmentally sound management of chemicals and all wastes throughout their life cycle, in accordance with agreed international frameworks, and significantly reduce their release to air, water and soil in order to minimize their adverse impacts on human health and the environment	12.4.1 Number of parties to international multilateral environmental agreements on hazardous waste, and other chemicals that meet their commitments and obligations in transmitting information as required by each relevant agreement		NATURAL ENVIRONMENT SOCIAL	**Sustainability (Pollution awareness):** Production and consumption of hazardous waste, and other chemicals NATURAL ENVIRONMENT	
	12.4.2 Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment		NATURAL ENVIRONMENT SOCIAL	**Circularity (Waste management):** Hazardous waste generated per capita and proportion of hazardous waste treated, by type of treatment NATURAL ENVIRONMENT	

FInancial incentives:

Stimulating Urban Resilience through adequate Infrastructure & Industries

Stimulating Employment diversifying economy motivating entrepreneurship

Stimulating Innovation through implementing technology tools

Technical incentives:

Stimulating Adpative reuse of monumental buildings throughout life-cycle to enhance and mainatin the historical Identity (Subsidies: Renovation & Maintainance)

12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse	12.5.1 National recycling rate, tons of material recycled		BUILT ENVIRONMENT	**Circulairity (Reduce, reuse, Recycle):** Re-use or recycle of construction materials BUILT ENVIRONMENT	
12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle	12.6.1 Number of companies publishing sustainability reports		BUILT ENVIRONMENT	**Sustainability (Certification):** Report or sustainable certficate LEED BREEAM BUILT ENVIRONMENT	
12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities	12.7.1 Number of countries implementing sustainable public procurement policies and action plans		BUILT ENVIRONMENT-ECONOMIC	**Sustainability (Actionplan):** Procurement of sustainable engineering of strcuture and installations BUILT ENVIRONMENT/ ECONOMIC	
12.8 By 2030, ensure that people everywhere have the relevant information and awareness for sustainable development and lifestyles in harmony with nature	12.8.1 Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment		SOCIAL	**Sustainability (Education):** Extent to which (i) global citizenship education and (ii) education for sustainable development (including climate change education) are mainstreamed in (a) national education policies; (b) curricula; (c) teacher education; and (d) student assessment SOCIAL	
12.a Support developing countries to strengthen their scientific and technological capacity to move towards more sustainable patterns of consumption and production	12.a.1 Amount of support to developing countries on research and development for sustainable consumption and production and environmentally sound technologies		BUILT ENVIRONMENT	**Sustainability (Research & Technology):** data bases of sustainable monitoring through adequate management and technologies BUILT ENVIRONMENT	
12.b Develop and implement tools to monitor sustainable development impacts for sustainable tourism that creates jobs and promotes local culture and products	12.b.1 Number of sustainable tourism strategies or policies and implemented action plans with agreed monitoring and evaluation tools		ALL	**Usability (Tourism Industry):** Number of sustainable tourism and monitoring with evaluation tools SOCIAL/ ECONOMIC/ BUILT ENVIRONMENT	
12.c Rationalize inefficient fossil-fuel subsidies that encourage wasteful consumption by removing market distortions, in accordance with national circumstances, including by restructuring taxation and phasing out those harmful subsidies, where they exist, to reflect their environmental impacts, taking fully into account the specific needs and conditions of developing countries and minimizing the possible adverse impacts on their development in a manner that protects the poor and the affected communities	12.c.1 Amount of fossil-fuel subsidies per unit of GDP (production and consumption) and as a proportion of total national expenditure on fossil fuels		BUILT ENVIRONMENT - ECONOMIC	**Adoptability (Production & Consumption):** Amount of fossil-fuel subsidies per unit of GDP ECONOMIC/ BUILT ENVIRONMENT /SOCIAL	
Goal 17. Strengthen the means of implementation and revitalize the Global Partnership for Sustainable Development				PARTNERSHIP & COLLABORATION	
Finance					
17.1 Strengthen domestic resource mobilization, including through international support to developing countries, to improve domestic capacity for tax and other revenue collection	17.1.1 Total government revenue as a proportion of GDP, by source		ECONOMIC	**Feasibility (Financial):** Total government revenue as a proportion of GDP generated through the historical port city of Willemstad	
	17.1.2 Proportion of domestic budget funded by domestic taxes		ECONOMIC	**Feasibility (Financial):** Proportion of domestic budget funded by domestic taxes	
17.2 Developed countries to implement fully their official development assistance commitments, including the commitment by many developed countries to achieve the target of 0.7 per cent of gross national income for official development assistance (ODA/GNI) to developing countries and 0.15 to 0.20 per cent of ODA/GNI to least developed countries; ODA providers are encouraged to consider setting a target to provide at least 0.20 per cent of ODA/GNI to least developed countries	17.2.1 Net official development assistance, total and to least developed countries, as a proportion of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee donors' gross national income (GNI)		ECONOMIC	**Feasibility (Financial):** Net official development assistance, total and to least developed countries, as a proportion of the Organization for Economic Cooperation and Development (OECD) Development Assistance Committee donors' gross national income (GNI)	
17.3 Mobilize additional financial resources for developing countries from multiple sources	17.3.1 Foreign direct investments (FDI), official development assistance and South-South Cooperation as a proportion of total domestic budget		ECONOMIC	**Feasibility (Financial):** Foreign direct investments (FDI), official development assistance and South-South Cooperation as a proportion of total domestic budget	
	17.3.2 Volume of remittances (in United States dollars) as a proportion of total GDP		ECONOMIC	**Feasibility (Financial):** Volume of remittances as a proportion of total GDP	
17.4 Assist developing countries in attaining long-term debt sustainability through coordinated policies aimed at fostering debt financing, debt relief and debt restructuring, as appropriate, and address the external debt of highly indebted poor countries to reduce debt distress	17.4.1 Debt service as a proportion of exports of goods and services		ECONOMIC	**Feasibility (Financial):** Debt service as a proportion of exports of goods and services	
17.5 Adopt and implement investment promotion regimes for least developed countries	17.5.1 Number of countries that adopt and implement investment promotion regimes for least developed countries		ECONOMIC	**Feasibility (Financial):** Number of countries that adopt and implement investment promotion regimes for least developed countries	
Technology					
17.6 Enhance North-South, South-South and triangular regional and international cooperation on and access to science, technology and innovation and enhance knowledge sharing on mutually agreed terms	17.6.1 Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation		SOCIAL - ECONOMIC	**Capacity (Technical):** Number of science and/or technology cooperation agreements and programmes between countries, by type of cooperation	

Stimulating a sustainable management & Operation of the fucntion determined

Stimulating sustainable industries in tourism and production

innovation and enhance knowledge-sharing on mutually agreed terms, including through improved coordination among existing mechanisms, in particular at the United Nations level, and through a global technology facilitation mechanism	17.6.2 Fixed Internet broadband subscriptions per 100 inhabitants, by speed		SOCIAL - ECONOMIC	**Capacity (Technical):** Fixed Internet broadband subscriptions per 100 inhabitants, by speed	
17.7 Promote the development, transfer, dissemination and diffusion of environmentally sound technologies to developing countries on favourable terms, including on concessional and preferential terms, as mutually agreed	17.7.1 Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies		ECONOMIC	**Capacity (Financial):** Total amount of approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies	
17.8 Fully operationalize the technology bank and science, technology and innovation capacity-building mechanism for least developed countries by 2017 and enhance the use of enabling technology, in particular information and communications technology	17.8.1 Proportion of individuals using the Internet		SOCIAL - ECONOMIC	**Capacity (Technical):** Proportion of individuals using the Internet	
Capacity-building					
17.9 Enhance international support for implementing effective and targeted capacity-building in developing countries to support national plans to implement all the Sustainable Development Goals, including through North-South, South-South and triangular cooperation	17.9.1 Dollar value of financial and technical assistance (including through North-South, South-South and triangular cooperation) committed to developing countries		SOCIAL	**Capacity (Financial)** : Partnership or collaboration regarding the financial and technical assistance committed to redevloping Willemstad - Collaboration with Netherlands	
Trade					
17.1c under the World Trade Organization, including through the conclusion of negotiations under its Doha Development Agenda	17.10.1 Worldwide weighted tariff-average		ECONOMIC	**Transparency (Financial):** Worldwide weighted tariff-average-	
17.11 Significantly increase the exports of developing countries, in particular with a view to doubling the least developed countries' share of global exports by 2020	17.11.1 Developing countries' and least developed countries' share of global exports		ECONOMIC	**Transparency (Financial):** The share of global exports through the port of Willemstad	
17.12 Realize timely implementation of duty-free and quota-free market access on a lasting basis for all least developed countries, consistent with World Trade Organization decisions, including by ensuring that preferential rules of origin applicable to imports from least developed countries are transparent and simple, and contribute to facilitating market access	17.12.1 Average tariffs faced by developing countries, least developed countries and small island developing States		ECONOMIC	**Transparency (Financial):** Average tariffs faced by developing countries, least developed countries and small island developing States	
Systemic issues					
Policy and institutional coherence					
17.13 Enhance global macroeconomic stability, including through policy coordination and policy coherence	17.13.1 Macroeconomic Dashboard		ALL	**Adoptability (Policy):** Macroeconomic Dashboard	
17.14 Enhance policy coherence for sustainable development	17.14.1 Number of countries with mechanisms in place to enhance policy coherence of sustainable development		ALL	**Adoptability (Policy):** Mechanisms in place to enhance policy coherence of sustainable development in Historical Port city	
17.15 Respect each country's policy space and leadership to establish and implement policies for poverty eradication and sustainable development	17.15.1 Extent of use of country-owned results frameworks and planning tools by providers of development cooperation		ALL	**Adoptability (Policy):** Extent of use of country-owned results frameworks and planning tools by providers of development cooperation	
Multi-stakeholder partnerships					
17.16 Enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships that mobilize and share knowledge, expertise, technology and financial resources, to support the achievement of the Sustainable Development Goals in all countries, in particular developing countries	17.16.1 Number of countries reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the sustainable development goals		ALL	**Transparency (Monitoring):** Reporting progress in multi-stakeholder development effectiveness monitoring frameworks that support the achievement of the sustainable development goals	
17.17 Encourage and promote effective public, public-private and civil society partnerships, building on the experience and resourcing strategies of partnerships	17.17.1 Amount of United States dollars committed to public-private and civil society partnerships		ALL	**Transparency (Investment)** : Amount of investment committed to public-private and civil society partnerships	
Data, monitoring and accountability					
17.18 By 2020, enhance capacity-building support to developing countries, including for least developed countries and small island developing States, to increase significantly the availability of high-quality, timely and reliable data disaggregated by income, gender, age, race, ethnicity, migratory status, disability, geographic location and other characteristics relevant in national contexts	17.18.1 Proportion of sustainable development indicators produced at the national level with full disaggregation when relevant to the target, in accordance with the Fundamental Principles of Official Statistics		ALL	**Measurability (Implementation)** : Proportion of sustainable development indicators produced at the national level with full disaggregation when relevant to the target, in accordance with the Fundamental Principles of Official Statistics	
	17.18.2 Number of countries that have national statistical legislation that complies with the Fundamental Principles of Official Statistics		ALL	**Measurability (Data collection):**	
	17.18.3 Number of countries with a national statistical plan that is fully funded and under implementation, by source of funding		ALL	**Measurability (Implementation)** : national statistical plan that is fully funded and under implementation, by source of funding	
	17.19.1 Dollar value of all resources made available to strengthen statistical capacity in developing countries		ALL	**Measurability (Data collection):** Dollar value of all resources made available to strengthen statistical capacity in developing countries	

Regulatory Incentives

&

Public Private Partnership:

Stimulating Collaboration by aligning stakeholder goals

Facilitating required permit procedure & tax benefits

	17.19 By 2030, build on existing initiatives to develop measurements of progress on sustainable development that complement gross domestic product, and support statistical capacity-building in developing countries	17.19.2 Proportion of countries that (a) have conducted at least one population and housing census in the last 10 years; and (b) have achieved 100 per cent birth registration and 80 per cent death registration		ALL	**Measurability (Data collection)** : Proportion of target groups demographics and socio -economic status		