

The Knowledge Zone on Curaçao

the potential of a creative economy for
the sustainable development of a small
island developing state

Master thesis

Ellen Somers

August 23, 2012





Master Thesis

Ellen Somers
871125-285-010

Wageningen University
International Development Studies
Development Economics Group

DEC- 80433

Supervisor: Dr. R. Haagsma

August 23, 2012



Abstract

Purpose: The purpose of this study is to evaluate the potential of a creative economy for Curaçao, by analysing Curaçaos economy, looking at other strategies implemented by other SIDS, and by evaluating the potential contribution of a local initiative called the K-Zone.

Design/Methodology/Approach: Theoretical insights on Curaçaos economy, resilience strategies of SIDS, and characteristics of the creative economy are combined with data gathered with semi-structured interviews about an initiative to implement a creative economy on Curaçao.

Findings: Curaçao suffers from the classical disadvantages most SIDS have to cope with, like high transportation costs, limited amount of population and natural resources, and a brain drain. To overcome these barriers, SIDS have to adopt resilience strategies. Through aspects of a creative economy such as tourism and ICT services, SIDS can generate economic spin-off. The K-Zone supports the development of a creative economy through facilitating knowledge exchange between partnering organisations. However, in order for the K-Zone to become a success, organisational improvements need to be carried out.

Originality: This study combines general theories about SIDS with a country-specific case that has not been evaluated before.

Keywords: Curaçao; SIDS; resilience strategies; creative economy; knowledge economy; Knowledge Zone

Paper type: Thesis



Summary

Background - Small Island Developing States (SIDS) have difficulties with sustainable economic development due to barriers that come with being an island. Resilience strategies need to be found in order to overcome high transportation costs, a small market, limited natural resources, a brain drain and reliance on imports and international prices that are connected to being a small island state. One potential development booster is the creative economy. Through the generation of products attained from knowledge and creativity, economic development may be enabled. The K-Zone is an initiative on Curaçao to bring organisations in the knowledge- and creativity-industries together. Cooperation between these organisations may create economic spin-off, making the island more resilient in the international economy.

Research design - This research combines theoretical insights with data gathered from partnering organisations of the K-Zone. A theoretical discussion about Curaçao's economy, followed by disadvantages and opportunities of SIDS and the potential of a creative economy, is combined with insights from interviews with K-Zone participants.

Research overview - The theoretical part starts with discussing different aspects that characterise Curaçao's economy. It shows that a significant part of Curaçao's GDP is generated in the service sector (including tourism) and in the oil refinery. Due to its climate, size and population number, there is a limited amount of agricultural and manufactured production, and a limited amount of educational- and job-opportunities being offered. This results in reliance on import, implying being vulnerable for international price fluctuations, and in an outflow of the skilled and/or talented: a brain drain.

In order to become less vulnerable for external influences, resilience strategies need to be adopted. Strategies from other (Caribbean) SIDS include long-distance education, attracting tourists, invest in ICT solutions and implement a master plan. Another potential development enhancer is the creative economy, an approach that is taken by the K-Zone initiative.

The K-Zone brings knowledge and information of different organisations together, in order to induce synergy and cooperation and enhance the creative economy on Curaçao. Among partnering organisations, there are many initiatives towards sustainable development of Curaçao economically, environmentally and socially. There is the need to synchronise these efforts and link them to the K-Zone. With a correctly functioning K-Zone, Curaçao can become a knowledge centre for the Caribbean region.

Conclusions - Both from theory and from practice, the K-Zone has potential to uplift a small island developing state. However, what is needed is more cooperation, that can generate synergy. This can be made possible through making the K-Zone an official organisation, with frequent meetings, a strategy, clear responsibilities for partnering organisations and clear goals.



Samenvatting

Achtergrond - Small Island Developing States (SIDS) ondervinden barrières bij duurzame ontwikkeling van hun eiland. Strategieën om de weerbaarheid te vergroten zijn nodig, vanwege de hoge transportkosten, de kleine afzetmarkt, beperkte natuurlijke hulpbronnen, de brain drain en afhankelijkheid van importen waar SIDS mee te maken hebben. Een potentiële manier om ontwikkeling mogelijk te maken, is door een creatieve economie. Producten die voortkomen uit kennis en creativiteit kunnen ontwikkeling mogelijk maken, vooral voor SIDS. De K-Zone is een Curaçaos initiatief dat organisaties in de kennis- en creativiteitssector samenbrengt. Samenwerking tussen bedrijven in deze sector kan economische voordelen opleveren, wat Curaçao beter bestand maakt tegen invloeden van de internationale economie.

Onderzoeksontwerp - Dit onderzoek combineert theoretische inzichten met gegenereerde data uit interviews met partnerorganisaties van de K-Zone. Een theoretische bespreking van Curaçaos economie wordt gevolgd door nadelen en kansen voor SIDS en de potentie van een creatieve economie. Deze theorie wordt gecombineerd met inzichten uit interviews met deelnemers aan de K-Zone.

Onderzoeksoverzicht - Het theoretische gedeelte begint met het bespreken van verschillende aspecten die de economie van Curaçao karakteriseren. Het laat zien dat een belangrijk deel van Curaçaos Bruto Binnenlands Product afkomstig is van de dienstensector (waaronder toerisme), en van de olieraffinaderij. Vanwege Curaçaos klimaat, oppervlakte en inwoneraantal, is er slechts een beperkte productie uit landbouw en fabrieken, en een beperkt aantal mogelijkheden op gebied van onderwijs en banen. Dit resulteert in afhankelijkheid van import, met als gevolg dat Curaçao kwetsbaar is voor internationale prijsfluctuaties, en een brain drain.

Om minder kwetsbaar voor externe invloeden te worden, moeten weerbaarheidstrategieën worden toegepast. Strategieën van andere (Caribische) SIDS bestaan onder meer uit langeafstandsonderwijs, toerisme aantrekken, investeren in ICT en het implementeren van een master plan. Een andere manier om ontwikkeling mogelijk te maken is door de creatieve economie, een aanpak die gebruikt wordt door de K-Zone.

De K-Zone brengt kennis en informatie van verschillende organisaties samen, met als doel synergie te creëren die de ontwikkeling van een creatieve economie op Curaçao kan bevorderen. Er worden al vele initiatieven genomen door aangesloten organisaties, zowel op economisch-, sociaal- en milieugebied. Het is echter nodig deze initiatieven te synchroniseren, en ze te verbinden aan de K-Zone. Wanneer de K-Zone goed functioneert, kan Curaçao een kenniscentrum voor de Caribische regio worden.

Conclusies - Zowel in theorie als in de praktijk heeft de K-Zone de potentie om Curaçao te ontwikkelen. Hiervoor is echte meer samenwerking en synergie nodig. Dit kan gemakkelijker worden gemaakt door de K-Zone een officiële organisatie te maken, met regelmatige bijeenkomsten, een strategie, duidelijke verantwoordelijkheden voor aangesloten partners en duidelijke doelen.



Table of content

	<i>page</i>
Abstract	3
Summary	4
Samenvatting	5
Table of Content	6
List of acronyms and abbreviations	9
List of Tables/ Boxes / Figures	11
Chapter 1 - Introduction	12
1.1 Background and case	12
1.2 Problem statement	12
1.3 Research Objectives	13
1.4 Research Questions	13
1.5 Research Framework	14
1.6 Reader's guide	14
Chapter 2 - Methodology and approach	15
2.1 Introduction	15
2.2 Research design	15
2.3 Theories and approach of the literature study	15
2.4 Interviews and analysis	16
2.5 Conclusion	17
Chapter 3 - Curacao's economy	18
3.1 Introduction	18
3.2 General	18
3.3 Labour market and income distribution	20
3.4 Trade and investment	23
3.5 Education	25
3.6 Migration	26
3.7 Conclusion	27
Chapter 4 – Problems addressed by other SIDS	29
4.1 Introduction	29
4.2 Problems experienced by SIDS	29
4.3 Development potential of SIDS	31
4.4 Curaçao's economic development policy	33



4.5 Requirements and indicators of economic development on Curaçao	35
4.6 Resilience strategies of other SIDS	36
4.7 Conclusion	39
 Chapter 5 – The Creative Economy and the Knowledge Zone	 40
5.1 Introduction	40
5.2 A creative economy on Curaçao	40
5.3 The Knowledge Zone	43
5.4 Strategy and implementation	44
5.5 Current status and future of the K-Zone	45
5.6 Conclusion	46
 Chapter 6 - The Knowledge Zone in Practice: Results from interviews	 47
6.1 Introduction	47
6.2 Vision of the K-Zone	47
6.3 Network opportunities	49
6.4 Benefits of the K-Zone for the Curaçaoan economy	50
6.5 Sustainable economic development	51
6.5.1 Attitude – Mind shift	52
6.5.2 Brain drain reduction	53
6.5.3 Sustainable measures that can be attracted into the Zone	54
6.6 Evaluation and future suggestions	55
6.6.1 The importance of a zone	55
6.6.2 Organisational recommendations	56
6.7 Conclusion	58
 Chapter 7 – Discussion	 59
7.1 Introduction	59
7.2 Relation findings with existing theory	59
7.3 Limitations of this study	63
7.4 Recommendations for further research	63
7.5 Conclusions	64
 Chapter 8 – Conclusion	 65
8.1 Introduction	65
8.2 Curaçao's economic strengths and weaknesses	65
8.3 Threats and opportunities encountered by SIDS	65
8.4 Solutions of the K-Zone project	66
8.5 Suggestions for improvement	66
8.6 Conclusion	67
 References	 68
 Appendix I: Economic data and specified added value to GDP	 70



Appendix II: Partners in the K-Zone

73



List of acronyms and abbreviations

AIMS	Africa, Indian Ocean, Mediterranean and South Chinese Sea
ANG	Antillian Netherlands Guilder
BTP	Bureau Telecommunications and Post
CARMABI	Caribbean Research and Management of Biodiversity
CBS	Central Bureau of Statistics
CEDB	Curaçao Economic Development Board
CMU	Caribbean Medical University
CSR	Corporate Social Responsibility
FDI	Foreign Direct Investment
HDI	Human Development Index
ICT	Information and Communication Technology
IFFR	International Film Festival Rotterdam
IMF	International Monetary Fund
K-Zone	Knowledge Zone
KvK	Kamer van Koophandel / Chamber of Commerce
MEO	Ministerie van Economische Ontwikkeling en Innovatie / Ministry of Economic Development and Innovation
NSJ	North Sea Jazz Festival
SEI	Social Economic Initiative
SIDS	Small Island Developing State
SMEs	Small and Medium Enterprises



Soltuna	Stichting Ontwikkeling Land- en Tuinbouw Nederlandse Antillen
UN	United Nations
UNA	University of the Netherlands Antilles
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States
UTS	United Telecommunication Services
WTC	World Trade Centre



Lists of Tables, Figures and Boxes

List of Tables

Table 3.1: Gross Domestic Product in million ANG, Nominal growth, Real growth and Inflation from 2000 until 2011

Table 3.2: Population, Labour force and Unemployment rate 2002-2009

Table 3.3 Added domestic value from different sectors from 2001-2011

Table 3.4: Distribution of equivalent income in Curacao, in % 2003-2008

Table 3.5: Foreign trade in 2010 (in mln ANG)

Table 3.6: Migration to and from Curaçao 2002-2010

List of Figures

Figure 1.1: Research framework

Figure 3.1: Growth, productivity and unemployment (percent)

Figure 3.2: Contribution to GDP growth (%)

Figure 5.1: Logo of the K-Zone

Figure 6.1 Indicated partners within the K-Zone

List of Boxes

Box 5.1: The definition of a creative economy



Chapter 1 - Introduction

1.1 Background and case

For small island developing states, globalisation has had major effects on economic development. Globalisation leads to increasing interconnectedness; organisations, states and individuals grow towards each other (Goede, 2009). Small states with an open economy will be more vulnerable for global dynamics because of their limited size, resources and population number. Curaçao is a Small Island Developing State (SIDS), that needs to cope with global economic dynamics on its own, especially after independence from the Netherlands in October 2010. Maintaining and attracting human capital is crucial for a sustainable economy, since the general lack of resources of SIDS implies that these islands should rely on their human capital (Scheyvens & Momsen, 2008). Furthermore, SIDS try to improve their volatile position by seeking foreign direct investment (Cole, 1993). Curaçao's geographical position makes it a 'gateway to Latin America, Europe and North America', making it an interesting location for investment (Goede, 2009).

SIDS implement resilience strategies in order to cope with the (economic) disadvantages of being an island. To improve Curaçao's positions in the regional and global economy through setting up an economy based on knowledge and creativity, the Knowledge Zone (K-Zone) is set up. The aim of the K-Zone is to create and maintain knowledge through cooperation between organizations, in order to benefit Curaçao's economy (Knowledge-Zone.com, 2012). This research will address the resilience strategies implemented by SIDS, and how the K-Zone functions as one of these strategies.

1.2 Problem statement

Small islands have to cope with negative economic consequences that can be attributed to their island status. Curaçao has to deal with some limitations towards economic development due to being a small island state. Being categorized as one of the Caribbean small islands developing states, implies that Curaçao is facing barriers to development due to being an island. These barriers are having limited land surface, which makes it more difficult to engage in opportunities for expansion of industries and economies of scale (Commossoung & Duggan, 2008; Atchoaréna et al, 2008; Popma & Van Spijk, 2008). This in turn may lead to dependence on international trade and imports. Aside from this, a small population number is connected to a small market. In combination with limited production capacities and possibilities, this implies a dependence on imports and makes islands price takers instead of price setters.

As is the case with other small island developing states, due to small size and geographical position, Curaçao has only little power in international economics, making the island dependent on international trade and accompanying prices. Besides, due to the smallness, only few opportunities to achieve a higher (tertiary) education are present, as well as associating jobs. Due to lack of opportunities, talented inhabitants emigrate and leave the island of Curaçao to suffer from a brain drain. Since the 'island factor' and accompanying small market implies a relatively small domestic resilience rate, SIDS need to adopt strategies to enhance their economic position, for example through developing products for export to enhance the terms of trade. Keeping in mind the limited population size and higher



transaction costs, engaging in co-operation can be an efficient way to move forward. This can be beneficiary for all parties involved, since cooperation can lower transaction costs and induces benefits that enhance Curaçao's economic development as a whole.

In order to make cooperation between local organisations possible, the Knowledge Zone (K-Zone) project is proposed. The K-Zone is physically present as a zone on Curaçao, and offers partnering public, private, and civil organisations a platform to come together and form partnerships for upcoming projects. The direct effect of this is achieving more effectiveness and efficiency. An additional effect would be reducing the economic vulnerability that results from being a small island economy, since Curacaoan organisations can form one cooperating hub in the Caribbean region. Furthermore, having an area known as the Knowledge Zone, in which knowledge-intensive organizations hold office, can attract and maintain human capital.

However, having this K-Zone does not necessarily imply a successful way for achieving development goals. It is required to further explore the underlying issues on which the project is based, such as the economic structure, trade flows, migration flows and policies. Also, SIDS that encounter the same economic problems as Curacao have developed their own strategies. What do they look like and can inspiration be drawn from their best practices? The main problem statement would be the extent to which this K-Zone can contribute to the development of a sustainable economy on Curaçao.

1.3 Research Objectives

The main objective of the research is to evaluate the potential impact of the Knowledge Zone (K-Zone) project on sustainable economic development of Curaçao.

In order to fulfill this objective, it is required to:

- Gain insight in the strengths and weaknesses of Curaçao's economic structure;
- Investigate how other SIDS have tackled the problems of economic vulnerability and brain drain;
- Analyse the solutions offered by the K-Zone project, and identify to what extent these solutions address the right problems;
- Analyse how the K-Zone participants plan to address issues in sustainable economic development;
- Provide an advice on how to continue the K-Zone project

1.4 Research Questions

From these research objectives, the following research questions have been derived. First, the general question that needs to be answered is: *'What potential does the Knowledge Zone project offer towards the sustainable economic development of Curaçao?'*.

This main question will be answered through responding to different sub questions:

- What does Curaçao's economic structure look like and which strengths and weaknesses influence its development?
- What are the threats and opportunities for SIDS in general, and how do they respond to encountered economic problems?

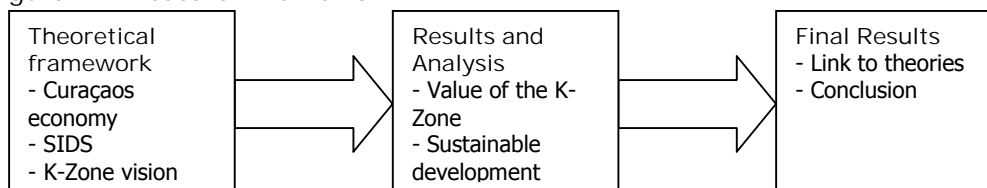


- What solutions does the K-Zone project offer to Curaçao's identified economic challenges?
- How do the K-Zone partners address the economic challenges Curaçao encounters, and what can be done to improve the effect of the K-Zone?

1.5 Research Framework

The structure of this study contains of three aspects: the theoretical framework, results and analysis of interviews with partnering organisations and the final results, in which theory and practice are connected and discussed. Figure 1.1 shows this research framework.

Figure 1.1: Research Framework



Within the first section of the research, the theoretical framework, literature dealing with Curaçao's economy and Small Island Developing States (SIDS) is put central. The second section is the critical part of the research, the results of the interviews and the analysis. Within the analysis the empirical part of the research will also be located. This means that the K-Zone will be described and analysed from the perspective of the partnering organisations of the K-Zone, in order to answer research questions. Within the third section, the final result, the analysis will result in the conclusions by taking an academic perspective from the theory on the analysis.

1.6 Reader's guide

The structure of this thesis report is as follows. In Chapter 2, the used methodology and approach for this research is discussed. It shows the methods for data collection and analysis that were used, in order to answer the research questions stated above. Chapter 3 provides an overview of Curaçao's economy. Aspects of the economy such as GDP, the labour market, trade and investment, the educational system and migration are shown and elaborated upon, with the goal of indicating the economy's strengths and weaknesses. Chapter 4 looks into the disadvantages and opportunities of being a SIDS, and discusses which type of measures SIDS can take to enhance their resilience in the international economy. Chapter 5 will deal with the potential development instrument of a creative economy, which is pursued to be implemented through the K-Zone. In Chapter 6, results from interviews with participants of the K-Zone will be presented: how they view the initiative, how it contributes to their own organization and the economy as a whole, and suggestions for continuation of the K-Zone. Chapter 7 contains the discussion of the found results. The results are linked to theoretical insights, limitations of the study are summed up and suggestions for further research are given. The last chapter, Chapter 8, consists of a conclusion, in which the outcomes of the research objectives are discussed and answers to the research questions are given.



Chapter 2 - Methodology and approach

2.1 Introduction

In this research, the potential of the K-Zone initiative on Curaçao is analysed and described, in order to answer the main research question of this study: 'What potential does the Knowledge Zone project offer towards the sustainable economic development of Curaçao?'. To be able to study this subject, both a theoretical and a practical study has been carried out. The combination of theory and practice leads to an integrated and underpinned view on the Knowledge Zone initiative, and responds to the research objective of how the K-Zone can play a role in further enabling sustainable economic and social development on Curaçao. In this chapter the chosen methods and approaches will be discussed. The chapter starts with the research design, explaining the type, structure and place of the research. Subsequently, the methods and theories used in the desk study are explained, followed by the approach and methods of interviewing and analysis used for the practical part of this study. The chapter concludes with a short summary.

2.2 Research design

The thesis consists of two main parts, a theoretical and a practical part, combining theoretical insights with qualitative data. The first part of the research was a desk study combined with a practical part that consisted of attending meetings and conferences. In the second part of the research, qualitative data was gathered through semi-structured interviews. In total, 12 people were interviewed, representing partnering organisations of the K-Zone. Furthermore, conversations were held with the initiator of the project, Knowledge Platform meetings were attended, just as a meeting of a platform representing the financial sector of Curaçao. The whole research took place on Curacao, interviews took place on location or at the offices of several organisations that participated in the research.

2.3 Theories and approach of the literature study

The goal of the theoretical part of this study is to gain understanding of the economic background to which the K-Zone is based. To what extent are there economic and social threats and opportunities? What sectors are present in the economy and which have the potential to develop? Referring to the Heckscher-Ohlin model (Krugman & Obstfeld, 2003), the assumption is made that Curaçao's development potential lies in labour-intensive sectors. Looking at the country's assets and size, it may be clear that their comparative advantage does not lie in big scale production. It is an island with limited opportunities for scale economies. So most capital lies in workforce and human capital. The Heckscher-Ohlin model presumes that the type of products that will be exported, relies on the relative endowments of a country. This means that a country will export products that are relatively cheap to produce (ibid). Curaçao has a relative abundance in workforce so exporting labour-intensive products would economically be most interesting.

For describing the economy, both factors of production like the workforce (input) and finished goods like export products (output) were described. The chapter on Curaçao's economy shows which sectors contribute to the GDP, and what type of companies are



present on the island. Furthermore, the influence of the educational system and the level of education of the workforce is discussed, just as the influence of migration rates on the local economy. High levels of migration (either immigration or emigration), affects the supply of workforce.

The method used for writing the first chapters is a literature study, gaining a thorough understanding of several subjects: the factors that build and influence the Curacaoan economy throughout the last years; how being a small island affects threats and opportunities; how other SIDS cope with problems they encounter; and how a creative economy can help build resilience for SIDS. Available literature was combined with attending meetings of the K-Zone, Knowledge Platform, and the Economic Platform at the Curaçaoan Chamber of Commerce.

2.4 Interviews and analysis

For the second part of the research, a qualitative approach was chosen. It consisted of conversations with partners of the Knowledge Zone. The goal of these interviews was to gain insight in the potential of the Zone, to what extent partners are benefiting from the initiative and how it can be improved for future purposes. Interview respondents were approached face to face, by email or by telephone. The aim was to interview as many partners as possible, preferably in a wide variety of sectors present in a creative economy, such as arts, tourism, international financial services, science, higher education, ICT and sports (Knowledge-Zone.com, 2012). Eventually, public and private organisations in the field of education, energy, telecommunication and ICT, tourism, science, agriculture, and international trade were interviewed. The technique of non-probability sampling was used: Respondents were not selected randomly, but on ground of availability (Blaikie, 2010). To acquire more respondents, the snowballing technique was used. After every interview, suggestions for more interesting respondents were asked. In total, 45 were approached, of which 12 were willing to cooperate. The reasons for partners not taking part in the study were a busy schedule (7 partners), not being familiar with the initiative (4 partners), or unknown through no response at all and inaccessibility via telephone (22 partners).

The interview set up was semi-structured, because it was necessary to both explore ideas with the participants, and get fixed responses for some criteria (O'Reilly, 2005). With using open ended questions and a loose structure of questions and topics, room was left for adjusting the order of topics during the interviews. All interviews were recorded with permission from the respondents and fully transcribed. The analysis was structured as suggested by Miles and Huberman (1994): The data were analysed by labelling important chunks of text and important quotes with on beforehand identified codes that represent concepts. The technique of analysing was variable-oriented: while analysing, the focus was on the identified concepts (Babbie, 2004). Important values in labelling were the vision of the respondent, how their organisation contributes and benefits from the zone, and the view on the future of the K-Zone. After labelling, patterns and relationships between variables were distinguished, that lay the basis for 'a small set of generalisations that cover the consistencies discerned in the database' (Miles & Huberman, 1994, p.9). From these generalisations, the research questions and objectives were answered and elaborated upon.



2.5 Conclusion

This study combines a theoretical and a practical part. Both a desk study and interviews were conducted in order to answer the main research question: 'What potential does the Knowledge Zone project offer towards the sustainable economic development of Curaçao?'. The desk study consisted of a literature research on the strengths, weaknesses and opportunities of SIDS, Curaçaoan economy and how SIDS can use the potential of the creative economy as a development option. For the practical part on the K-Zone, semi-structured interviews were held, transcribed, analysed. Consistencies throughout the interviews formed the basis for answering the research questions.



Chapter 3 - Curacaos economy

3.1 Introduction

This chapter discusses the several features of the economy of Curaçao. In order to examine the possible development of Curacao towards a creativity- and knowledge-driven society, the background at which this society will be placed has to be clear. Establishing such an economy requires, among other factors, the access to information and attracting talent and maintaining knowledge. This chapter will look at the state and development of Curacaos economy. Attention will be given to GDP development, the labour market, income distribution, international trade and investment, education and migration. The first subsection will discuss the general characteristics of the economy, among others the currency and GDP development. Subsection 3.3 elaborates on aspects on the labour market and income distribution. It discusses the labour force, the unemployment rate and which sectors are most important for the economy. The next subsection entails (international) trade and investment on Curaçao, the amount of imported and exported goods are presented. Subsection 3.5 discusses the educational system and the opportunities for tertiary education. Subsection 3.6 concerns the migration figures for Curaçao, it shows the reasons for migrants to leave and discusses the experienced brain drain shortly. The chapter concludes with a short summary that highlights the most important aspects.

3.2 General aspects

Curaçao only recently acquired an autonomous status and became a self governed country within the kingdom of the Netherlands. On October 10th, 2010, the Netherlands Antilles broke up into special municipalities Bonaire, Saint Eustatius and Saba (called the BES-islands), and Curaçao and Saint Maarten as self governed countries within the kingdom of the Netherlands. Curacao and Saint Maarten also form one monetary union with the Netherlands Antilles Guilder (ANG) as the official currency¹. The new constitutional structure is accompanied by a self-contained government led by a prime minister, and a new set of visions and local policies. One of these is the economic vision, presented on the 10th of October 2010: 'By 2025, Curaçao will achieve an economy of wealth creators that creates and delivers high-value on a continuous basis; is recognised as an important hub in the global value chains; acts as a multifaceted portal facilitating international trade; and that, as a result, Curaçao will be able to sustain a high quality of life and collective well-being for its citizens' (Curaçao Economic Outlook, 2010). For the future, emphasis will be put on investing in knowledge and innovation and lower the barriers for (both local and international) companies to take part in and benefit from international trade.

Since the government, university and some other corporate organisations aim at the construction of an economy based on knowledge and creativity, since in general human capital provides the biggest potential for economic development on small islands. Looking at the Heckscher-Ohlin model, countries have the most growth potential if they specialise in sectors for which there is a relative (to other countries) abundance present of for example

¹ At the current conversion rate: 1 ANG is 0.45 Euro / 1 Euro is 2.24 ANG (Source: www.xe.com, August 23, 2012). The ANG is fixed to the US Dollar.



land, labour or capital (Krugman & Obstfeld, 2003). Applying the Heckscher-Ohlin model to Curacao, it becomes apparent that the biggest potential lies in the people themselves, since human capital is the abundant factor on the island. This is primarily due to its position as an island: being small, isolated, and positioned in the Caribbean, makes the Curaçao relatively dependent on tourism and services: human capital intensive sectors. Following the model, this comparative advantage implies that Curaçao's development opportunities would lie in human capital: introducing knowledge and creativity as the main drivers for the economy. Since the island is relatively small and cannot rely on land or other natural resources, human capital is the main asset that should induce comparative advantage.

As for the current state of Curaçao's economy, unfortunately there is little data available after the date of becoming self-governed. An indicator for economic progress is the development of GDP from 3795.7 million ANG in 2000 to 5439.1 million ANG in 2010. However, these data are nominal. Table 3.1 shows the GDP development since 2000. Figures for GDP per capita were not available for all years, and were derived from data on real GDP and number of inhabitants. Inflation rates and real growth percentages show that even though GDP is rising, corrected for inflation the economic progress is happening slowly or even negative growth is taking place (2001 and 2009). An IMF report of 2009 is the only source that mentions GDP per capita: in 2009, the GDP per capita for the whole of the Netherlands Antilles was US\$ 19,000 (IMF, 2011). This number is less than indicated in Table 3.1, and confirms that Curaçao is relatively the most well-off economically of all the former islands of the Netherlands Antilles.

Table 3.1: Gross Domestic Product per capita, Real growth and Inflation from 2000 until 2011

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009*	2010*	2011*
GDP per capita	N/A	N/A	N/A	N/A	N/A	31,002	32,458	34,028	36,641	36,604	N/A	N/A
Inflation (%)	N/A	1.8	0.4	1.6	1.4	4.1	3.1	3.0	6.9	1.8	2.8	2.3
Real growth (%)	N/A	-0.7	0.4	0.3	0.2	0.8	1.5	2.5	2.2	-0.5	0.1	0.6

* Estimated GDP values

Source: CBS, 2009; CBS, 2012

The percentages in Table 3.1 represent the nominal and real growth rates, and the inflation over the period 2001 until 2011. These figures show that even though the nominal growth is increasing over the years, the inflation rate is volatile and affecting the real growth percentages. Since 2001, the biggest real growth was experienced in 2007, followed by a high inflation rate in 2008. Looking at the real growth of Curaçao's economy since 2001, it becomes apparent that the real GDP is slowly increasing over the years, with exception of 2001 and 2009.

Although economic growth and economic development are often used interchangeably, they are not referring to the same concept. Growth is mainly related to quantitative change in terms of investment, output, and income, while development addresses qualitative change such as economic structure, innovations in institutions and technology (Curiel, 2005). This



implies that the economic development of Curaçao should not only result in GDP growth, since this measure does not represent the income distribution and therefore does not reflect improvement in quality of life. The Human Development Index (HDI) measures countries' achievements in health, education (knowledge) and living standards. There are no figures available for Curaçao or the Netherlands Antilles, but based on a study by Deloitte, HDI of the Netherlands Antilles is estimated at 84 per cent in 2000 and 84.5 per cent in 2002. To compare, Aruba scored 89 per cent in 2002 (IMF, 2011).

3.3 Labour market and income distribution

Developments on the labour market since 2002 have shown that the labour force is gradually increasing, together with a growing population. Table 2.2 shows that in the period from 2002 until 2009, both the labour force and the employed labour force grew. At the same time, the unemployment rate has declined, especially since 2005. Together with a rise in GDP, this indicates a growing economy. However, the major part of unemployment can still be found at the younger segment of society. Even though the youth unemployment rate is declining, it still reached 24.7 percent in 2009, which is more than twice the general unemployment rate. The same is visible for the gap between male and female unemployment, that in 2009 showed a discrepancy of more than 3 percent (Curaçao Economic Outlook, 2010).

Table 3.2: Population, Labour force and Unemployment rate 2002-2009

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Total population	127,893	130,191	132,207	135,474	135,250	137,124	138,642	138,564	142,180	145,406
Labour force	58,112	61,411	61,335	62,735	60,981	61,708	63,021	62,627	N/A	N/A
Employed labour force	49,056	52,137	51,474	51,343	52,050	54,049	56,535	56,582	N/A	N/A
Unemployment rate (%)	15.6	15.1	16.1	18.2	14.6	12.4	10.3	9.7	N/A	N/A

Source: Curaçao Economic Outlook 2010; CBS Labour Survey 2006; CBS 2012

Unemployment is registered by the Department of Work and Income. In 2009, there were approximately 4,200 job seekers registered, together with 5,900 social-security recipients. However, only less than 20 percent of this number is able to re-enter the labour market after interventional training. The rest lacks the skills to become integrated into the labour market (Curaçao Economic Outlook, 2010). This puts a burden on Curaçao's economy, since this group structurally relies on social security. In general, Curaçao lacks a skilled workforce, mostly for technical jobs. The unemployment rate may be due to a mismatch of skills: there are unemployed willing to work, but the job vacancies do not match their competences. This is an assumption, since no data for the educational level of the unemployed and of job vacancies are present.

Figure 3.1 (displayed on the following page) presents the percentages of growth, labour productivity and unemployment on Curaçao, and also entails a prediction for these economic aspects. It shows that labour productivity has declined over the last years but is



expected to increase from this year, together with a growth of GDP and a decline in unemployment.

Most enterprises on Curacao, over 95 percent, are small or medium sized enterprises (SMEs). These businesses generate over half of all jobs and support the nation's income, export, foreign exchange and investments. Curacaos employment structure shows that most domestic income is derived from tourism. Jobs in trade, restaurants and hotels take up the biggest share, 26.8 percent of employment in 2005 (Goede, 2009). Part of this are wholesale and retail, that in 2009 accounted for almost 14 percent of GDP (Curaçao Economic Outlook, 2010). The sector expanded until 2008, accompanied by growing job opportunities. Although tourism remains a major sector on the island, due to the international financial and economic crisis, fewer tourists have arrived during 2009 and 2010 while in previous years the sector experienced growth. The decline results in fewer jobs in this sector. The financial sector also is of big importance to Curacaos economy, since it contributed 19% to GDP in 2010. This sector employs about 1000 professionals. The total sector of banking, insurance and business services takes up 16.7% of all employment (Curaçao Economic Outlook, 2011).

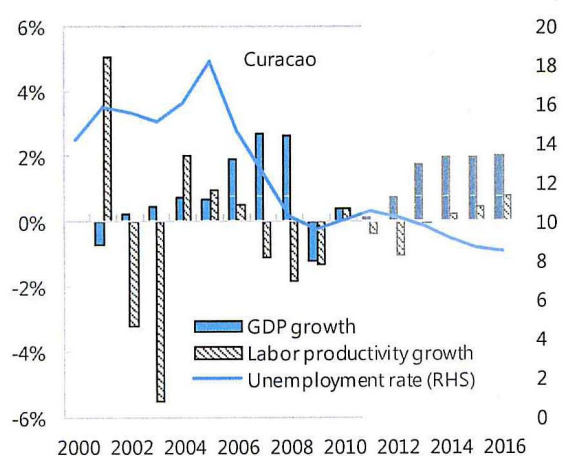


Figure 3.1: Growth, productivity and unemployment (percent)

Source: IMF, 2011

Looking at the employment structure, the harbour, and especially the ISLA oil refinery, is another factor that drives the economy. The ISLA oil refinery employs about 1,000 people (contributed 8.5% to GDP from 2006 through 2009), and it is estimated that another 500 jobs are present through private contractors that work at other parts of the harbour (Curaçao Economic Outlook, 2010). The harbour and oil refinery are interrelated. This became apparent when the export of manufactured goods declined after mechanical defects in the oil refinery in 2010. The amount of ships that moors is declining since 2008, since the regional competition is growing (Curaçao Economic Outlook, 2011).

The least amount of people are employed in the agriculture, fishing and mining sector. In 2008 it was about 0.8 percent of total employment. In absolute numbers, there are 727 people working in this sector, and this number does not show big changes over the years. The agricultural industry, however, has potential to develop. Most of Curacao's soil is



suitable for agriculture, especially using proper irrigation systems. Besides, domestic demand for fresh fruits and vegetables is growing, which already causes a higher variety of vegetables being grown (Curaçao Economic Outlook, 2010). Also, most consumed meat is imported, domestic production has remained stable over the years while demand is increasing. The main observed problem in the sectors agriculture, livestock and fisheries, is the low wage sector employees get. This makes it difficult to attract workers to jobs in the agricultural sector. Additionally, it becomes harder to maintain a proper fisheries sector due to overfishing (Curaçao Economic Outlook, 2011). In the oil refinery sector as well as in agriculture, there is a shortage of skilled workers. Technologies lag behind, which slows down economic development. Overall, the economy lacks highly technically skilled employees.

Table 3.3 presents the added value of different aspects of the economy to Curaçao's economy. It shows that the contribution of non-financial corporations is increasing, that of financial contribution is volatile over the year. The added value of the government has not increased every year but showed a growth in the given period. However, it should be noted that these figures are not corrected for inflation, implying that displayed growth may not be as positive since inflation is not taken into account.

Table 3.3 Added domestic value from different aspects of the economy from 2001-2011²

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Non-financial corporations ¹	2168.5	2110.9	2087.2	2172.6	2162.2	2333.9	2341.9	2958.1	2986.2	3067.1	3194.4
Financial corporations	647.5	718.3	797.1	775.1	924.3	829.6	998.8	735.1	739.4	768.1	784.3
Government ²	407.5	406.2	450.8	438.9	482.8	502.5	520.3	539.3	566.4	608.8	599.5

¹ These corporations entail the sectors Agriculture, fishing and mining; Manufacturing; Electricity, gas and water; Construction; Trade; Hotels and restaurants; Transport, storage and communications; Real estate, renting and business activities; Education private; Health and social work; and Other community, social and personal service activities

² Added value from the government in the sectors Agriculture; Transport, storage and communications; Real estate, renting and business activities; Public administration and defence and compulsory social security; Education; Health and social work; and Other community, social and personal service activities

Source: Central Bureau of Statistics (of Curaçao), 2012

The island's income distribution reflects the characteristics of the labour market. The relatively small percentage of households that do earn ANG 5,001 or more every month, predominantly have had higher education, while most households with lower education received a monthly income of less than ANG 1,000 (UNDP, 2011). Looking at the income distribution of Curaçao, it becomes evident that biggest share of people receives a monthly income of less than ANG 3,000. Table 3.4 shows the income distribution from 2003 until 2008. It should be noted that Curaçao's demographic trend shows an aging population. This

² A more detailed elaboration on the added value of different sub-sectors can be found in Appendix I



implies that in the nearby future, more people will retire from the workforce with a decreasing income as a result (CBS, 2010). In 2005, already 65 percent of the elderly had a monthly income of less than ANG 1,000 (UNDP, 2011).

The fact that most people with lower wages are lower educated, confirms the data on educational achievements; a vast majority of employees on Curaçao did not attend higher education. Data from later years also show that the highest percentage of incomes lies below ANG 2,000 per month. A UNESCO study shows that girls outperform boys throughout their school career up to higher education. However, women are less represented on the labour market for all educational levels (UNDP, 2011).

Table 3.4: Distribution of equivalent income in Curacao, in % 2003-2008

	2003	2004	2005	2006	2007	2008
<1000	35	23	24	35	31	39
1001-2000	26	21	22	28	29	28
2001-3000	14	16	15	15	16	15
3001-4000	10	10	10	8	9	8
4001-5000	6	7	7	6	6	4
>5001	9	23	22	8	9	6
Total	100	100	100	100	100	100

Source: UNDP, 2011

3.4 Trade and investment

Curaçao is an island with limited assets and a small variety of domestically produced products. This implies that most demanded goods have to be imported and makes international trade important for the island. In general, no country is able to produce all demanded goods itself (Krugman & Obstfeld, 2003), but Curaçao is heavily dependent on imported goods. For example the department of Agriculture, Livestock and Fisheries reported in 2009 that only 7 to 8 percent of consumed food is locally produced, the remaining 92 to 93 percent has to be imported. Looking at soil fertility, it is possible to increase the amount of domestically produced goods, and save on foreign exchange. Also, experiments with grow fruit and vegetables in greenhouses are held to reduce the reliability on food import (Curaçao Economic Outlook, 2011). However, prices of domestically produced fruits and vegetables are not competitive to most of the imported products. The agricultural sector relies on subsidies, keeping consumer prices artificially low. The agricultural sector is not considered popular on Curaçao, due to relatively low wages. Increasing wages to attract more employees will diminish the position of domestic products on the local market: they will become too high (Curaçao Economic Outlook, 2010).

Table 3.5 presents import and export data from 2010, for different goods and commodities. It shows, like mentioned earlier, that Curacao relies on imported goods. The table makes clear that of every type of product, more goods are imported than exported (CBS, 2012).

The value of export products in the table above suggests a big deficit on the current account of Curaçao. However, this table does not include the export of refined oil and services. According to the IMF, the external deficit is driven by an 'inadequate pass-through of recent increases in international oil and food prices particularly in 2010' (IMF, 2011). This



implies that increasing food and oil prices influence Curaçao's export performance (IMF, 2011).

Curaçao's balance of payments has been problematic last years due to a deficit on the current account. A debt-relief program initiated by the Dutch government in 2008 has improved the balance of payment (Curaçao Economic Outlook, 2010). However currently, the deficit on the current account is rising again. Several media published about a government deficit of 160 million ANG over 2011.

Table 3.5: Foreign trade in 2010 (in mln ANG)

	<i>Imports</i>	<i>Exports</i>
Food and live animals	400	25
Beverage and tobacco	94	12
Crude materials, inedible, except fuels	25	1
Animal and vegetables oils	11	0
Chemicals and related products	249	22
Manufactured goods	308	24
Machinery and transport equipment	787	146
Miscellaneous manufactured articles	370	20
Commodities and transactions	23	9
Total	2,266	259

Source: Central Bureau of Statistics, 2012

The export of goods and services increased from 2005 until 2008, but decreased slightly in 2009, whereas the import of goods and services keeps growing in the same period. The data about export include the export of oil, that is mostly exported to other countries in the Caribbean, Central America and to Venezuela (Curaçao Economic Outlook, 2010). Oil export is, together with services, important for the trade balance of Curaçao. According to the Ministry of Economic Development, there had to be significantly more fruit and vegetables imported in 2010, due to heavy rainfall.

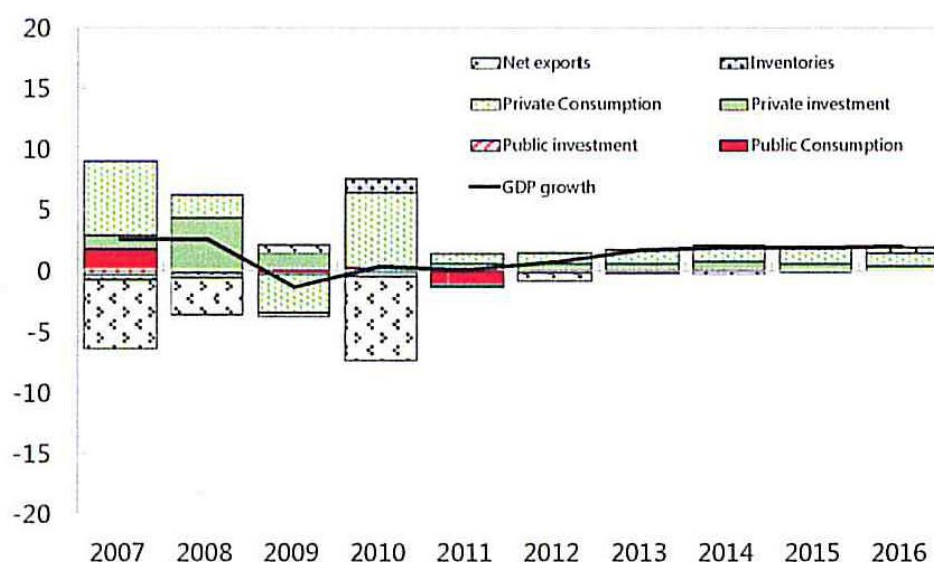


Figure 3.2: Contribution to GDP growth (%)

Source: IMF, 2011



An important factor that influenced the export in recent years is the international financial crisis, which is also shown in Figure 3.2 (2008 and 2010). This crisis reduces the demand for exported goods, and is expected to continue over the next years (Curaçao Economic Outlook, 2011). Figure 3.2 shows a decline in private investment from 2008 onwards. It declined by 8 percent in 2009, which is due to less licensed building permits. The crisis is also said to be the major factor in decreasing foreign direct investment in the real-estate and tourism sector (Curaçao Economic Outlook, 2010). The biggest share of foreign investment is aimed at developing the tourism sector. According to the IMF, it is expected that real GDP growth will be close to zero up to 2016, with declining exports and public investments (IMF, 2011).

Curaçao's dependence on imported goods and international trade has an influence on its status as an international competitor. Especially for small islands there is a need to build resilience in order to achieve more self-sufficiency and less reliance on exogenous influences through international trade (Commosiung & Duggan, 2008). For example the financial sector, which is currently not competitive enough compared to countries in the region like for example Barbados. According to the Ministry of Economic Development, extensive bureaucracy and a relatively unattractive tax policy makes that potential investors for the Caribbean will opt for other countries than Curacao, like Bermuda and Panama (Curaçao Economic Outlook, 2010). The IMF found that Curaçao's share in both the Caribbean and the world export is has declined in the period 2000-2010. A strong competitor in the region is the country Trinidad and Tobago. With their share in Caribbean export taken out, Curaçao's index number of export remains relatively stable over the decade. But with input from Trinidad and Tobago, the share in regional export is declining (IMF, 2011). For building resilience, it is key is to make foreign investment more attractive for investors. The current government has the policy aim to restructure the tax regime, update the business establishment policy and promote the viability of small and medium-sized enterprises (Curaçao Economic Outlook, 2010). Additional to policy measures, small developing islands need to modernise products and services. Again, skilled labour is needed to improve these technical aspects of businesses (Cole, 1993).

Since the growth rates in the Caribbean are highly correlated with those of their trading partners (mostly US and European countries), the international financial crisis has caused growth rates to decline. According to the IMF, the risks accompanied by the sovereign debt crisis, can cause shocks that can turn out disruptive for both European, US, and global economy, affecting Curaçao (and other Caribbean islands) first and foremost in their tourism sector (IMF, 2011).

3.5 Education

Since 1991, it has been compulsory for the age group of 5-16 years old to follow education. In 2008, this mandatory age was extended to 4-18 years old. Through this obligatory education, most students will participate in secondary and higher vocational education. At higher levels, students can apply for grants. Curaçao offers tertiary education at the University of the Netherlands Antilles (UNA); the Instituto pa Formashon den Enfermeria (IFE); and the private institutions Caribbean Medical University (CMU) and Caribbean



International University (CIU). The UNA was established in 1979 to offer the opportunity to study on Curacao, with the aim of keeping generated knowledge on the island. The number of students has grown from 686 students in the academic year 1999/2000 to 2096 in 2010-2011 (UNA, 2012).

Even though there are possibilities for tertiary education on Curacao, most youngsters prefer to study abroad. Every year, between 300 and 400 students get a scholarship to study in the Netherlands (Curacao Government, 2008). Only about 5 percent of these students return to Curaçao to apply for a job. This partially explains the knowledge divide on Curaçao, with only 11% having a third level qualification (Goede, 2005).

Despite the possibilities for personal educational development, the educational level of Curaçao's workforce hinders the development of a knowledge and service based economy as pursued by the Curaçao government. Data from 2009 show that 8 percent of the workforce has elementary education; 67.6 percent finished secondary education and 24 percent higher education. This means that the two third of the workforce has achieved second level education (CBS, 2009). This is, among other reasons, due to a high drop out rate at the secondary level and talent moving to abroad. The dropout rate at secondary level is high considering international figures. In the whole of the former Netherlands Antilles, 43.6 percent of youth aged 15-24 dropped out in 2001, a percentage that decreased to 36.5 percent in 2005. Curaçao offers secondary education drop outs the Youth Development Program, in which unqualified drop outs have to participate 'with the aim to get at least some job qualification skills' (UNDP, 2011).

Curacao's labour market reflects the educational achievements. The relatively low level of education, combined with the high drop-out rate and emigration, results in a lack of skilled labour in the workforce. Due to the scholarship program, the best students will leave for universities in the Netherlands. Even though the general level of education is rising, thanks to well-directed policy and an increasing amount of tertiary education students, more technical talent is required to reach a knowledge- and creativity-driven economy.

3.6 Migration

Migration to and from Curaçao is the result of push and pull factors. In the period 2002-2010, Curacao had a positive net migration number, which means that more people settle on the island than decide to leave. Table 3.6 represents the immigration and emigration data from 2002 through 2010. From the data can be derived that immigration numbers are declining, while emigration numbers are fluctuating. Unfortunately, due to gaps in data, no proper analysis of the last 5 years of migration to and from Curacao can be made. The general assumption is that net migration rate remains positive, since Curaçao is an interesting hub for workforce from surrounding Caribbean countries.

Table 3.6: Migration to and from Curaçao 2002-2010

	2002	2003	2004	2005	2006	2007	2008	2009	2010
Immigration	8,441	7,712	5,918	N/A	6,175	5,736	5,212	4,640	4,910
Emigration	6,304	4,804	3,952	N/A	4,215	4,585	N/A	N/A	4,644
Net migration	2,137	2,908	1,966	N/A	1,960	1,151	N/A	N/A	266

Sources: Goede, 2008; UNDP, 2011; CBS, 2012



No figures are available for Curaçao and Sint Maarten separately, but the United Nations Development Report of 2011 reported that, combined for both countries, in the last 15 years, over 30,000 people moved to the Netherlands (UNDP, 2011). Especially during the period 1997-2002, a huge migration flow from the Antilles to the Netherlands took place. In recent years this slowed down, probably due to the downturn of Dutch economy (UNDP, 2011). Central Bureau of Statistics recognised the connection between the unemployment rate on Curaçao and emigration. Migrants most likely chose for the Netherlands, since the Netherlands offers higher wages, better job opportunities for the higher educated, and, if no job is found, a better social security system. Migration to the Netherlands is in line with the assumption that migration mostly takes place mostly to geographic distances and historical ties anyway (Docquier et al., 2007). Additionally, as mentioned before, between 300 and 400 students go abroad annually to follow tertiary education. Curaçao suffers from emigration from skilled people due to limited opportunities (Goede, 2009). Human capital leaves due to poor opportunities and little career advancement prospects. Being a small island with accompanying opportunity structure fuels brain drain, with many foreign educated students not returning to their home country (Atchoaréna et al, 2008). This makes emigration both the cause and the consequence of development gaps. There is a double causality: emigration restrains possibilities. With limited opportunities, the skilled workforce will not expand which hinders the development of new opportunities. and thereby not create new opportunities (Solimano, 2008a).

Creating job opportunities for the higher educated is key in reducing the brain drain. In order to do this, it is necessary to promote education and improve the investment climate (Docquier et al, 2007). The current governmental policy is aimed at investing in knowledge and innovation. Next to this, UNA experiences high growth numbers. If graduates stay to seek employment on Curaçao, the economy can be boosted with knowledge and creativity. Also, scarcity in human resources can possibly be reduced by attracting temporary foreign skilled workers (UNDP, 2011). A weakness in Curacaos law are the inflexible immigration laws, that make it difficult for foreigners to get a work permit on the island. Flexibilisation of the laws can make it more attractive for talent to establish themselves on Curaçao (Curaçao Economic Outlook, 2010). Another measure that can be taken is to stimulate and encourage people from Curaçao that live elsewhere to return (UNDP, 2011).

3.7 Conclusion

This chapter has given an overview of the economy of Curaçao. Characteristics of sectors were discussed, with accompanying implications for establishing a knowledge- and creativity-driven economy. Curaçaos nominal GDP is growing, but corrected for inflation, this growth rate is diminished or even negative. In addition, the population does not benefit from this growth proportionally. The income distribution remains uneven, with the majority receiving less than ANG 2000 a month. As for trade and investment, Curacaos biggest export goods are refined oil and services. Since it is a small island with limited production capacities, import is higher for all categories of products than export. This is a weakness of the economy, since the island is heavily dependent on international economy, with accompanying price volatilities. Dependence on imported goods results in the need to build



economic resilience. The current governmental policy is aimed at improving the investment climate by adjusting the tax system and improve policy for SMEs. However with the international financial crisis, the outlook for export and foreign direct investment is highly uncertain, and domestic demand is expected to decline due to lower consumer confidence. Data on education show that a minority of the workforce has achieved tertiary education, resulting in an educational gap. However, the number of tertiary education graduates has increased the last decade, due to growing amount of students studying at local universities. A downside for the economy remains the brain drain: although Curaçao is an attractive country to work in the Caribbean region, local talent leaves the island in search of better job opportunities and accompanying salary elsewhere. Even though the policy intentions of the government are present, it takes time for these measures to be put into practice and achieve results. The next chapter deals with the problems addressed in Curacaos economy. It investigates how other SIDS cope with similar economic problems.



Chapter 4 – Problems addressed by other SIDS

4.1 Introduction

For small island developing states (SIDS) in international economics, reducing vulnerability for external shocks is crucial for economic development. With globalisation, the interdependence between countries in social, economic, political, and cultural segments increases (Goede, 2008), which may enhance the need for resilience to international pressures. Resilience entails the policies and institutions to help cope with economic vulnerabilities (Broad & Cavanagh 2011). Enhancing development means macro-economic stability, good governance and social development (Briguglio et al, 2008). However, being a small island causes disadvantages, also for Curaçao. The most important barriers to development are the dependence on international trade, limited presence of knowledge and a brain drain.

This chapter aims to investigate how other SIDS have tackled the problems of economic vulnerability and brain drain. It starts with focusing on the disadvantages and problems encountered by small islands. The disadvantages are followed by the next subsection, discussing the advantages and opportunities for SIDS, and how Curaçao approaches encountered problems through policy and how other SIDS deal with building resilience. Although SIDS are categorised in three regions, the Caribbean region, Pacific region and AIMS (Africa, Indian Ocean, Mediterranean and South Chinese Sea), most examples will be derived from islands in the Caribbean region. Islands in this region are the most similar to Curaçao in geographic position and climate. Subsection 4.4 will evaluate Curaçao's economic development policy, the measures that have been taken or are planned to be executed in order to build economic resilience. Subsection 4.5 compares strategies and approaches of other Caribbean SIDS, how did they build successful strategies towards the identified problems. The chapter concludes with a short summary.

4.2 Problems experienced by SIDS

Small Island Developing States (SIDS) have distinctive characteristics. Generally, countries are referred to as being 'small' with a population less than 1.5 million (Atchoaréna et al, 2008; Beine et al, 2008). Difficulties in economic position and development appear because of geographical location, limited population numbers, political, economic and migration aspects. Disadvantages for SIDS arise because of several reasons. First of all, being a small island implies having access to limited land area and accompanying resources. This makes it impossible to benefit from widespread diversification and/or internal economies of scale (Commosioung & Duggan, 2008; Atchoaréna et al, 2008; Popma & Van Spijk, 2008). Usually only a small market is present on SIDS, with limited capital available for productive investment (Mercer et al, 2007; Pillarissetti et al, 2008; Cole, 1993). Furthermore, often there is income volatility and poverty; and a lack of human capital (Atchoaréna et al, 2008). In general, islands' natural environments are fragile. Additionally, SIDS are most susceptible to environmental hazards (Mercer et al, 2007; Baldacchino & Bertram, 2009). Harrison (2003, p.7) summarises it as 'economic development within small island states is often impeded by inadequate transportation links, lack of accessibility to sometimes remote locations, lack of appropriate skills among the local population and inadequate amounts of local capital'.



Altogether, the consequences of the geographic and demographic situation of SIDS result in factors that may hinder economic development. Due to geographic remoteness and isolation from other markets, transportation costs are high (Commosioung & Duggan, 2008). SIDS have small domestic markets, making them dependent on a narrow range of exports, and relying on imported goods and services (Atchoaréna et al, 2008; Commosioung & Duggan, 2008; Cole, 1993; Pillarisetti et al, 2008). This dependence on international trade makes SIDS susceptible to external influences like global economic conditions and price fluctuations (Mercer et al, 2007; Pelling & Uitto, 2001; Popma & Van Spijk, 2008; Briguglio et al, 2008). SIDS have little control over external shocks that may result in price volatility (Briguglio et al, 2008). This makes SIDS price takers, not setters (Pillarisetti et al, 2008).

A vast majority of SIDS suffers from emigration, human capital leaves because of limited opportunities, poor prospects of career advancement and barriers to set up a business (Solimano, 2008a). If there are no occupational trainings available, migration needs to take place in order to, for example, follow a Phd-program (Gibson & McKenzie, 2010). From neoclassical economic theory can be derived that incentives to migrate will decrease when the GDP of a country increases. In reality, this is not always the case because a small rise in income may help someone decide to seek employment abroad. Only significant growth in GDP (per capita) will retain migrants from leaving (Rotte & Vogter, 2000). Migrants choose to leave the country of origin because of a high potential income gain. Not only will the income increase with migration, the amount of acquired human capital will rise too. The decision to leave is partially indicated by the geographical distance and colonial linkages (including language proximity) to the country of destination, and the sociopolitical environment and the size of the country of origin. Research by Beine et al (2008) showed that a growth in population size reduces the total skilled emigration.

Globally, SIDS experience the highest brain drain rates (Docquier et al, 2007; Gibson & McKenzie, 2010). According to Docquier and Marfouk (2006), the emigration rate for SIDS of skilled migrants was 42.4 percent (the average emigration rate is 13.8%), which is 2.8 times higher than the average global rate. The region with the highest brain drain rate (74.9%), is the Caribbean.

Due to an outflow of talent, economic development can get aggrieved, negatively affecting local science, technology and innovation development. This in turn has its influence on the local productivity and the island's comparative advantage (Solimano, 2008a). One of the negative effects is that a country of origin invests in primary and secondary education, but this accumulated human capital is lost when talent decides to follow tertiary education or elsewhere, implying that a brain drain is a loss of educational costs as well (Bhagwah & Hamada, 1974). However there is an implication that a brain drain may induce a brain gain. If a higher proportion of skilled and educated migrants are returning to their country of origin, the brain drain can actually result in a brain gain. The acquired skills abroad would not have been acquired in the home country, leading to the fact that returning migrants contain more human capital than they would have had when migration had not taken place (Beine et al, 2007a; Beine et al, 2007b). Beine et al (2007a) have estimated that 'the brain gain is equal to about half the brain drain in small developing states, so that the actual (net) loss of human capital is equal to only half the brain drain level' (p.16). This implies that in



the absence of a brain drain, the proportion of educated in small states would be 20 to 30 percent higher.

Then the other aspect of a brain drain is the expectation that an educated diaspora can develop the economy in the country of origin through sending remittances, and engage in knowledge transfers, trade and foreign direct investment. There is an expectation that the lost investment in education of migrant, will come back through remittances. In practice, most high-skilled migrants do not engage in trade and FDI, but do send remittances to family. However, remittances are never as much as would have been earned when staying on the island, and decline in amount if the economic level of the country of origin increases (Gibson & McKenzie, 2010). Furthermore, there is only little involvement in trade with the country of origin, the most frequent form of trade is consuming products that are exported from the home country (Orizio et al, 2005). The amount of knowledge shared with businesses and governments in the country of origin is also limited, however in small communities people tend to know each other so information and knowledge will flow anyway, just as policy advice. The most common knowledge transfer is providing information to others about how they can acquire tertiary education of a job abroad. Information is given to help others with their migration decisions (Gibson & McKenzie, 2010).

In order to overcome economic disadvantages that are inevitably connected to being a SIDS, the general advice for small states is to attain a solid macroeconomic policy and at the same time being flexible to adapt to changing conditions. It is key to pursue strategic international trade policies (Popma & Van Spijk, 2008).

Curaçao is, just as other SIDS, economically disadvantaged due to its size, small population number and geographical position. Like other small island states, it relies heavily on its services sector, especially services regarding tourism. Curaçao's geographic location has an influence on its international trade ratios, economic policy, and product structure. Besides, Curaçao has faced large emigration numbers due to limited economic opportunities. Not only talent leaves the country (resulting in a brain drain), also flows of unskilled and unemployed have moved to the Netherlands, probably to apply for social benefits (Goede, 2008).

Although many scholars have published about the disadvantages of being a SIDS (see also: Cameron, 2011), only few have published about the opportunities that can be created. The general idea is that SIDS are vulnerable and dependent, and that vulnerability makes small islands a weak link in the neoliberal free trade model (Broad & Cavanagh, 2011). However, with the appropriate policy measures on macroeconomic issues, SIDS can reach resilience to international influences (Commosioung & Duggan, 2008). Resilience can be attained when initiative is taken to fully develop an island's potential, including attracting knowledge and investment (Scheyvens & Momsen, 2008; Commosioung & Duggan, 2008).

4.3 Development potential of SIDS

Most SIDS encounter a similar type of economic disadvantages. The general image of small islands is that they are not able to retain themselves (Scheyvens & Momsen, 2008). Although there is no blue print for small island development, and thus no generalised way of handling the encountered problems, it may be useful to look at successful strategies and policies applied by other SIDS (preferably in the Caribbean). Strategies from other small island states



could inspire Curaçao to find an appropriate strategy to overcome the problems it encounters.

There are several factors that enable small islands to develop their economic potential. Scheyvens and Momsen (2008) argue that small islands are an attractive holiday destination; globally even the second most important destination after historic cities. Being an attractive destination for tourism, strengthens the tourism sector and provides an island with a relatively good level of general economic performance - especially compared to other small non-island states. SIDS have a relatively higher GDP per capita, compared to other developing small states (Beine et al, 2008).

Furthermore, islands contain high levels of cultural, social and natural capital. Attracting visitors by presenting this capital, which mainly means focusing on culture, can boost the service sector and the tourism based economy. The Caribbean island of Saint Lucia for example has combined a traditional seafood market (natural capital) with entertainment from local artists (cultural capital), making it the major tourist attraction of the island nowadays (Scheyvens & Momsen, 2008). Besides, cultural heritage can give a boost to the economy via tourism. The uniqueness and the cultural and historical value of sights can attract visitors, and additionally has an educational value. Heritage sites are the main attractions in cultural tourism globally (UNCTAD, 2010).

Even though the emigration rate is high, emigrants will usually maintain contact with their home island. This connects islands to the wider society. Curaçao is connected to the Netherlands and the other former islands of the Netherlands Antilles. Besides, migrated island inhabitants form a stable tourism market with frequent visits to their 'home island' (Scheyvens & Momsen, 2008).

Internationally, SIDS have a relatively high power that is disproportional for their land mass and population size (ibid). Especially in international summits on subjects as climate change and global warming, SIDS can tie together because small islands are most vulnerable for the consequences of environmental change. Forming a united front helps gaining political strength, and makes it easier to get their arguments through at international lobbies and meetings.

Possibly the biggest development enabler for SIDS lies in the progress of information and communication technologies (ICT). New technologies open opportunities for improving the current level of development. Especially small and/or isolated states can benefit from this, since technologies reduce previous barriers like time and distance. According to the United Nations Conference on Trade and Development (UNCTAD), 'education, knowledge, information and communication are at the core of human progress, endeavour and well-being' (UNCTAD, 2010, p.190). It is argued that ICT can facilitate economic and social growth and transformation; enable global competitiveness and advance educational and social mobility based on meritocracy (Commosioung & Duggan, 2008). A well-functioning ICT infrastructure and sector is internationally considered as a pillar of economic growth and competitiveness (UNCTAD, 2010). With SIDS investing in their ICT, the digital gap between islands and bigger countries can be reduced. Furthermore, access to knowledge and information through ICT for all citizens can reduce the internal digital divide and promote educational purposes (Commosioung & Duggan, 2008). Opportunities that ICT offers are already widely used for improving the learning at school level. But also for other educational



purposes, for example in the Cape Verdian islands, where ICT provides a distance educational system through which residents can follow online courses at university (Atchaoréna et al, 2008).

Another development potential lies in SIDS making use of ICT opportunities by focusing on further discovering the service sector. Taking the island factor into account, it would be best to develop 'products or services that are light or which, like software, have no tangible weight or volume and which can be procured and serviced electronically' (Baldacchino & Bertram, 2009, p.153). With new ways of being connected, collaboration and networking become more important. Additionally, with new forms of media, the development of knowledge and innovation can be enhanced (UNCTAD, 2010). With more possibilities resulting from ICT and knowledge exchange, opportunities for skilled workers in developing states increase. This may cause technical talent to become more mobile (D'Costa, 2008). ICT can enable SIDS to become more resilient in global economics and international trade.

Successful small island economies combine banking, financial services, transportation (both by air and over sea), and natural and cultural heritage assets (Baldacchino & Bertram, 2009). Curaçao holds all of this; it is key to support these with strategic policies to attract knowledge, investment and visitors. This will enhance resilience by stimulating local economic development and diversification in productive sectors (Pelling & Uitto, 2001). Correct policies may help to achieve a self-made, resilient status, which entails being flexible and respond strategically to threats and opportunities (Briguglio et al, 2008; Baldacchino & Bertram, 2009).

4.4 Curaçao's economic development policy

In general, Curaçao faces the same disadvantages as other SIDS, and can benefit from the potential characteristics mentioned above. Developing Curaçao's economy requires similar measures as mentioned to increase resilience for all SIDS, such as the advice to carry out flexible specialisation (Baldacchino & Bertram, 2009). Development may be boosted with the integration of different sectors and further diversification: focusing on one sector makes the economy vulnerable to both internal and external shocks. Since Curaçao is a small developing island, the community is small with corresponding close informal social relations that may hinder a rational approach to business (Goede, 2011b).

As discussed in the previous chapter, Curaçao is classified as a SITE economy by Baldacchino and Bertram (2009), which means that the economy primarily relies on tourism. The data endorse this: tourism experienced a major revival after the 1980s, and again since 2007 (Goede, 2008; Goede, 2011b). However, there has been a small downturn in tourism arrivals lately attributed to the international economic and financial crisis (Curaçao Economic Outlook, 2011). Baldacchino and Bertram (2009) argue nonetheless that Curaçao has the potential to develop itself into a more diversified economy, that is called the PROFIT classification. This economic classification of a SIDS is characterised by a dynamic private sector, an active role of policy and strategic orientation towards diversification, often in association with tourism.

In 2010, the Department of Economic Affairs presented its plans for implementing policy measures. These measures have the aim of making the investment climate more attractive,



both for international companies and local SMEs. Five main fields of interest were addressed, promoting the attraction of (foreign) investment, and entrepreneurship (Curaçao Economic Outlook, 2010).

- First of all, the policy measures advocate the reduction of unnecessary regulation and administrative charges (Curaçao Economic Outlook, 2010). For the Ministry of Economic Development (Ministerie van Economische Ontwikkeling, MEO), the general goal is to make it easier for business owners to obtain business permits. In April 2012, the MEO started to implement this initiative, called 'From red tape to red carpet, that reduces the amount of time it takes to acquire a permit. From spring 2012, it is supposed to take a maximum of two weeks for offshore companies, and a maximum of four weeks for onshore companies to acquire a permit (Versgeperst.com, 2012).
- The second point is that the island requires one central board that promotes and facilitates local and foreign investment: the Curaçao Economic Development Board (CEDB). One centralised board will make it easier for potential investors to pass through the bureaucracy that is accompanied by investing on Curaçao (Curaçao Economic Outlook, 2010). According to the governmental website, the CEDB is put in practice but exact pursuits are not to be found.
- Furthermore, it is argued that more attention should be given to the level of (international) competition of Curacao. Especially the monitoring of fair competition and the promotion of a free-market system. The Department of Economic Affairs advocates a regulatory authority that monitors economic processes, with the secondary aim of positively affecting the investment climate.
- Improvement of the capital market is required in order to stimulate entrepreneurship by SMEs. Access to capital and funds should become easier by reducing barriers. Finances for private-sector investments should be available on more competitive conditions. According to the Department of Economic Affairs, 'less government borrowing on the financial market will exercise a downward pressure on domestic interest rates' (Economic Outlook 2010, p.110).
- Finally, the tax policy and tax administration needs improvement. The aim is a tax balance, to be achieved via the lowering of corporate and income taxed to attract investment on the one hand, and increasing the turnover tax on the other hand (Curaçao Economic Outlook, 2010). Additionally, the introduction of electronically filling in and processing of tax documents and declarations, will reduce levels of bureaucracy for enterprises. This plan was successfully tested last year (Versgeperst.com, 2011).

Although the governmental intentions are clear, it is not completely known to what extent the mentioned measures have been implemented so far and if so, what effects they have caused. It should be taken into account however, that it always takes time for policy to reach its intended effects.



4.5 Requirements and indicators of economic development on Curaçao

At the moment, the tourism sector is of big importance for the economy. Exogenous influences make tourism a vulnerable sector. This requires further development of other sectors. Both existing sectors and new ones can help sustaining economic development, to become more self-sufficient and resilient (Curaçao Economic Outlook, 2010). According to Baldacchino and Bertram (2009), Curaçao is currently categorised as a SITE (Small Island Tourism Economy), with the main economic focus on tourism however with a vibrant private sector. It is assumed that policy that stimulates the private sector, can help Curaçao become successful in banking, financial services, cultural and natural heritage assets, air and sea transportation. Tourism combined with these (already present) assets, can boost the economic development of a Small Island Developing State (SIDS) (Ehounou & McElroy, 2008). However, for heading towards an economy that is based on knowledge and creativity, it is essential that talent is attracted and competences maintained. In order to achieve this, the labour market needs further flexibilisation, and by doing this, include more women. It should become easier to set up businesses and invest to generate knowledge and stimulate innovation, since SMEs are important for generating innovation. Furthermore, a constant upgrading of local professionals is required (Curaçao Economic Outlook, 2010).

Aside from the mentioned policy measures, commercial initiatives can play a role in attaining sustainable economic development. Supported by the right policy measures, commercial initiatives can foster economic growth (Popma & Van Spijk, 2009). Already SIDS can have a relative advantage in tourism and offshore banking. The combination of tourism and (financial) services can be the biggest drivers for growth and development (Ehounou & McElroy, 2008). Knowledge is important for fostering growth, and Curaçao has the aim of developing itself into a regional knowledge hub, partly initiated by the University of the Netherlands Antilles (UNA). UNESCO even founded a chair for Caribbean SIDS at the local university UNA in 2010 (UNESCO 2010; UNA, 2012). The goal of this chair is 'To become an open center of collaborative excellence in the field of policy-oriented research on issues of Sustainable Development of SIDS in the context of globalization of the Caribbean, leveraging on the unique insights that can be provided by knowledge production processes based on participatory research, involving stakeholders in the Sustainable Development of SIDS' (Caribbean SIDS, 2011).

Even though ICT is seen as most important enabler for the economic development and knowledge exchange of SIDS, transformation into a society based on information, knowledge and creativity requires specific means. Curaçao still lacks some of these necessary means, like legislation and structures to make safe and widespread ICT use for business possible (policy brief Curacao Information Society, 2012). For example, there is no national strategic plan to promote and improve technological innovation, or research and development; no effective coordination for more rapid digitalisation of civil processes such as tax, health care. The amount of investments, combined with policy aims and implementations in different sectors shows that Curaçao as a country does not see ICT development as a priority. There are some initiatives, monitored by MEO and described above, but also cooperation between knowledge partners (policy brief Curacao Information Society, 2012).



Just like other small island states such as Singapore, Barbados and Aruba, Curaçao can benefit from its sea harbour, airport, tourist and financial sector. These qualities can help Curaçao to develop itself into a logistic hub, next to the aims for an economy based on knowledge and creativity. Besides, Curaçao can focus more on the Latin American hinterland for providing services (Goede, 2011a).

4.6 Resilience strategies of other SIDS

Curaçao's major economic development barriers lie in building resilience to price volatility and fluctuations in tourism; develop a level of trade resilience; attracting and maintaining talent; and reducing the brain drain.

When looking at other small islands, they are most successful in enhancing economic development and building resilience when executing a master plan combined with promoting social dialogue and social partnership. Curaçao has already engaged in social dialogue to develop a Master Plan for Curaçao³. A master plan is also seen as a development strategy for other Caribbean SIDS, such as for example Aruba, Dominican Republic and Barbados. These master plans usually have the goal of creating a regional hub. The plan to achieve this entails the reduction of public spending, attracting foreign direct investment, improve infrastructure (including ICT), improve the logistic functioning, reform of the tax system and the aim for growing awareness among the population (Goede, 2011a).

There should not only be put emphasis on the economic sustainability of small islands, but social sustainability is just as important when striving for sustainable development (Scheyvens & Momsen, 2008). In general, islands have a relatively high level of social cohesion (Goede, 2011a). Rootedness is important in developing the wellbeing of communities and countries, since it provides a population with a connection to their home country that can result in their willingness to put effort in enhancing development (Broad & Cavanagh, 2011).

For smaller islands, it is easier to implement flexible policy measures. Flexibility is key, since the smaller islands are, the more limited their level of resilience is. With a constantly changing international environment, also due to globalisation, it is essential that small islands know how to respond quickly to threats and opportunities. One of the required means is to be economically flexible in breadth, for example by investing in multiple sectors instead of focusing on only one market segment (Baldacchino & Bertram, 2009). In order to build trade resilience, it is important to have a diversified economy, which means that the economy relies on more than one source of income and more than one export market. The economy of Trinidad and Tobago for example, is highly dependent on income derived from raw materials (mostly oil), and the vast majority of these materials are exported to the United States (Broad & Cavanagh, 2011). This causes vulnerability. Trinidad and Tobago is trying to diversify the economy by implementing policy to reduce the reliance on food imports. It is now dependent on food imports, which are cheaper than domestic production but can result in increasing dependence and susceptibility for price volatility. The goal is to achieve food

³ Master plan is associated with the Knowledge Platform and the K-Zone; discussed into detail and implications in the next chapter.



sovereignty. Besides, lately more emphasis is put on the development of ICT infrastructure and accompanying services for building resilience (ibid).

An island's relatively small size makes it easier to be flexible in policy. Aruba, a country that has many similarities with Curacao (in population number, history, natural and cultural assets), changed its policy in the 1980s. This resulted in growing tourism arrivals, with a total contribution of 43 per cent to GDP in 2000 (Scheyvens & Momsen, 2008). Next to the positive contribution of tourism to Aruba's current account, the governmental policy is aimed at international trade development through oil refinement, a tax free zone, and investments in telecommunications and finance. Furthermore, Aruba used a master plan for development in which an integral policy was set out (Goede, 2011a).

Part of building resilience nowadays, is the introduction and use of ICT on a larger scale. Especially small islands can benefit from the opportunities provided by these technologies. The Caribbean country Dominican Republic has evolved a strategy in which it works with three separate strategic plans that together form a master plan for innovation and research and development. The three strategic plans cover the subjects of technological innovation, research and development, and are called the strategic plan National System of Higher Education, Science and Technology; strategic plan Technological Research and Innovation; Strategic plan National System of Technological Innovation and Development (policy brief Curacao Information Society, 2012). The master plan involves investments in market segments that will function more effective and efficient when combined with ICT.

Trinidad and Tobago are responding to opportunities that come with ICT. The Ministry of Public Administration has introduced the Fast Forward plan, which implies a cooperation between government, universities and commercial businesses. The most important aspect is the promotion of sustainable technological development, in which cooperation and social dialogue is key (policy brief Curacao Information Society, 2012).

Another small developing island in the Caribbean that chose to build resilience by diversifying its economy is Barbados. The island started its economic diversification in the 1960s, when more investments were done in services, light industrial production and sugar production. From the 1980s, tourism and financial services expanded and became important economic forces. Nowadays the service sector benefits additionally from the growth of ICT services. Barbados has similarities with Curacao, since it also suffers from a brain drain, relatively high (youth) unemployment rate and an aging population. However, Barbados also introduced a master plan called the National Strategic Plan, that focuses on social dialogue and partnership. The plan promotes the investment in human capital, social capital and education, but also health, nutrition and political stability (Goede, 2011a).

Besides developing opportunities that arise from ICT, investing in a creative economy can boost the economy of small developing islands. A creative economy holds strong linkages with ICT, since expansion of creative industries entails the promotion of creativity, networking and access to virtual information and knowledge. With online social networking, users can be empowered to share information and construct knowledge. Information and knowledge can be shared (internationally) with peers through weblogs, open source data and websites. Both creative products itself (like software); and derived products enable production of other creative products (music, films, advertising, architectural services). Jamaica for example, is currently framing itself as a music economy. Especially the well-



known reggae music is presented as main attractor for the creative class and tourists. A similar approach is taken by Trinidad and Tobago, which frames its annual carnival as a major cultural event with music, dance and arts, with the aim of attracting investors and tourists. Barbados even implemented a Cultural Industries Development Strategy in 2004, that is devoting attention to the potential of the creative economy as a development strategy (UNCTAD, 2010).

One of the consequences of globalisation is the growing mobility of talent. With better professional opportunities found abroad, the mobility of people, especially with tertiary education, is increasing globally (Solimano, 2008a). Skilled migrants are less sensitive to distance and thus internationally more mobile (Docquier et al, 2007). With a disproportional global distribution of job opportunities for the skilled workforce, knowledge is also distributed asymmetrically. A skilled, trained workforce is essential for economic development (Siems & Ratner, 2006), which makes it important for countries to develop a policy that both attracts and maintains talent (D'Costa, 2008). In general it is expected that emigrated skilled people will come back when salary, technological development and state of the art equipment are compatible with those found elsewhere. To increase global competitiveness, it is important for countries to build and maintain a stock of researchers and scientists (Thorn & Holm-Nielsen, 2008).

With attracting human capital, knowledge generates more easily. Opportunities and technological innovation can expand and thereby reinforcing and sustaining growth (Solimano, 2008a). The group with the biggest migrating potential are former island inhabitants that may return. They already have ties with their home country, and have gathered knowledge and international networks abroad. These assets can help improve the generation and exchange of knowledge (Thorn & Holm-Nielsen, 2008). However, with the aim of attracting human capital, filling in the demand for skilled workforce is the most important goal to be fulfilled. Whatever strategy may be chosen, it may be useful to implement flexible immigration policies. Attracting human capital should be the focus, and a flexible immigration policy may help to attract a skilled workforce. This talent may especially be useful for emerging and booming economic sectors (Goede, 2011a).

For maintaining talent, it is required to invest in human capital. Promoting local education can help to reduce migration of people looking for jobs abroad (Docquier et al, 2007). Especially investing in levels after primary school can be beneficiary. For SIDS to acquire a skilled workforce, it is key to raise the participation rate at secondary level and offer opportunities to follow tertiary level education (Atchoaréna et al, 2008). Furthermore, possibilities of distance schooling can be further explored, like in the earlier mentioned example of Cape Verde (Commosioun & Duggan, 2008).

According to Tvede (2010, on knowledge-zone.com), there are two main strategies for acquiring human capital. First there is the seed strategy, that entails attracting young talent in the hope they will stay and search for employment, the second one is the harvest strategy, with which existing capital-rich companies are attracted. Furthermore, it should be kept in mind that Curaçao attracts a lot of temporary labourers and students, the result of a brain circulation of talent and experts around the world (Solimano, 2008a).

Altogether, it seems hard to see where good strategies come from, most scholars stay close to theoretical assumptions on how building resilience can enhance development.



Especially when it comes to attracting and maintaining talent, actual hands-on ideas and strategies of how to attract human capital in practice are hard to find. It may be clear, or even a cliché, that investment is key for development. Investing in secondary and tertiary education, is seen as an essential step towards building resilience. Universities attract regional talent, that can contribute to an island's economic development. Furthermore, creating job opportunities for local skilled workers to prevent them from seeking employment abroad, is needed to reduce volatility. However, this requires investment again, making the issue an ongoing cycle. All factors in this matter are correlated, which makes it hard to define where to begin to start the process of building resilience. Openness and tolerance towards new ideas, and amenities are important aspects that can attract human capital (Florida et al, 2007). Therefore, an integrated approach is required. From other SIDS can be derived that the most successful islands made use of a master plan for development, in which an integrated approach on multiple subjects and sectors is set out.

4.7 Conclusion

This chapter discussed the disadvantages and opportunities for development and building resilience for SIDS, and Curacao more specifically. SIDS face disadvantages due to their size and geographic location, like limited economies of scale, high transportation costs, reliance on international prices and trade, and high emigration rates. Even though they are hindered by these disadvantages, SIDS do have possibilities for building resilience. Tourism remains an important source of income, but by diversifying the economy SIDS will become less vulnerable. Therefore many SIDS invest in multiple segments of the markets, often in the service sector, that has experienced a major flight with the use of information and communication technologies. Besides, most discussed SIDS make use of a master plan. The next chapter will go more in-depth on initiatives to build development, involving the use of a creative economy, knowledge platform, and social dialogue in the K-Zone.



Chapter 5 – The Creative Economy and the Knowledge Zone

5.1 Introduction

With the current trend of globalisation, national boundaries are gradually disappearing. New types of economies are rising, relying more on services and ICT (Healy, 2002). This gives room for small islands' development, especially since natural boundaries can now be overcome. To make this development happen however, it is required that talent and human capital can come together (Florida et al, 2007). Nonetheless, barriers that hinder the development of small islands still exist. The Knowledge Zone believes that the creative economy is one way to achieve a sustainable development of SIDS.

In this chapter, the possibilities for and opportunities of a creative economy are discussed. The first subsection entails several arguments for why aiming at creative sectors is interesting for SIDS in general, and for Curaçao more specifically. What is already present on Curaçao regarding the creative economy? Subsection 5.3 presents the ideas behind the Knowledge Zone: a local Curaçaoan initiative to promote and improve the exchange of knowledge between creative- and knowledge-intensive organisations and companies. In subsection 5.4, the vision and strategy of this initiative will be elaborated on, followed by the current status of the project in Subsection 5.5. The chapter will conclude with a short evaluation and conclusion.

5.2 A creative economy on Curaçao

Both the UNCTAD and the Knowledge Zone website refer to the creative economy as a potential development solution. Within a creative economy, knowledge and creativity are combined and seen as the most important driving force of an economy. Creativity, the basis of this type of economy, is defined as 'the process by which ideas are generated, connected and transformed into things that are valued' (UNCTAD, 2010, p.4). The development of creativity can be boosted with the presence of human capital (in the form of knowledge and/or competences), technology, the institutional environment, the social environment, openness and diversity (UNCTAD, 2010). Human capital means talent, mostly measured by educational level, but can also be accompanied by creativity of the workforce. The creative economy not being exclusively for the higher educated, makes it an attractive development option for SIDS that suffer from a brain drain (Florida et al, 2007). According to Florida, 'creativity is not intelligence. Creativity involves the ability to synthesise. It is a matter of sifting through data, perceptions and materials to come up with something new and useful'. In this approach, the creative class also includes a broader group of creative professionals in business, finance and law (Florida in UNCTAD, 2010). The formal UNCTAD definition of a creative economy is shown in Box 5.1 on the next page.

The concept of a creative economy was first introduced by John Howkins. He describes the potential of a new type of economy, based on the creativity of people, industries and cities. Creativity is a broad defined concept; economies based on creativity put emphasis on developing enterprises, knowledge and service industries (Cunningham, 2002). Globally, in recent decades, more economic importance has been attributed to innovation, information and the impact of ICT (Garnham, 2005). A creative economy not only includes 'traditional' human capital such as the higher educated workforce, but also other



stakeholders and institutions with a wide variety of interests, both profit and non-profit (UNCTAD, 2010).

Box 5.1: The definition of a creative economy

The 'creative economy' is an evolving concept based on creative assets potentially generating economic growth and development.

It can foster income generation, job creation and export earnings while promoting social inclusion, cultural diversity and human development.

It embraces economic, cultural and social aspects interacting with technology, intellectual property and tourism objectives.

It is a set of knowledge-based economic activities with a development dimension and cross-cutting linkages at macro and micro levels to the overall economy.

It is a feasible development option calling for innovative, multidisciplinary policy responses and inter-ministerial action.

At the heart of the creative economy are the creative industries.

Source: UNCTAD 2010, p.10

Although knowledge is the underlying driving force of a creative economy, it is not the only factor on which a creative economy relies. According to the UNCTAD (2010), there are three main drivers behind the creative economy: technology, demand and tourism. Technology enables companies to develop products and services. Research and development from these companies is required to reach a certain level of innovation. Tourism rates worldwide are growing, which means an increase in industries providing cultural services in the tourist market. Tourism is the main source of foreign exchange, also for Curaçao. With more tourism, accompanying creative services can diversify the economy. This diversification can imply the building of economic resilience (Commosioung & Duggan, 2008). With tourists as main consumers of cultural and recreational services, tourism entails a significant part of the creative economy. To sustainably maintain this sector, the presence of both quantity and quality of goods and services (which can be seen as creative products) is required. A stable or growing tourism sector can boost the demand for creative products, and creates potential for the growth of other creative segments in the economy such as architecture and real estate development (UNCTAD, 2010).

Internationally, a growth in demand for creative products is visible. This can be explained by rising incomes in industrialised countries, and changing patterns of cultural consumption. Especially developing countries are benefiting from this growth: 43 per cent of the global exported creative goods in 2008, were from developing countries. Developing countries exported a total value of 845 million US dollar, a 400 per cent increase since 2002.



The three regions of SIDS (Caribbean, Pacific and AIMS) accounted for almost 16 per cent of this number (UNCTAD, 2010).

Besides, new communication technologies give room for the development for creative products. With internet and mobile phones, users can be part of the creation of new cultural content (UNCTAD, 2010); such as providing internet services or smartphone apps. Other products and services that are provided within the creative economy, include advertising, architecture, arts, antique markets, crafts, (fashion) design, software, music, television, radio, performing arts, and publishing (Cunningham, 2002). Tourism can be seen as a type of service sector that overarches several of these products and services. Seeking international cooperation, gives wider access to the global market and can enhance the distribution of digital creative content. Furthermore, ICT can facilitate the access to financing and the attracting of investors and joint ventures (UNCTAD, 2010). Even though the growth of ICT networks enhance the access to information and knowledge, it is not knowledge itself. Through access to information, Curaçao has to develop products of its own with new means of technology and communication (Goede, 2009).

An economy driven by creative products and services can be an interesting development potential, especially for SIDS. Cooperation and networking can create synergy, which can be beneficiary for companies on SIDS. The international sharing of information, ideas and influence gets an impulse through new communication means (UNCTAD, 2010). Clustering makes external economies of scale possible. Scale economics create positive externalities that benefit organisations in the cluster (Groenewegen et al, 2010). External economies of scale means that 'the cost per unit depends on the size of the industry but not necessarily on the size of any one firm' (Krugman & Obstfeld, 2003, p.122). For Curaçao this entails that clustering can lead to faster sharing of information, and additionally lead to synergy. For SIDS, organisations within a creative cluster can benefit from being located in the same place, seek cooperation and hereby possibly attract more (human) capital (UNCTAD, 2010). However, to make cooperation happen, an open attitude is required. Openness and tolerance for new ideas is a key competence of an area for attracting talent (Mellander & Florida, 2006; Florida et al, 2007).

Focusing on a creative economy can result in sustainable development, since a creative economy combines economic and cultural growth (UNCTAD, 2010). For Curaçao, this is interesting since it possesses rich cultural resources and heritage sites. Attracting and maintaining a creative class that provides creative products and services, can boost the economy of a SIDS. Especially since the creative class is inclusive: not only higher educated talent can be part, also workforce can contribute to building and maintaining creativity. The creative class consists of artists, designers, media workers, scientists, healthcare professionals and business and financial people. This class can bring and create wealth wherever they are situated (Florida, 2002). The creative class entails more people and thus more capital, since educational achievement and creative competences can complement each other (Mellander & Florida, 2006). This may also be interesting in the light of employment: since a creative economy combines knowledge with specific skills, regardless of educational level. This enhances the growth potential of the creative class, especially since Curaçao derives a significant amount of jobs and income out of tourism, an important segment of the creative economy.



For Curaçao, aiming at a creative economy means that knowledge, human capital and workforce capacities can be combined. Knowing that creative talent is mobile (Solimano, 2008b), a creative class can be attracted and maintained if there is a high frequency of cultural events. Successful cultural events create employment and attract visitors from abroad. For example, in August 2012, the third edition of Curaçao North Sea Jazz (NSJ) will be organised. International artists will be performing, attracting visitors from the Caribbean region and beyond. Furthermore, in April 2012 the International Film Festival Rotterdam (IFFR) got a dependence on Curaçao (curacaoiffir.com). A successful first edition has paved the way for more editions in the coming years.

5.3 The Knowledge Zone

If knowledge is combined with creativity, great development potential appears. However, in order to get to this state of development, a coordinating organ with a vision and strategy is required. The Knowledge Zone is an initiative that seeks to combine existent knowledge



Figure 5.1: Logo of the K-Zone

of companies, organisations and educational institutions to reach common goals. The Knowledge Zone (K-Zone) is initiated for enhancing and stimulating the generation of a creative economy on Curaçao. The Knowledge Zone promotes cooperation between organisations, entrepreneurs and companies. A major part of this entails the sharing of information, learning from each other and generating knowledge. The Knowledge Zone is aimed at attracting and connecting the creative class of Curaçao, that is primarily working in the creative and service industries.

The K-Zone consists of one specific zone on the island, which may help to create synergy through external economies of scale. The clustering of companies and organisations that are part of knowledge-intensive and creative sectors, can exchange information quickly and benefit from external economies of scale. For Curaçao, this implies that cooperation between firms can create synergy. Curaçao being a small island, it is important to look at geographical and transsectoral networks and innovations. Knowledge exchange is key in transsectoral innovation, which makes cooperation important. The idea behind the Knowledge Zone is that knowledge exchange will be easier if businesses are clustered within one zone (knowledge-zone.com, 2012; Goede et al, 2012). Furthermore, having a clearly So far, 45 companies, institutions and organisations (both private and public) have joined the Knowledge Zone⁴.

The initiative for creating a Knowledge Zone on Curaçao was taken by the University of the Netherlands Antilles (UNA), in 2010. The aim was that UNA would be the main driving force behind the zone (for generating and implementing knowledge), with companies and organisations as partners that can foster growth and information exchange. The vision of the K-Zone is that Curaçao will be an international Centrum of Excellence, since it is

⁴ Complete list of the Knowledge Zone partners can be found in Appendix II.



geographically connected to parts of English, Spanish, French Caribbean; but also to North and Latin America. Besides, Curaçao is tied to European traditions due to the colonial past (Knowledge-zone.com, 2012). Through the K-Zone, the UNA wants to cooperate with knowledge-intensive companies and sectors and institutions Clustering these companies and institutions within one zone, can create a vibrant zone (Goede et al, 2012).

With the creative economy as an integral part of knowledge economy, companies from several sectors can be attracted, work together and create synergy. The sectors that are interesting for the Knowledge Zone because they can transfer knowledge between them are: Arts; Tourism; International Financial Services; Science; Higher Education; Sports; Information and Communication Technology (Knowledge-Zone.com, 2012). Overarching aspects that are crucial in making the K-Zone successful are talent, educational level, tolerance. These competences together can be mentioned under the name of human capital. Furthermore, technological infrastructure, cultural heritage and real estate development are an essential part of creative goods and services. The inclusive character of the creative economy, makes that many sectors (and therefore jobs) are represented in the economy.

5.4 Strategy and implementation

The Knowledge Zone covers an area in Curaçao's capital city Willemstad. Having a designated area is part of the strategy, since this makes the project more tangible and therefore easier to present to potential partners, students and visitors from Curaçao and beyond. In the area, important partners of the Knowledge Zone are established, such as the university, museums and research centres. Besides, the road from the airport and the local university runs through the K-Zone to the city centre, which makes the K-Zone one of the first impressions of newly arrived visitors of Curaçao. The idea behind the K-Zone is that it can function as a cluster of knowledge-intensive and creative sectors. These were already existent before the K-Zone, but having a zone in which these companies are established, may attract other companies to the area. This in turn may help to further boost synergy and cooperation between organisations, through connection, communication and exchange of knowledge and information (Knowledge-zone.com, 2012).

At the very beginning, the strategy of the K-Zone would primarily evolve around the university, the UNA. Since the university is the main generator of knowledge and source of expanding talent on the island, the strategy entails that the university leads in attracting companies and institutions to join the K-Zone. In return, the university can spread knowledge and competences through students that perform research or internships in these partnering companies and organisations.

Although the Knowledge Zone is an established geographic region, stretching from the airport to the city centre, filling in the Zone with partners is an ongoing process. The concept of the Knowledge Zone is done, and many partners are established. It remains key however, to attract knowledge-driven companies both within and beyond the geographically designated area that can contribute to and further develop the K-Zone. Part of the strategy is to reach better connectivity within and around the Knowledge Zone. Therefore, connection with public transportation companies is sought. Being digitally connected through broadband internet is also important for rapid information exchange. Altogether, the cooperation between public organisations, public institutions and private companies is required. To obtain



these, state owned enterprises will have to play a key role as corporate citizens and exhibit corporate social responsibility (Knowledge-zone.com, 2012).

For the K-Zone project, the goal is to create and facilitate cooperation between organisations on Curaçao. The strategy towards this goal is to organise meetings and conferences in which partner organisations can meet, present what their company is doing, network, exchange and request information on certain subjects. The underlying assumption is that meeting on a frequent basis can create synergy for the businesses of attending partners. Furthermore, there is the need to carry out the image of the K-Zone and generate general awareness of the project at organisations on the island. A well-known organisation may attract new partners that may have additional ideas or can function as facilitator for cooperation of other partners in the K-Zone. To enlarge the number of partners and reinforce the initiatives that come out of the partner cooperations, a more general mind shift on the island is required.

Referring to the biggest barriers that hinder Curaçao from development, the Knowledge Zone responds to the disadvantages of being an island. This island factor entails, among other factors, high transportation costs and limited opportunities for economies of scale. Furthermore, Curaçao suffers from a knowledge gap, and a lack of skilled people. Through cooperation in the K-Zone, transportation costs can partially if certain goods are imported together. Important is to know what other businesses and organisations are doing, so if it is interesting for one's own company, cooperation can be sought. Key is to know and to communicate, in order to generate and exchange knowledge. With a well-functioning K-Zone that has an image of creative/knowledge area on the island and beyond, more human capital can be attracted. An image of creative area that attracts creative workforce can give a boost to sectors such as real estate, especially when combined with educational institutions. Looking at the lack of skilled workforce, due to the cooperation of the UNA with locally based companies, students get the chance to get to know Curaçaoan businesses and seek employment on the island instead of elsewhere (Knowledge-zone.com; 2012).

To achieve the goal in the bigger picture of the K-Zone, contributing to sustainable social and economic development, it is required to work on more indicators for success simultaneously. The K-Zone will thrive better when social and economic indicators on the island are improved. The potential for success of the K-Zone and sustainable development will be enhanced if the initiative is supported by the institutional framework and a meritocracy (Goede, 2009).

5.5 Current status and future of the K-Zone

The initiative for the K-Zone was taken by the UNA, which is the main actor in connecting organisations and facilitate knowledge exchange. However, the initiator of the project is no longer employed at UNA, which made the responsibility for the K-Zone shift from the UNA to another initiative, called the Knowledge Platform. The Knowledge Platform is connected to the K-Zone. It is a partner of the K-Zone and consists of several companies, institutions and organisations that together strive to establish a knowledge and information society on Curaçao. The Knowledge Platform has suggested a master plan for Curaçao Information Society, with goals set for the subjects ICT access and infrastructure; legal and regulatory issues; measurement and monitoring; economy; enterprise development; ICT Industry;



Health Care; Education; Government; Finance trade and investment; tourism. The Platform is currently lobbying at the government to get it implemented⁵. In line with how other SIDS have encountered their development issues, creating a master plan may help Curaçao to overcome their barriers to development and enhance the different economic sectors.

Officially, the Knowledge Platform and the K-Zone are two separate initiatives. In practice however, it shows that the concepts are sometimes used interchangeably and that responsibility for meetings are taken by the Knowledge Platform. Conferences of the K-Zone are discussed about during Knowledge Platform meetings. Efforts of the Knowledge Platform keep the K-Zone going but not on the same level and frequency as it used to be.

Even though the active partners within the K-Zone have all the right intentions, after UNA ceased to function as the main organiser, it appears difficult to maintain continuity in the project. Now companies themselves have to take responsibility for organisation and meetings, which makes the initiative stand still. Currently, no effort is taking in actively seeking new partners on the island or seeking solutions for the addressed problems. Even though partners of the zone still get the opportunity to meet once every two weeks at Knowledge Platform meetings, the main vision and strategy are not actively implemented nowadays.

5.6 Conclusion

In this chapter, the opportunities for Curaçao as a creative economy are discussed. From the literature it becomes apparent that a creative economy is an inclusive economy, giving room to a wide variety of sectors on the island. Curaçao already has many active sectors that fit in the description of a creative economy, now it may be key to build an image around this creative economy. The Knowledge Zone responds to barriers to development of the island by encouraging and facilitating cooperations between creativity- and knowledge-intensive companies and organisations on the island. Currently, the main organising institution, the UNA, has retrieved from being the main responsible actor for continuity of the Zone. Responsibility has been taken over by the Knowledge Platform, but it is clear that a new practical strategy needs to be found in order to keep the initiative going.

⁵ Latest developments derived from conversations and interviews with partners of the K-Zone, and attending meetings of the Knowledge Platform



Chapter 6 – The Knowledge Zone in Practice: Results from interviews

6.1 Introduction

In this chapter, the results of the interviews with the K-Zone partners are presented. The central question that had to be answered during the interviews was 'How do partners view the K-Zone initiative and how can the K-Zone improve and further enhance the sustainable development of Curaçao?'. The chapter will evaluate the K-Zone project through the eyes of 12 interviewed partnering organisations. This chapter shows the results of the analysed interviews. Interviews were transcribed and chunks of text were labelled. This has resulted in the respondents' vision. Their ideas and evaluations have been put together and form a reflection on how the K-Zone is experienced and how it can be improved.

The chapter is built up as follows. The first part, subsection 6.2, will present the vision of partnering organisations regarding the Knowledge Zone. It discusses how partners think about the K-Zone, their vision on the initiative. Subsection 6.3 entails the network opportunities accompanying membership of the K-Zone. The chapter continues with the contributions and benefits of partners, and how these are evaluated. Furthermore, the potential of the Knowledge Zone for sustainable (both for people, planet, and profit) development is described. Earlier identified problems are addressed, to what extent can they be reduced through initiatives from the K-Zone? The chapter finishes with how the interviewed partners evaluate the K-Zone initiative and which suggestions for improvement they put forward.

6.2 Vision of the K-Zone

The idea behind the Knowledge Zone, that sharing information and knowledge may improve effectiveness, efficiency and induce synergy, is widely accepted and supported by the interviewed partnering organisations. Arguments that are given in favour of being member of the K-Zone is the element of curiosity: organisations on Curaçao like to know what other organisations are doing and what is going on on the island. Bringing together knowledge is the reason for most partners to participate. It is beneficiary to combine all the existing knowledge, by putting it on a big heap so everybody can use its content.

Participation in the K-Zone gives organisations the opportunity to show and present their on-going projects to a varied audience. During Knowledge Zone meetings, different disciplines can come together in order to exchange information, so organisations know where other organisations are interested in and where they are heading. This connection ensures that partnering organisations know what type of projects others are involved in, and what the current perspectives on the island are. The connection can help them expanding their network and tap into each other's resources nationally, regionally and internationally. For some organisations, the Knowledge Zone is seen as a business opportunity, since it provides information. Through attending meetings, partners can form an idea about who may need their services, or who they can approach for a contribution to something they are busy with themselves. The K-Zone provides an opportunity to broaden the scope of organisations. Since the K-Zone connects organisations in different sectors, partners get first-hand information about projects and cross-sectoral linkages can be made.



Organisations hope, naturally, to get economically interesting spin off out of their membership of the Knowledge Zone. Other arguments for being a member of the Knowledge Zone is that getting together can generate new ideas. Discussing projects and initiatives may change the set pattern, the paradigm in which organisations are currently thinking and acting. More emphasis should be put on the advantage of collaborating in the project, and a boost of creativity and knowledge exchange is required. Since Curaçao is a small island, organisations need to know what everybody's up to. This can lead to connection and synchronisation. Cooperation of organisations implies a win-win situation. According to one of the respondents, there is a 'huge advantage of collaborating in this important project with pretty substantial benefits for the whole community of Curaçao'.

Furthermore, a spokesperson from the Ministry of Economic Development and Innovation (hereafter MEO) finds the idea behind the Knowledge Zone very interesting. One of the tasks of MEO as a ministry is to promote the development of a knowledge economy on the island. So the bigger framework and governmental support for the initiative is available, since MEO tries to promote the focus on knowledge-intensive sectors and cooperation between different organisations.

From the interviews it became apparent that members are enthusiastic about the ideas behind the Knowledge Zone, and the opportunities the K-Zone can create for one's own organisation. However, in practice, there are some less positive evaluations of the initiative. There was some critique on the current process of the K-Zone. The most striking point was the attitude of the partners towards the frequency of K-Zone meetings. All respondents argued that there were not enough opportunities to come together and exchange ideas, making the amount of contact between members insufficient. The consequence of this was that organisations tended to loose focus due to a lack of 'triggers'. The main addressed reason for the lack of meetings is that the initiator of the K-Zone project is no longer connected to the UNA, the university that is supposed to be the organisational centre of the K-Zone. To indicate this: the last organised events were held in March 2012 and December 2011. The limited amount of meetings has as a consequence that not all interviewed partners knew what was going on within the K-Zone. A second point is that not all partners knew what exactly was expected from them, what is the meaning of being a partner in the K-Zone initiative.

The limited amount of events organised and little or no feedback or follow up afterwards, is part of why some partners do not know what is going on exactly. If events or meetings cannot be attended, a partner misses out on discussed topics since there is only little information spread to all partners. In addition, some partners do not even know they are included as a partner in the K-Zone. This became clear while approaching partners for interviews: three of the approached partners indicated they did not know anything about the initiative, and another one was not interested in the initiative. One interviewed partner was not aware of his organisation being included in the K-Zone, and partners are not aware about what other organisations are connected to the zone. Apparently, membership was never formally established, which also results in unclear expectations. Partners only have a vague idea about what being a partner entails. Furthermore, due to internal conflicts, partners are confused about the continuation of the project: who is going to take responsibility now that the UNA no longer provides the locational base for the project. Even



though the name of the K-Zone was pretty quickly established on the island at time of the set-up, the lack of frequent publicity makes (potential) partners' awareness about the initiative decline. Information about the progress and development of the K-Zone is not frequently distributed or published.

6.3 Network opportunities

The basic idea behind the K-Zone is that partners can come together, exchange information and knowledge with the goal of creating synergy in upcoming projects. To evaluate the success of the K-Zone, it is therefore important to describe the extent to which different partners use the K-Zone for their own network and use information for their own organisation. In general, the interviewed partners appreciate the opportunity for networking at K-Zone meetings.

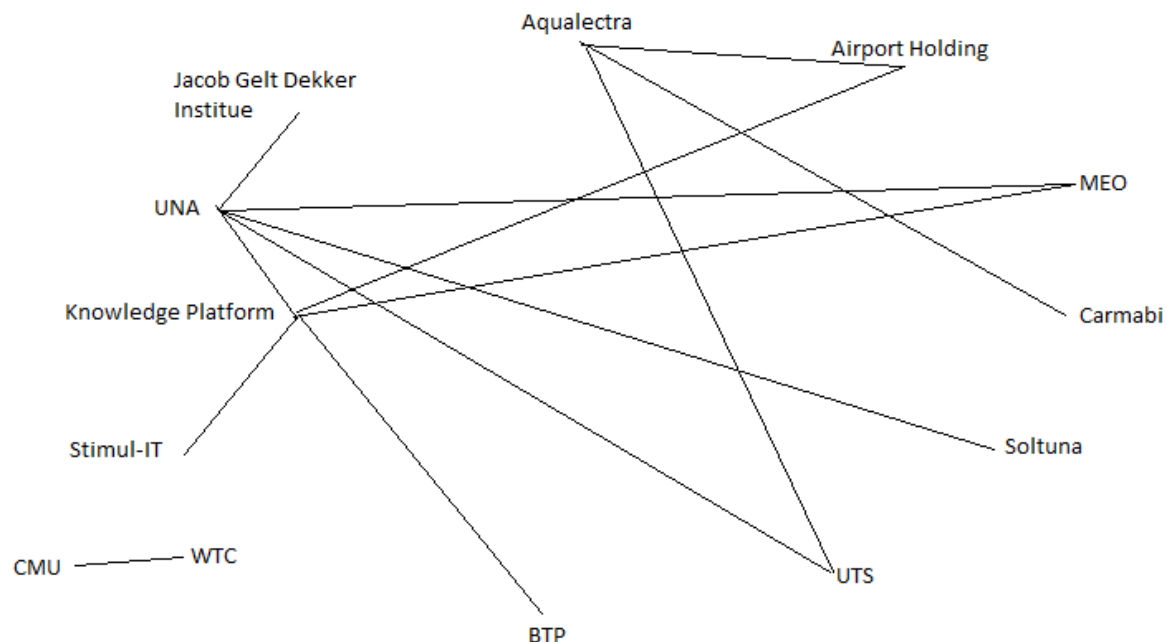


Figure 6.1 Indicated partners within the K-Zone

Figure 6.1 shows the network within the K-Zone as indicated by the interviewed partners. The displayed connections represent cooperation or projects that required joint effort. These connections are for example an experiment with energy from solar panels with Aquallectra and Carmabi; UTS (United Telecommunication Services) delivering a broadband internet connection to UNA (University of the Netherlands Antilles); and UNA exchanging knowledge with Soltuna (Stichting Ontwikkeling Land- en Tuinbouw Nederlandse Antillen) and the Airport Holding. Furthermore, Carmabi holds an memory of understanding with the UNA. UNA in turn is connected to several public and private organisations on Curaçao, enabling it to send its students for internships and research. As can be derived from the figure, the UNA and the Knowledge Platform are the spills in the Knowledge Zone network. This is because members of the Knowledge Platform are automatically connected to the K-Zone via the



Knowledge Platform. This implies that cooperation within the Knowledge Platform is also part of the K-Zone.

It should be noted however, that these partnerships would probably also have been formed if the K-Zone was not active. In fact, these connections have taken place within the K-Zone, but not because of the K-Zone. Since Curaçao is only a small island with limited potential business partners, organisations will approach each other anyway if they need assistance or additional knowledge or information for their own projects and businesses. Partnering organisations are also connected with organisations and universities abroad. Among others, the Jacob Gelt Dekker Institute, Carmabi, Airport Holding, and UNA all have international connections for knowledge generation and exchange. All respondents have indicated that they will search for connections/partners anyway, leaving the question to what extent the K-Zone significantly contributes to the island's economy. For example Aqualectra already has contacts with some K-Zone partners, but this contact would also have been made without the framework of the zone. These partnerships are not a consequence of the K-Zone, but were made happen via the same principle on which the K-Zone project is based.

6.4 Benefits of the K-Zone for the Curaçaoan economy

As indicated in the previous section, only a limited amount of partnerships have been established so far. There is a discrepancy between the potential and actual contributions of partners, and the potential impact of the K-Zone on the economy. According to the respondents, there are no tangible results directly connected to (or because of) the K-Zone so far. Despite this fact, there still are benefits for organisations to be part of the Knowledge Zone.

First of all, being a partner in the K-Zone project provides an organisation with a network consisting of a wide variety of organisations in different sectors. Public, private and civil organisations are all represented within the K-Zone. According to UTS, this makes recruiting for talent easier, since an organisation can tap into an already existing network. Partners in the K-Zone can be approached when looking for new talent, instead of starting up this search from scratch. Being a partner in this can open a door, since it gives organisations access to resources that would be more difficult to attain without the partnership. Being a partner of the K-Zone induces efficiency and synchronisation, since organisations can collaborate with respectful partners.

Then, being part of a group of organisations that can generate additional value for Curaçao as a whole, is a positive impulse for an organisation's image. In addition, the global trend among organisations of adopting corporate social responsibility (CSR) practices, is also present in Curaçao. The K-Zone is an excellent tool for these organisations to create additional (social, economic and/or environmental) value for the island. Connecting the social responsible image to an organisation can happen through contributing to the K-Zone, which will also generate publicity for the organisation itself. Aqualectra, WTC and UTS mentioned the CSR element. An example from the interview with the World Trade Centre (WTC): if the WTC would facilitate a K-Zone event, WTC's name would be linked to the K-Zone and get media attention, mentioned in publications, etc. Getting recognised is attractive for partnering organisations, and K-Zone meetings are an opportunity for generating attention for one's own organisation and business practices and initiatives. Four out of 12 respondents



specifically mentioned the element of recognition as a reason to participate in the K-Zone initiative. Supporting initiatives and combining knowledge to reach a bigger goal can provide additional value to the economy of Curaçao. All of the interviewed organisations said they had potential to contribute to the K-Zone, mostly through transferring knowledge. Furthermore, potential contributions could be the facilitation of, for example, meetings and conferences. Currently, Stimul-IT is facilitating meeting opportunities for the K-Zone, since these meetings are included in Knowledge Platform meetings.

Respondents indicated that the goal of the K-Zone is far from being reached. Organisations are keen to contribute, but keep on referring to the lack of information exchange: they do not get the opportunity because of the small number of meetings organised. So far, very little cooperation between partners has been established because of the K-Zone. Most of the contacts would have been sought and connected anyway, without the existence of the Knowledge Zone. The role of the K-Zone in this process is not significant (yet) for bringing together different parties, a major reason for this is the frequency of meetings and the limited communication between partners. Responses to the question what the K-Zone has meant for one's organisation so far, entailed answers like 'so far close to zero'; 'nothing'; 'none'.

There is however some contribution to Curaçao's economy from all partners independently. The Ministry of Economic Development (MEO) works on law enforcement on digital data protection, an important aspect when striving for an economy based on knowledge and creativity. MEO is enthusiastic about the K-Zone initiative, but needs to see a clear plan, goal and approach before facilitating or supporting the project any further. As contribution to the economy as a whole, several other organisations within the K-Zone attract knowledge and visitors from abroad. The UNA for example connects its students to companies and organisations on the island that are in search of research assistants or interns. The university also organises an annual summer school, attracting over 60 students from the US last year. Furthermore, the development of a space port, making commercial space travelling possible, will attract visitors and create job opportunities. These initiatives hold linkages with tourism, because visitors need amenities like a place to stay and leisure activities. Other educational and or research institutes like CMU and Carmabi also attract visitors. They are attracting students and researchers from abroad, that do (part of) their study or research here. This group is generally young, and therefore usually has an active social and cultural interest. If the needs for (cultural, leisure) activities among this group are fulfilled, it contributes to the economy. In addition, temporary students or workers attract visitors, like family and friends that will boost the tourism sector of Curaçao. According to Carmabi, that facilitates research for about 200 researchers a year, the 'science' tourism their organisation generates, contributes 1 million ANG to the Curaçaoan economy annually. Tourism thus remains a driven force for the Curaçaoan economy.

6.5 Sustainable economic development

Cooperation between different organisations and companies can induce efficiency and synergy. On a small island, with a limited amount of people, need to do it together to achieve bigger accomplishments. Small island states partially encounter the same problems encountered as bigger states, but have fewer people available to overcome these barriers.



6.5.1 Attitude – Mind shift

An element that was often mentioned during interviews, is the Curaçaoan attitude towards knowledge exchange. Apparently, organisations are very protective about their own business and not keen on sharing information, even if it can make their own organisation better. It has to do with pride, idea that achieving success on your own will gain more respect than collaborating. While looking pragmatically, better to work together since no double work.

One aspect that plays a role in the attitude towards knowledge sharing, is the way competition is looked at. The risk of sharing an idea is that others might take over this idea and have their own success with it. According to several respondents, organisations on Curaçao should not be so focused on Curaçao: the real competition cannot be found on Curaçao, but is internationally. With cooperation, the image of Curaçao in the region can be improved, so that Curaçao will be seen as a worthy partner in business. This requires a shift in thinking, organisations should no longer be focused on the island, but also leave room for regional or international threats and opportunities. This is indicated by one of the respondents: 'People should realise that we should not be afraid of our direct neighbours, but for the region. If we work together to gather enough knowledge, we can create unique concepts that will generate economic benefits. Without cooperation, we will get into problems in the long run'. With only a limited amount of people on Curaçao, working together is required to achieve development on the island. This cooperation remains an issue however. In general, organisations tend to be oriented solely towards their own benefits, always thinking 'what's in it for me?'. The bigger picture is ignored, there is no attention for joint effort to give a boost to the economy as a whole. Organisations are holding back in cooperating, because they are not familiar with the benefits that cooperation can bring. While in practice, with sharing ideas, it would be more easy to find investors to carry out projects.

According to three of the interviewed partnering organisations, the Curaçaoan culture may be a barrier that has to be overcome when implementing an economy based on knowledge and creativity. First there is a culture of pride, with an attitude that things can be achieved without the involvement of others. One of the respondents called it arrogance: Curaçaoans think they can manage the economy on their own, without involvement from outsiders. The required mind shift and generating more knowledge are connected. Most people will benefit and the best results can be achieved when knowledge is shared. Sharing makes the amount of knowledge available bigger, and can make everyone better off. Since organisations are currently protective about their own ideas and projects, will hinder the achievement of their goals because processes run inefficiently. A protective attitude will make organisations miss out on opportunities. The organisation Soltuna added that organisations should learn to share their ideas. With every development it should be checked which organisations could be involved to achieve better outcomes. Keeping knowledge within a company will soon be outdated: cooperation is the way to achieve something. Especially since there is a limited amount of people (and thus knowledge) available on Curaçao. For the K-Zone to succeed, it is required to have openness and transparency among the partnering organisations.



6.5.2 Brain drain reduction

While discussing the brain drain on Curaçao, the issues of why there is a brain drain, how it affects the island and how the K-Zone can contribute to reducing this phenomenon were addressed. The majority of the respondents was positive about the perspectives that the K-Zone offers, provided that the K-Zone would function better than it does currently. The main reasons indicated for the brain drain is that there are only few tertiary educational profiles, followed by insufficient job opportunities. One of the indicated problems is the amount of studies being offered, which is limited in variety due to the small population size of the island. Even though there are 3 universities on Curaçao, two of them are private institutions and usually too expensive for locals. In combination with the limited amount of education being offered, students will opt for tertiary education abroad.

According to half of the respondents, Curaçao offers little to the higher educated, both in opportunities and in financial rewards. In order to offer such things, development of the economy is required. If the economy develops towards a service economy, more job opportunities for higher educated will emerge. Besides, universities on Curaçao should execute more research and publish research findings. Being a knowledge centre then can attract and maintain talent. A reason for student migrants not to return to Curaçao is that the crucial years for personal development do not take place on the island. Students experience their key years of development and become independent in their student years. Where this development is experienced, is determining for where students will search for jobs. If the network is developed abroad, the chances for these student migrants to return is reduced. These students will only come back if 'we really offer something'. Creating knowledge on the island, may help in maintaining and attracting this group.

Currently, the population number on Curaçao is increasing again. However, the educational level of these migrants has not been measured. One of the addressed problems by respondents is that employers put a lot of effort in getting foreigners for job positions on Curaçao. If the same effort would be put in attracting migrated Curaçaoans, the long term purpose would be better fulfilled, since there is a higher chance that these migrants will stay on the island. There are Curaçaoans with knowledge, you need to find them. If knowledge is produced on the island, the need for importing knowledge and skills is reduced.

The most important effect of the brain drain is the loss of expected contribution to the economy. Students are generally keen on having an active social life and are looking for new experiences. The economy benefits from students, since students are a group that are going out, and hereby stimulate the local cultural, restaurant and bar sector, but also the housing sector through renting student apartments. Creativity is also something that is often found among students, and has potential to create economic benefits. According to four of the respondents, the solution would be to attract more students. For example there should be emphasis on the role of the established universities, by getting the CMU locally accredited. A variety of tertiary education offered at several universities can attract more students with accompanying benefits for the island. According to the Ministry of Economic Development, attracting foreign students will benefit the local economy, but can also reduce the brain drain because of the earlier mentioned argument of a student's key development years. If a variety of educations is offered, specifically aimed at the needs of Curaçao, the brain drain can be reduced.



During the interview with Aqualectra, the vision that migration might not necessarily be a bad thing, was introduced. As long as migrated Curaçaoans remain contact with their home island, Curaçao can benefit from its international network. It is not required to be physically on Curaçao to share knowledge, it is required to stay connected. Migrated Curaçaoans can send remittances, or engage in investment (property / projects) on Curaçao. However, in order to benefit from migration, the network needs to be maintained. Migrants should stay connected to the island, and the network needs to be fed and supported.

But how does the K-Zone fit in the phenomenon of the brain drain, and how can it contribute to the reduction of the migration of talent? A cluster of knowledge- and creativity-intensive organisations can function as a hub that attracts knowledge. Building the image of a hub can generate publicity, that in turn may attract knowledge. To build this image, a proactive attitude is required. Instead of worrying about the brain drain, developments should be put in place in order to be able to offer potential employees suitable jobs. Working together in the framework of a K-Zone can facilitate these opportunities. Educational- and research organisations are already busy with attracting talent, but by linking it to the K-Zone, better achievements can be reached. According to UTS, the K-Zone 'should generate the curiosity an attract very young brilliant minds that want to contribute'. The Bureau of Post and Telecommunications (BTP) adds that nowadays, there is a huge chance for content creation. Being an island is less important than before, so there is a chance intangible services in ICT to expand. Since this sector is not place-bounded, almost everything can be done from distance. Through creating content, talent can be attracted. As long as the technology is present to facilitate this development, in combination with skilled persons, ideas can be carried out and generate income. BTP refers to how big internet companies like Facebook. Google and Apple started, their location was not determining for their success. The Ministry of Economic Development advocates the attraction of education-related services to the island, and link these to the existing universities to create economic spin-off. All these examples and ideas are based on the potential of the Knowledge Zone. The impact that the K-Zone may have on Curaçaos economy, provided that the K-Zone functions as intended.

6.5.3 Sustainable measures that can be attracted into the Zone

The alternative way of doing business that the K-Zone promotes, achieving goals through collaborating, is a sustainable way of developing the island's economy. According to UTS, this vision can attract young professionals because it is a different, original initiative. MEO already indicated they support this kind of business, since it induces efficiency. Cooperation is key for sustainability. You should be careful with your own information, but that does not imply you cannot reach joint goals together. Concentrating organisations within one zone enhances synergy and efficiency, two aspects that are part of sustainability. The K-Zone can be used to promote the sustainable development of Curaçao in the region. If the achieved progress is published linked to the K-Zone, an international image can be built for the K-Zone and for Curaçao as a whole, with the goal of creating financial spin-off.

According to several respondents, the K-Zone should seek connection with upcoming sustainable energy solutions. Measures to introduce sustainable energy on a larger scale are taking place at the moment. If the K-Zone can link partners in sustainable energy solutions to the zone, it would be a good chance to get publicity and show what the K-Zone is about.



For example the possibility for organisations and households to deposit their surplus of solar energy back into the energy grid. These initiatives fit in finding sustainable, long term solutions for Curaçao's development. It also presents a chance for these green energy providers, since they have to put less effort into searching a market or target group, that is already there through the K-Zone.

These green energy solutions are important for the sustainability of the island. Generating energy on the island, and being able to supply the whole island, will make Curaçao less dependent on the import of energy. Examples of green energy solutions available on Curaçao are wind turbines, and the current experiment with deep sea water air conditioning. For implementing these measures, knowledge is required. If this knowledge is linked to the K-Zone, it will also help building the (international) image of the K-Zone and Curaçao. The government already shows interest in alternative, sustainable energy solutions. This is an opportunity for the K-Zone to get involved, or at least get its name linked to these initiatives. It makes the concept bigger and more known, also in the Caribbean region.

Being able to supply for the demand of the island, will make Curaçao less dependent on imports. According to Soltuna, also in the agricultural sector, organisations are striving to produce a year-round supply of fruit and vegetables. So far there is a discontinuity in year-round supply, but with new techniques in the protected growth of vegetables and fruits, seasonality can be reduced. When these techniques are implemented on a larger scale, Curaçao will be less reliant on the import of fruits and vegetables, and increase its resilience through own food production.

6.6 Evaluation and future suggestions of partners

6.6.1 The importance of a zone

In order to evaluate the project and provide future suggestions, it is required to know whether the current set up of the K-Zone is sufficient and able to induce progress. As the concept already describes, the K-Zone consists of a zone, a geographically indicated area on Curaçao. However, to what extent is this zone necessary? If Curaçao is striving to become a knowledge economy, what is the added value of this specific zone? The opinions of the respondents can be roughly divided into three categories of answers. The first answer was that it is important to have a geographic zone indicated as the K-Zone. A zone is especially important for building the image of the K-Zone, for showing potential partners what the zone is about. Clustering all available knowledge within one zone, will boost cooperation and synergy. The second answer was that having a cluster on the island was not needed. Curaçao already is a small island, and if the island as a whole wants to develop itself as a knowledge economy, why should there be one zone exclusively for knowledge and creative industries? Why restricting yourself to a particular Zone? It is an unnecessary limitation. More important should be the connection between organisations on and outside Curaçao. The focus should be on cooperation, not on whether or not an organisation is physically located in the K-Zone. The third answer was somewhere in between. While it is important to have an established zone for, among others, marketing purposes and image building, the zone as it is today should be seen as a starting point. The organisations in the zone are nodes in a widespread (international) network, that all can be connected with the K-Zone.



The size of the zone is still limited, which is a good thing according to six of the respondents. First the initiative should be functioning on a small scale, before developing and expanding.

The Airport Holding called the designated location of the K-Zone initiative the 'showy element' of the project. If people can visually localise the project, it is more easy to identify with it. However more important than the area itself, is the cooperation within the area in the fields of research and development. It is not about the area specifically, that only makes it easier to contain the infrastructure. It is easier to give support if organisations are located within a certain area, and the connection through infrastructure is more efficient. It should not be an issue if a partnering organisation is not located in the K-Zone, as long as you are connected with its partners. This vision is agreed upon by the Jacob Gelt Dekker Institute: a cluster is not important for the K-Zone, especially now a lot of communication can happen through the internet. The most important aspect is communication and knowledge sharing, two means of connection that can be executed digitally. If you can cooperate on certain aspects, it does not matter where an organisation is located. The UNA indicates that from the beginning, the K-Zone was never meant to be an exclusive zone. It was supposed to be a starting point, from which connections could be sought. Important nodes are in the zone, organisations that can bring together their networks. Not being physically in the zone is no problem, as long as you are connected via ICT. The spokesperson of the WTC added that the island as a whole should work together, so that the Zone would become redundant. There are already many organisations on the island that could perfectly well transfer their knowledge, for example through conferences.

6.6.2 Organisational recommendations

At the beginning, the idea of the K-Zone received a lot of enthusiastic responses. There was the energy and drive to make the initiative succeed. However, currently, this enthusiasm has slowed down, most partnering organisations have taken up a wait-and-see attitude. They are curious to know how the initiative will continue. One of the most heard critiques is that there is not invested enough time and energy, which made the project slow down. Several respondents commented that this was typical for Curacao and its culture: everybody is driven at the start, but if there are no incentives, there is no boost, nothing will happen to make the project succeed. One of the respondents indicated that 'A more conscious effort to revisit the project is required'.

The K-Zone should be used more frequently to introduce new projects, share developments and ideas of the partners in the zone. Partnering organisations need to 'keep looking for what is out there that we can put together'. There is a sense of urgency among some of the interviewed partners, but everybody is waiting for another organisation to take the initiative. There is a demand for someone or several people to take up the project again. Action is required to boost the project, it has seized continuity over the last months. Due to the lack of meetings, partners are losing their affinity with the project, since they are not reminded of the progress and developments within the zone. Most of the respondents think the project requires more frequent meetings, the meetings have too much time in between. This results in if one meeting is missed, it will take several months up to a year until the next opportunity to meet again comes up. Together with a lack of communication and follow up information after meetings, partners have only little idea about what is going on. With



organising meetings and conferences, interest is generated. This might encourage partners to take up more responsibility to keep up the continuity of the K-Zone. Even though the initial idea was to have meetings and/or conferences every month, in practice, this has not happened. Meetings need to occur to exchange ideas, knowledge and projects. Meetings can provide a platform on which partners can present what they have been doing, and request additional inspiration or support from partnering organisations.

Respondents have spoken out the need for a clear approach of the K-Zone. A tight plan should be made, with goals that clearly state what the K-Zone wants to achieve. This also implies a structured organisation, getting the K-Zone recognised both by government officials and (potential) partnering organisations. At the moment, even partnering organisations are confused about this, given the fact that the Knowledge Platform has taken partial responsibility for the K-Zone. While the Knowledge Platform is not the same organisations as the K-Zone, from interviews it became apparent that respondents use the names interchangeably. This has led to members of the Knowledge Platform indicating that the K-Zone should become independent. The K-Zone should get an identity of its own and pursue its own goals, 'because Curaçao can really mean something in the area of knowledge, especially in the Caribbean region'.

Becoming an officially recognised organisation also implies setting up an organisational board or a secretary. Currently, most activities are initiated by one person, and partly supported and organised through the Knowledge Platform. For the K-Zone to reach continuity, it should not be completely dependent on one person's initiative. Several respondents have suggested the idea of an organisational board, that is responsible for the continuity of the K-Zone. Therefore it is key to find enthusiast partners that would like to be part of this board. As put by a respondent: 'You need people that are dedicated'. To get an own identity, there is the need to get one established point of reference, where partners can come together. This point of reference used to be at the UNA, but currently there is no substitute location. For the image of the K-Zone it would be good to be established at one location, from where communication can take place, meetings can be held and organised. In order to make this happen, a new boost to communication between partners is required, setting common goals and arrange these necessary measures to become an official organisation. According to the Ministry of Economic Development, having an officially recognised organisation with clear goals, can help in raise funding or request subsidies. Furthermore, part of the plan should entail the financial aspect of the continuity of the K-Zone. For example how to raise funds for meetings, how to generate economic spin off and who to address as a spokesperson of the K-Zone. An organisational board, if put in place, should lobby for financial contributions and set up projects and continuity. It is all about structure and continuity.

Then there is the issue of awareness about the K-Zone. In general, the name of the K-Zone is not established on Curaçao. It seems like only partnering organisations and members of the Knowledge Platform know about the initiative, however, some approached K-Zone partners did not even know they were connected the organisation. In order to make the project successful, (potential) partners need to become aware of the existence of the project, its activities and progress. It is about showing how the K-Zone functions, what knowledge exchange entails and what kind of projects come out of the cooperations. If the



K-Zone organisations can make other organisations realise that cooperation can lead to bigger benefits, the initiative will gain respect and members will propose to become partner in the zone. If the K-Zone functions well on a small scale, it will be easier to expand. Next to organising more frequent meetings, it is important to spread information about the K-Zone and its meeting. Through media, both traditional and social media, attention can be drawn to the achievements and activities of the K-Zone. Even though there is a website, this should be better maintained and kept up to date. There are telecommunication providers present in the K-Zone, so there can be made better use of them for promoting the K-Zone. If the benefits for cooperating partners are made public, potential partnering organisations may identify with this (new) way of doing business, and strive to become a member as well. In order for the K-Zone to become a success, organisations and citizens need to become familiar with the concept of knowledge exchange and the benefits it can bring. After all, the K-Zone does offer network and business opportunities for partners.

6.7 Conclusion

In this chapter, the results of the interviews with K-Zone partners have been presented. In general, these organisations are very positive towards the idea behind the K-Zone, and are enthusiastic to be a partner. However, most of the interviewed partners also indicated that there is not enough progress in the K-Zone, meetings are not frequently organised which leads to fading of interest for the K-Zone. All independent organisations have great potential for developing Curaçao in a sustainable way, but need for a mind shift: learning to cooperate. Furthermore, environmentally sustainable measures could be included and measures can be taken by educational institutions to limit the brain drain. For the future of the K-Zone, it is suggested that there should be met more frequently, as well as getting the organisation officially recognised. Progress should be published so that more people become familiar with the concept and attract potential partners, locally, regionally, internationally.



Chapter 7 – Discussion

7.1 Introduction

This chapter will discuss both the theoretical and practical findings of the research. The gathered data will be evaluated and linked to existing theories. Furthermore, the limitations of the research will be presented and discussed, leading to suggestions for further research on this topic.

The first subsection will relate the research findings to existing discussed theories. Subsection 7.3 looks into the limitations of the research, these will be summed up and elaborated upon. In the next subsection, suggestions for further research on this topic will be given. The chapter finishes with a conclusion.

7.2 Relation findings with existing theory

During the interviews, respondents referred to several strengths and weaknesses of Curaçao's economy and of small islands developing states in general. Furthermore, it was discussed to what extent these interviewed organisations are undertaking action towards building sustainable measures for Curaçao's development. Described characteristics, strengths and weaknesses of Curaçao's economy were confirmed by the respondents, like for example the size of Curaçaoan organisations. The selection of organisations consisted mostly of small- and medium-sized enterprises (SMEs), compatible with the fact that most enterprises (over 95 per cent) in Curaçao are small- or medium-sized (Goede, 2009).

Another issue addressed by the respondents, also shown in theory, is the current investment climate. The international financial crisis was also mentioned by several respondents as one of the foremost reasons why foreign direct investment is lagging behind; with economically uncertain times, companies are hesitant to invest. In combination with the dependence on imports and international trade, this situation brings about economic uncertainty. Furthermore, the financial status of the Curaçaoan government is questionable, especially after a reprimand from the Dutch government about the Curaçaoan budgetary deficit and the since the government is fallen. According to several media, the political instability on the island is growing, combined with the international financial crisis, this makes it difficult to make an estimation of the future of Curaçao's economy.

Due to the fallen government, it remains unsure whether the planned policy aims will be carried out. For example the aims to restructure the tax regime, update the business establishment policy and promote the viability of small and medium-sized enterprises (Curaçao Economic Outlook, 2010). For building resilience and ensure economic development, it is key to enhance resilience by stimulating local economic development and diversification in productive sectors (Pelling & Uitto, 2001). This means pursuing strategic (international) policies (Popma & Van Spijk, 2008), especially in the banking, financial services, transportation and natural and cultural heritage assets (Baldacchino & Bertram, 2009). However, without knowing whether and/or how policy will be implemented, nothing can be said about the steps the Curaçaoan government is taking towards achieving strategic international trade policies. Some of the respondents indicated that if the government does not address the right issues, private organisations should gather attention for these issues and put them on the political agenda, so that non-governmental initiatives can play a role in



attaining sustainable economic development. This has happened already through the Knowledge Platform lobbying to get their view on Curaçao as an information society on the agenda for Curaçao's Master Plan.

The barriers to economic development experienced by other SIDS, are also seen in the interviewed Curaçaoan enterprises and organisations. Several resilience strategies are adopted, for example cooperating in importing to reduce transportation costs. In the field of agriculture, domestic production of fruits and vegetables is increasing and diversifying (Curaçao Economic Outlook, 2010). According to one respondent this is due to an increasing demand, but also to new protected ways of production. Producing fresh products on the island itself, will retain Curaçao from importing fruits and vegetables from abroad. Although importing is still cheaper than producing on Curaçao, investing in agriculture can help diminish the trade deficit, and hereby building economic resilience and food sustainability for the Curaçaoan inhabitants (Curaçao Economic Outlook, 2011).

Another encountered problem for SIDS is the brain drain. Being a small island reduces the opportunity structure, implying that migrants not always return to their home country (Atchoaréna et al, 2008). Between 300 and 400 students leave to study in the Netherlands annually, of which about 5 percent returns to Curaçao. The universities on Curaçao try to get more educational directions accredited, and the Ministry of Economic Development is planning to introduce transnational education long distance education over the internet. This may not only help maintaining human capital on the island, but also attract students from neighbouring islands to follow education on or via Curaçao. Interviewed partners of the Knowledge Zone all confirmed the negative effects that a brain drain has on economic development, especially its comparative advantage to other islands in the region. However, two respondents saw the brain drain not only as negative, migrants are building an international network that may be useful for their own island. Even though the emigration rate is high, emigrants will usually maintain contact with their home island. This connects islands to the wider society (Scheyvens & Momsen, 2008). Furthermore, it is expected that this network will benefit the home islands. When migrants maintain their roots, it is expected that they are willing to put effort in enhancing development (Broad & Cavanagh, 2011). Also, migrants will come back regularly and invest in their home country, for example through buying real estate or invest in social projects. In practice this type of investment rarely happens. There are remittances being sent and to some extent there is a knowledge transfer, mostly to inform people in the country of origin about job opportunities abroad (Gibson & McKenzie, 2010). Then there is the other issue of the limited amount of career prospects for talent (Solimano, 2008a). The group with the biggest re-migrating potential are former island inhabitants (Thorn & Holm-Nielsen, 2008); according to three of the respondents, these are the people Curaçaoan organisations should aim at when looking for talent. However, job conditions are not compatible with those found abroad, one of the reasons referred to why talent does not return after finishing education abroad. Creating job opportunities for the higher educated is key in reducing the brain drain. In order to do this, it is necessary to promote education and improve the investment climate (Docquier et al, 2007).

The K-Zone introduces the creative economy as a potential development booster. Especially the creation of ICT products and services can be a new international market, since



in the digital era no longer requires a specific place for production. ICT can facilitate economic and social growth and transformation; enable global competitiveness and advance educational and social mobility based on meritocracy (Commosioun & Duggan, 2008). It is argued that A well-functioning ICT infrastructure and sector is internationally considered as a pillar of economic growth and competitiveness (UNCTAD, 2010). According to five of the respondents, ICT offers new business opportunities. Especially the creating of new content and selling this, may be an interesting business opportunity. New communication technologies give room for the development of creative products, which can be sold internationally. Curaçao is busy becoming a hub for digital infrastructure, hoping to attract companies that create digital content. Both in theory and by telling of the respondents, this sounds as an interesting opportunity. In practice, legislation is required to make ensure property rights for this digital sector. Actually, this opportunity entails a paradox as well. If producing on a specific place becomes less important because of the widespread digitalisation, the need for organisations to establish themselves on Curaçao diminishes as well. ICT enables these companies to create content anywhere, implying that Curaçao should create the additional value to attract these companies. Perhaps a well-functioning legislation, presence of other businesses in the creative sector (flourishing K-Zone) and attractive tax policy can convince potential organisations to choose for Curaçao.

Just as other, relatively successful SIDS like Aruba and Barbados, Curaçao is developing a Master Plan for economic development. Part of this Master Plan entails ICT measures, lobbied for by members of the Knowledge Platform. The Master Plan will probably entail the reduction of public spending, attracting foreign direct investment, improve infrastructure (including ICT), improve the logistic functioning, reform of the tax system and the aim for growing awareness among the population (Goede, 2011a). Although these plans are made, execution of the Master Plan is still expected. Furthermore, all mentioned measures taken by members of the Knowledge Zone will improve the resilience of Curacao, however these measures are taken by individual organisations (with exception of the Knowledge Platform).

All above mentioned initiatives and steps towards a more sustainable development of Curaçao, are taken by partners of the K-Zone. However, these steps have not been linked to the K-Zone. Therefore, individual organisations within the K-Zone may undertake successful action towards sustainable development, the K-Zone does not play a role in this. If the K-Zone would not exist, these actions would have happened anyway. So what is then the additional value of the K-Zone? What is its potential for contributing to the sustainable development of Curaçao? Key for the K-Zone is to present this progress as part of achievements of the K-Zone, and seek media attention to get the general public enthusiast about the initiative. This will help in raising awareness among potential partners, and also among citizens, ensuring a broad support for the project. Publishing about progress will also induce a gain in self-confidence and pride for the Curaçaoan inhabitants, that a small island is capable of achieving progress through own initiatives.

The vision of the K-Zone is that Curaçao will become an international Centrum of Excellence. It has potential for this since it is geographically connected to the English, Spanish, and French Caribbean, and to the European Union through the Netherlands (Knowledge-zone.com, 2012). The goal is to create a vibrant zone, by clustering creative-



and knowledge-intensive organisations within one zone and connect them (Goede et al, 2012). Cooperation and networking can create synergy, which can be beneficiary for companies on SIDS. The international sharing of information, ideas and influence gets an impulse through new communication means (UNCTAD, 2010).

Cooperation between creative organisations should be the driving force behind the zone, making the zone a centre for research, innovation and development. This cooperation does not necessarily have to take place within the zone. A significant amount of partners is located outside the zone, but is connected anyway. This may cause confusion among partners about the necessity of a designated area, but in general it is clear that it is the connection that counts. This connectivity appeared to be an issue as well. The official strategy of the K-Zone entails frequent meetings and attracting new partners. Attracting knowledge-driven companies both within and beyond the geographically designated area that can contribute to and further develop the K-Zone. In practice however, only few meetings have been organised, leaving the partnering organisations with a need for more contact. There is curiosity among respondents about the business developments of partnering organisations, but no opportunity is offered to come together and exchange information or discuss potential cooperation. Altogether, there is no real progress in the K-Zone itself. Even though there are many separate initiatives taken by partnering organisations, it is not synchronised. If all these initiatives were connected through the K-Zone, it would happen more efficient and would imply advantages for the Curaçaoan economy.

The limited networking opportunities leaves some indistinctiveness among the partnering organisations. According to the K-Zone strategy, the creative economy is seen as a potential development instrument, while in practice everybody is still expecting to form a knowledge economy. This implies that it is necessary that partnering organisations need to know the exact goal and strategy of the K-Zone, and the role they can play in this. So far, there is too much confusion about who is leading the zone, what is expected from organisations and how they can contribute or benefit from the initiative.

As indicated in the previous chapter, there is a need for the K-Zone to develop its own organisation with accompanying image. Currently the organisation is linked to the Knowledge Platform. Efforts of the Knowledge Platform keep the K-Zone going but not on the same level and frequency as it used to be and it should be. There is a lack of possibilities for partnering organisations to meet. This leads to the overall thought among partners that the K-Zone could contribute to the island's overall development in theory, but does not help in real life. The idea behind the K-Zone is widely supported among partnering organisations, but these organisations are waiting for something to happen. Because it is not clear for them what a partnership exactly entails, they do not know how to contribute themselves or how to start initiatives for projects through the K-Zone. This explains that if partnerships are established between partnering organisations, these do not run through the K-Zone. Even when these cooperations take place within the K-Zone, organisations do not link their effort to the K-Zone. With the UNA not being the initiator anymore, companies themselves could take responsibility for organisation and meetings, but the incentive is missing. The effect is that currently, no effort is taken in carrying out the strategy and goals of the Knowledge Zone.



7.3 Limitations of this study

Reflecting on the research process and results, there are some limitations to be mentioned about this study. The first limitations consider the theoretical part about Curaçaos economy. There are two aspects that have hindered a more thorough analysis of the economic strengths, weaknesses and opportunities. The first one is that there were gaps in the data. For certain years, no data were present, making it difficult to give a complete overview of the economic situation of the last 10 years. This disadvantage was also referred to by the International Monetary Fund, when evaluating Curaçaos economy in 2011 (IMF, 2011). For this study, due to missing data, linkages that would give in-depth insights in Curaçaos economic structure, could not be made. For example data about the educational level of the unemployed, and the level of job vacancies; and the educational level of immigrants and emigrants for further elaborating upon the brain drain; but also data on the amount and frequency of remittances sent back by migrants. Not only were data from certain subjects and years missing, a significant amount of data reflected the whole of the former Netherlands Antilles, including data for Bonaire, Saba, St. Eustatius and St. Maarten. Even though Curaçao was the most important economic centre of the Netherlands Antilles, data of these islands together provide a biased image of the situation on Curaçao. Since Curaçao has only recently become a self-governed state within the Kingdom of the Netherlands, only few data was present that was presented after becoming an autonomous country. The effect of relatively new policies, implemented after October 10th, 2010, could not be included in this study.

A second limitation of this study is the amount of respondents interviewed. Interviewing 12 out of 45 potential respondents, does not give a complete overview of how partners experience the K-Zone, how they contribute to it and how they can benefit from it. It is a shame that the K-Zone is not more well-known on Curaçao. Even among approached partners, the awareness about the initiative was not widespread. This led to limited enthusiasm to participate in this study.

Then there is the limitation of a lack of hands-on examples from other SIDS. There are no practical examples available of how other SIDS have tackled problems linked to their geographical position and small number of inhabitants. There were no practical examples that could benefit Curaçao, most inspiration was aimed at developing a master plan for development.

7.4 Recommendations for further research

Following naturally from the limitations of this study, recommendations for further research can be made. In order to gain more theoretical understanding on the development potential of small islands developing states, a study on how a creative economy can contribute to the economy of SIDS can be conducted. Furthermore, searching for best practices of similar initiatives like the K-Zone, may introduce inspiration for continuation of the K-Zone.

More practical research considering the K-Zone should be aimed at how a new strategy can be formed. This contains approaching all existing partners again, get them together and form a strategic plan with accompanying responsibilities for partnering organisations. What type of economic sectors can be included, and who should take



responsibility for carrying out this new strategy? Also, research may be conducted on how to improve the marketing of the K-Zone. This can happen perhaps through finding connection with other platforms on Curaçao like for example the Board for Sustainable Development, the Human Resources Network (HR Network) and the Economic Platform.

7.5 Conclusions

Findings of the practical part of this study have similarities with assumptions made from existing theories. It shows the barriers that SIDS have considering economic development, and how a brain drain may not be necessarily disastrous for a developing country. Furthermore, there awaits a challenge for continuation of the K-Zone. A newly boosted strategy is required, including responsibilities for partnering organisations. Although interviewed partners are supporting the initiative, it is highly recommended to implement structure in order to make the K-Zone a success.



Chapter 8 – Conclusion

8.1 Introduction

This study has looked at the potential of a creative economy for the development of a SIDS, the island Curaçao. The main research question in this study was 'What potential does the Knowledge Zone project offer towards the sustainable economic development of Curaçao?'. In order to answer this main research question, it is required to have insight in Curaçao's economy, what its strengths and weaknesses are and what opportunities can impute economic development. Furthermore, looking at other SIDS can help understand why SIDS are disadvantaged, but also through what type of strategies these disadvantages can be overcome. Before looking at the potential of the K-Zone, it is required to gain insight in how a creative economy can boost the economic development of SIDS. Then the potential of the K-Zone can be analysed from the perspective of partnering organisations. This chapter will answer the main research question through discussion the sub research questions, represented by the different paragraphs below.

8.2 Curaçao's economic strengths and weaknesses

Curaçao's economic structure is characterised by the presence of many small and medium-sized enterprises. Its GDP consists for a large part of contributions by the services sector (including tourism) and benefits from the oil refinery sector. Services are the most interesting sector since Curaçao is only a small island with limited natural resources and a limited amount of workforce. For answering the question 'What does Curaçao's economic structure look like and which strengths and weaknesses influence its development?', it should be noted that Curaçao produces relatively little itself, and is therefore dependent on imports. This has as a consequence that international fluctuations, such as the current international financial crisis, can have an impact on Curaçao's economy, since it is dependent on what happens in the global economy. Another weakness is the brain drain. Since Curaçao does not offer enough opportunities for its skilled workforce and talented students, they will seek their opportunities elsewhere. Every year about 300 students leave to study abroad, of which only a small percentage will come back to work on Curaçao. They can stay connected however, and stimulate Curaçao's economy through sending remittances, or get involved in investment and trade. Unfortunately there is no data available about the extent to which this international networking is taking place. Strengths and opportunities for Curaçao are the growing amount of tertiary education attendants, and the opportunity for creating ICT services. This reduces the barrier of transportation costs when exporting (intangible) goods and services.

8.3 Threats and opportunities encountered by SIDS

Small Island Developing States are disadvantaged because of their geographical position. Being a small island means there are only limited opportunities for production and economies of scale. Combined with a small population number, products usually need to come from elsewhere. This implies reliance on imports, which are accompanied by high transportation costs. Furthermore, being dependent on imports makes a country more vulnerable for international price fluctuations. International crises will therefore always affect SIDS. Then



there are limited opportunities for the talented and higher educated, making it more likely for them to migrate for better opportunities. This can result in a brain drain, which is highly plausible since Caribbean SIDS experience the highest brain drain rate globally.

From theory can be derived that SIDS may benefit from being an island because it makes them an interesting tourist attraction, a characteristic that is linked to the potential for a creative economy since tourism is part of this type of economy. Furthermore, new digital ways of creating products and services offer a business opportunity for island inhabitants, since location is not important in this sector. There are only few hands-on examples of strategies by other SIDS from which Curaçao can draw inspiration. The most common successful strategy that is implemented by more successful SIDS like Singapore, Barbados and Aruba, is to implement a Master Plan that covers multiple aspects of economic development. Curaçao is currently setting up a master plan, which provides an integrated approach to uplift multiple aspects of the economy at the same time.

8.4 Solutions of the K-Zone project

The K-Zone project was brought into life with the aim of boosting the knowledge- and creativity-driven economy on the island. Economic challenges such as high transportation costs and limited resilience to international influences, are tried to be reduced through cooperation between organisations. Knowledge exchange induces a more efficient way of working, especially when only having a limited amount of people to work with, which is the case when being located on an island. Cooperation of organisations in creativity- and knowledge-intensive sectors, can boost the creative economy of Curaçao, making it an attractive hub in the Caribbean region.

In practice however, partners of the K-Zone do not meet frequently enough to set up this type of cooperation. Real solutions to the identified problems of resilience building for SIDS, are therefore not offered by the K-Zone. However, looking at all initiatives towards sustainable development of Curaçao independently, there is put a lot of effort into finding more sustainable ways of developing Curaçao. Investment in (transnational) education to limit the brain drain, working on new ways to have year-round production of locally grown fruits and vegetables, and projects that provide green energy solutions, are all examples of steps towards (economic, environmental, social) sustainable development on Curaçao. If these efforts could be combined and linked to one another under the umbrella project of the K-Zone, knowledge exchange could further boost these developments and also give Curaçao an image that is more respected regionally and internationally.

Altogether, the K-Zone does not specifically address economic and social barriers that come with being a SIDS. Measures taken are first and foremost aimed at having the knowledge- and creativity-intensive sectors function more effectively, and by doing so, indirectly strive for attracting and maintaining human capital. There is no clear strategy for actually attaining a knowledge- or creative economy. As indicated, currently this only happens indirectly and will sustain only if the K-Zone is functioning as initially intended.

8.5 Suggestions for improvement

From interviews with partnering organisations became apparent that all organisations are supportive of the K-Zone initiative. To make it succeed however, meetings should be planned



more frequently. Currently, there is no organisational board that takes responsibility for the continuity of the K-Zone. This is a necessary requirement for continuity of an organisation though. An often heard suggestion for improvement of the K-Zone is setting up an organisation that takes responsibility for communication, meetings and conferences, and making the initiative financially viable.

In order to do so, all developments in the K-Zone should be made public. Including publicity in the strategy is of huge importance, since it may generate support among partners, potential partners and wider society. If progress is published, more organisations will become interested in the K-Zone, something that might be useful from a financial perspective as well. Furthermore, if the K-Zone is connected to sustainable environmental development, green energy solutions, it will get more support from civil society as well. In the future, the K-Zone may expand, but only when it is functioning on the scale it is now.

Even though there is enthusiasm among partnering organisations, and there is potential for making the initiative a success, a critical look should be taken on the additional value of the K-Zone for Curaçao's economy. So far, cooperation between partnering organisations has happened without interference of the K-Zone. This implies that cooperation will happen anyway, regardless of the existence of a designated zone. Partnering organisations do not rely on the organisational structure of a K-Zone. According to the respondents, it has potential to succeed in theory, but without frequent input from an organisational board (instead of one person responsible), the K-Zone will not create additional value for Curaçao's economy.

8.6 Conclusion

Both from theory and from practice, the K-Zone has potential to uplift a small island developing state. However, what is needed is more cooperation, that can generate synergy. This can be made possible through making the K-Zone an official organisation, with frequent meetings, a strategy, clear responsibilities for partnering organisations and clear goals.



References

- Atchoaréna, D., P. Dias Da Garça and J. Manuel Marquez (2008) Strategies for post-primary education in small island developing states (SIDS): Lessons from Cape Verde, *Comparative Education*, Vol.44, No.2, pp.167-185
- Babbie, E. (2004) *The practice of social research, (10th edition)*, California: Wadsworth
- Baldacchino, G. and G. Bertram (2009) The Beak of the Finch: Insights into the Economic Development of Small Economies, *The Round Table*, Vol.98, No.401, pp.141-160
- Beine, M., F. Docquier and H. Rapoport (2007a) Brain drain and human capital formation in developing countries: winners and losers, *The Economic Journal*, No.118 (April), pp.631-652
- Beine, M., F. Docquier and H. Rapoport (2007b) Measuring international skilled migration: new estimates controlling for age of entry, *World Bank Economic Review*, Vol.21, No.2, pp.249-254
- Bhagwati, J. and K. Hamada (1974) Brain drain, international integration of markets for professionals, *Journal of Development Economics*, Vol.1, No. 1-2, pp.19-42
- Blaikie, N. (2010) *Designing Social Research (2nd edition)*, Cambridge: Polity
- Briguglio, L., G. Cordina, N. Farrugia and S. Vella (2008) Profiling vulnerability and resilience in small states, in: J.R. Pillarissetti, R. Lawrey, J.T. Siew Yean, S.A. Siddiqui and A. Ahmed (eds.) *Small Economies and Global Economics*, New York: Nova Science Publishers
- Broad, R. and J. Cavanagh (2011) Reframing Development in the Age of Vulnerability: from case studies of the Philippines and Trinidad to new measures of rootedness, *Third World Quarterly*, Vol.32, No.6, pp. 1127-1145
- Cameron, F.R. (2011) Saving the 'disappearing islands': Climate change governance, Pacific Island states and cosmopolitan dispositions, *Journal of Media & Cultural Studies*, Vol.25, No.6, pp. 873-886
- Caribbean SIDS (2011)
Retrieved from <http://sidsgg.webs.com/>
- Centraal Bureau voor de Statistiek (2006) CBS Labour Survey 2006
Retrieved from http://www.Curacao-gov.an/images/dez/openarms/OpenArms_PDF_2008.pdf
- Centraal Bureau voor de Statistiek (2009) National Accounts Netherlands Antilles 2000-2006,
Retrieved from
<http://www.cbs.cw/cbs/themes/Economy/Publications/NationalAccounts2006.pdf>



Centraal Bureau voor de Statistiek (2012) Statistical Orientation Curacao 2010-2012

Retrieved from

<http://www.cbs.cw/cbs/themes/General/Publications/General-2012030632405.pdf>

Cole, R.V. (1993) Economic Development in the South Pacific Promoting the Private Sector, *World Development*, Vol.21, No.2, pp.233-245

Commosioug, M. and E.W. Duggan (2008) Increasing Competitiveness in SIDS by Building ICT Resilience: An Extension of the Vulnerability Hypothesis Framework, *The Round Table*, Vol.97, No.396, pp.397-417

Cunningham, S. (2002) From Cultural to Creative Industries: Theory, Industry, and Policy Implications

Retrieved from: <http://eprints.qut.edu.au/588/>

Curacao International Film Festival Rotterdam

Retrieved from <http://www.curacaoiffr.com/>

Curiel, G. (2005) Sustainable development, a new development path for Curaçao, *Een aanzet tot integrale ontwikkeling; Bezien vanuit het Caribische deel van het Koninkrijk*, University of the Netherlands Antilles, Curacao

Curaçao Economic Outlook (2009) Economic Turnaround, Opportunities and Risks

Retrieved from

http://www.curinvest.com/files/curacao_economic_outlook_2009__1280950399.pdf

Curaçao Economic Outlook (2010) The Crossroad to an Autonomous Country within the Dutch Kingdom

Retrieved from

http://www.curinvest.com/files/curacao_economic_outlook_2010__1281031646.pdf

Curaçao Economic Outlook (2011) En route towards the strengthening of the economic structure of new country Curaçao

Retrieved from http://curinvest.com/downloads/curacao_economic_outlook_2011.pdf

Docquier, F. and A. Marfouk (2005) International Migration by Education Attainment 1990-2000,

Retrieved from http://perso.uclouvain.be/frederic.docquier/filePDF/DM_ozdenschiff.pdf

Docquier, F., O. Lohest and A. Marfouk (2007) Brain Drain in Developing Countries, *The World Bank Economic Review*, pp.1-26.



Ehounou, M.E. and J.L. McElroy (2008) The advantages of diversification: Profit/Site versus MIRAB small-island profiles, in: J.R. Pillarisetti, R. Lawrey, J.T. Siew Yean, S.A. Siddiqui and A. Ahmed (eds.) *Small Economies and Global Economics*, New York: Nova Science Publishers, pp. 167–176

Florida, R., C. Mellander and K. Stolarick (2007) Inside the black box of regional development – human capital, the creative class and tolerance, *Journal of Economic Geography*, Vol.8, No.5, pp.615-649

Garnham, N. (2005) from cultural to creative industries, an analysis of the implications of the 'creative industries' approach to arts and media policy making in the United Kingdom, *International Journal of Cultural Policy*, Vol. 11, No. 1, 2005

Gibson, J. and D. McKenzie (2010) The Economic Consequences of 'Brain Drain' of the Best and Brightest: Microeconomic Evidence from Five Countries, *The Economic Journal, Special Issue: Foundation of Revealed Preference*, Vol. 122, Issue 560, p. 339-375

Goede, M. (2008) Globalization of small islands: the case of Curaçao, *International Journal of Social Economics*, Vol.35, No.5, pp.344-363

Goede, M. (2009) Can Curaçao become a Creative Economy? A case study, *International Journal of Social Economics*, Vol.36, No. 1/2, pp. 47-69

Goede, M. (2011a) Globalization of small islands: the role models of Curaçao, *International Journal of Commerce and Management*, Vol.21, No.2, pp.192-212

Goede, M. (2011b) The dynamics of organizational change in small developing islands: the case of Curacao, *Caribbean Studies*, Vol.29, Nos.1-2

Goede, M., R.J. Neuwirth, and G. Louisa (2012) The creation of the Knowledge Zone of Curaçao: the power of a vision, *Journal of Information, Communication and Ethics in Society*, Vol.10, No.1, pp.52 - 64

Groenewegen, J., A. Spithoven and A. van den Berg (2010) *Institutional Economics, an Introduction*, New York: Palgrave MacMillan

Harrison, D. (2003) Themes in Pacific Island tourism, in: D. Harrison (ed.) *Pacific Island Tourism* (pp. 1–23). New York: Cognizant Communication Corporation

Healy, K. (2002) What's New for Culture in the New Economy? University of Arizona, July 2002

Retrieved from: <http://www.kieranhealy.org/files/drafts/culture-newecon.pdf>

Knowledge Zone Curacao (2012)



Retrieved from: <http://www.knowledge-zone.com/>

Krugman, P. and M. Obstfeld (2003) *International Economics, Theory and Policy* (6th edition), Addison Wesley

Mellander, C. and R. Florida (2006) The Creative Class or Human Capital? Explaining Regional Development in Sweden
Retrieved from <http://www.infra.kth.se/cesis/documents/WP79.pdf>

Mercer, J., D. Dominey-Howes, I. Kelman and K. Lloyd (2007) The potential for indigenous and western knowledge in reducing vulnerability to environmental hazards in small island developing states, *Environmental Hazards* 7, pp.245-256

Miles, M.B. and A.M. Huberman (1994) *Qualitative Data Analysis: An Expanded Sourcebook* (2nd edition), London: Sage

O'Reilly, K. (2005) *Ethnographic Methods*, New York: Routledge

Orozco, M., L. Lowell, M. Bump, and R. Fedewa (2005) *Transnational Engagement, Remittances, and Their Relationship to Development in Latin America and the Caribbean*. Institute for the Study of International Migration, Georgetown.

Pelling, M. and J.I. Uitto (2001) Small island developing states: natural disaster vulnerability and global change, *Environmental Hazards*, No.3, pp. 49-62

Pillarisetti, J.R., R. Lawrey, J.T. Siew Yean, S.A. Siddiqui and A. Ahmed (eds.) (2008) *Small Economies and Global Economics*, New York: Nova Science Publishers

Policy brief Curacao Information Society (2012)

Popma, M. and J. Van Spijk (2008) Globalization and Governance: Challenges for Small States, in: J.R. Pillarisetti, R. Lawrey, J.T. Siew Yean, S.A. Siddiqui and A. Ahmed (eds.) *Small Economies and Global Economics*, New York: Nova Science Publishers

Rotte, and M. Vogler (2000) Effects of Development on Migration: Theoretical issues and new empirical evidence, *Journal of Population Economics*, Vol.13, No.3, pp.485-508

Salimano, A. (2008a) Causes and Consequences of Talent Mobility, in Solimano, A. (2008) *The International Mobility of Talent: Types, Causes, and Development Impact*, Oxford: Oxford University Press

Scheyvens, R. and J. Momsen (2008) Tourism in Small Island States: From Vulnerability to Strengths, *Journal of Sustainable Tourism*, Vol.16, No.5, pp.491-510



Siems, T. and A. Ratner (2006) Strengthening Globalization's Invisible Hand: What Matters Most? Developed financial markets, human capital, access to technology, and strong legal systems are essential for healthy economic growth, *Business Economics*, October 2006, pp. 16-28

Thorn, K. and L.B. Holm-Nielsen (2008) International Mobility of Researchers and Scientists: Policy Options for Turning a Drain into a Gain, in Solimano, A. (2008) *The International Mobility of Talent: Types, Causes, and Development Impact*, Oxford: Oxford University Press

Tvede, L., (2010) *Supertrends; Winning investment strategies for the coming decades*, Wiley, United Kingdom

University of the Netherlands Antilles (2012) Total students per faculty
Retrieved from: <http://www.una.an/>

United Nations Development Program (UNDP) (2011) Millennium Development Goals Report Curaçao and Saint Martin
Retrieved from <http://www.undp.org.tt/NA/MDGReportCURandSXM.pdf>

UNESCO (2010) Curacao
Retrieved from <http://www.unesco.org/en/university-twinning-and-networking/access-by-region/latin-america-and-the-caribbean/curacao/unesco-chair-on-caribbean-smalls-island-development-897/>

Versgeperst.com – Red carpet service voor vergunningen (25-3-2011)
<http://www.versgeperst.com/nieuws/96739/red-carpet-service-voor-vergunningen.html>

Versgeperst.com 29-6-2011: Verbetering investeringsklimaat door projecten
<http://www.versgeperst.com/nieuws/108942/verbetering-investeringsklimaat-door-projecten.html>

Versgeperst.com 28-11-2011 : Testen van digitale vergunningenloket
<http://www.versgeperst.com/nieuws/130120/testen-van-digitale-vergunningenloket.html>

XE Currency Converter (2012)
Retrieved from www.xe.com



Appendix I: Economic data and specified added value to GDP

Area	444 (km ²)	Population, thousand (2010)	142
Percent of population below age 15 (2010)	21.0	Literacy rate, in percent (2010)	96.7
Percent of population aged 65+ (2010)	12.2	Life expectancy at birth, male (2010)	73.3
Infant mortality, over 1,000 live births (2010)	9.0	Life expectancy at birth, female (2010)	80.3

	2007	2008	2009	2010	2011	2012
					Proj.	
Real economy (change in percent)						
Real GDP 1/	2.7	2.6	-1.3	0.4	0.1	0.7
Private consumption	9.2	2.7	-4.5	8.9	1.0	1.2
Public consumption	11.7	-0.4	-1.3	1.6	-7.0	1.0
Gross fixed investment	2.6	13.1	4.0	-0.9	1.8	1.1
Net foreign balance 2/	-5.6	-3.1	0.7	-6.9	-0.1	-0.7
CPI (12-month average)	3.0	6.9	1.8	2.8	2.8	3.7
Unemployment rate (in percent)	12.4	10.3	9.7	10.1	10.5	10.3
General government finances (in percent of GDP) 3/						
Primary balance	1.4	1.2	10.2	7.3	1.3	1.7
Overall balance	-1.8	-1.7	7.6	5.4	0.0	0.8
Public debt	56.3	52.6	47.3	34.6	33.6	31.4
Balance of payments (in percent of GDP)						
Trade balance	-43.7	-42.9	-37.0	-41.3	-40.7	-40.9
Exports of goods	33.3	23.5	23.1	24.9	25.8	26.6
Imports of goods	76.2	60.6	64.4	65.6	66.8	67.5
Current account	-21.0	-26.4	-16.7	-30.9	-29.2	-28.5
Capital and financial account	16.4	25.4	8.8	20.5	28.3	24.3
Net FDI	4.4	5.2	1.7	2.5	2.0	3.5
Net official reserves (in millions of U.S. dollars)	688.1	853.7	929.4	959.7	1,003.0	953.8
(in months of next year's imports of goods)	3.8	5.9	5.9	5.8	5.7	5.1
(In percent of short-term debt)	458.6	603.0	626.1	663.7	620.9	557.3
External debt (in percent of GDP)	33.7	30.5	26.9	54.6	62.0	65.5
Memorandum items:						
Nominal GDP (in millions of U.S. dollars)	2,593	2,831	2,869	2,951	3,047	3,179
Per capita GDP (change in percent)	1.3	1.9	-1.6	-0.2	-0.2	0.6
Real effective rate (2007=100)	100.0	96.2	93.8	100.1
Fund position	Curacao is part of the Kingdom of the Netherlands and does not have a separate quota.					
Exchange rate	The Netherlands Antilles guilder is pegged to the U.S. dollar at NA f. 1.79 = US\$1.					

Sources: Data provided by the authorities; and IMF staff estimates.

1/ Based on IMF staff estimates of deflators.

2/ Contribution to GDP growth.

3/ Data from 2007-2010 reflect the fiscal operations of the local island government. Data from 2011 onwards refer to the new island government that has integrated the fiscal operations of the previous central government of the Netherlands Antilles.



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Non-financial corporations											
Agriculture, fishing, mining	31.1	22.7	21.6	20.7	23.5	22.8	24.7	30.1	29.8	30.3	30.0
Manufacturing	307.3	289.2	274.0	293.8	254.3	341.6	336.0	411.2	417.3	401.4	445.1
Electricity, gas, water	179.1	155.4	162.5	143.4	173.1	167.7	169.3	150.4	161.2	170.0	172.7
Construction	1681.7	192.5	173.6	167.9	223.8	210.0	234.9	295.7	290.9	282.4	287.7
Trade	461.5	429.2	406.9	415.5	449.0	451.8	435.8	603.6	581.3	631.0	671.5
Hotels and Restaurants	106.0	89.8	100.7	101.8	120.7	132.1	140.5	207.9	198.9	212.4	224.5
Transport, storage, communications	326.8	364.3	367.5	285.7	286.9	341.8	323.2	475.1	504.7	516.1	536.7
Real estate, renting, business activities	294.4	279.3	295.4	413.7	302.9	308.3	336.9	336.6	365.0	368.1	367.6
Education private	8.7	10.7	13.8	19.8	16.4	21.9	21.6	24.5	25.0	26.7	27.3
Health and social work	165.6	163.2	157.9	161.2	169.1	181.0	178.2	235.9	247.5	245.9	252.6
Other community, social, personal service activities	106.3	114.6	113.4	149.1	142.5	154.9	140.8	157.0	162.1	174.4	178.6
Value added, gross, market prices	2186.5	2110.9	2087.2	2172.6	2162.2	2333.9	2341.9	2958.1	2986.2	3067.1	3194.4
Financial corporations											
Financial intermediation	647.5	718.3	797.1	775.1	924.3	829.6	998.8	735.1	739.4	768.1	784.3
Value added, gross, market prices	647.5	718.3	797.1	775.1	924.3	829.6	998.8	735.1	739.4	768.1	784.3
Government											
Agriculture	0.6	0.6	0.8	0.6	0.8	0.9	1.7	1.1	1.2	1.1	
Transport, storage and communications	11.3	9.4	10.6	10.1	10.3	9.5	6.5	6.7	7.3	9.7	
Real estate, renting and business activities	1.9	3.2	4.5	3.5	4.4	4.4	3.9	3.3	3.7	3.1	
Public administration and defence; social security	243.0	244.5	268.6	268.2	299.3	310.1	322.9	334.9	355.3	391.2	
Education	48.3	51.8	63.3	63.0	66.4	74.4	78.5	79.5	85.4	89.5	
Health and	62.6	60.9	65.0	53.2	58.9	59.2	63.0	60.2	58.7	65.6	



social work											
Other community, social and personal service activities	39.8	35.8	38.0	40.3	42.7	43.9	43.9	53.6	54.9	48.7	
Value added, gross, market prices	407.5	406.2	450.8	438.9	482.8	502.5	520.3	539.3	566.4	608.8	599.5
Households and non-profit institutions serving households											
Agriculture and fishing	0.6	0.8	0.8	0.5	0.8	1.3	0.9	1.0	1.0	1.0	
Manufacturing	0.5	0.6	0.4	0.4	0.4	0.6	0.5	0.6	0.6	0.7	
Construction	0.8	0.9	0.9	0.6	1.5	1.9	1.2	1.0	1.0	1.1	
Trade	6.5	6.8	5.1	6.6	13.2	13.4	10.6	13.0	13.0	13.5	
Hotels and restaurants	4.6	4.5	4.6	3.1	5.4	6.8	2.1	2.3	2.3	2.5	
Transport, storage communications	15.5	15.6	16.0	16.0	16.8	17.1	15.5	15.5	15.5	16.2	
Real estate, renting business activities	286.4	283.6	266.2	303.2	314.1	344.9	358.1	372.2	371.9	388.5	
Health and social work	1.0	1.4	1.7	2.0	1.6	1.9	1.1	1.4	1.4	1.5	
Other community, social personal service activities	15.7	14.1	16.4	14.6	15.7	13.7	13.3	13.0	12.9	13.5	
Private households	13.1	12.0	12.1	13.7	12.1	11.0	9.7	9.6	9.6	10.0	
Value added, gross, market prices	334.7	340.4	325.1	360.7	381.6	412.5	413.0	429.5	429.3	448.4	468.9
Total Value Added gross, market prices											
Plus taxes, less subsidies	368.0	379.8	367.3	348.2	348.8	426.2	478.0	535.2	546.3	534.6	540.6
Minus Fisim	99.4	87.8	85.8	90.9	96.8	105.6	108.1	125.4	131.8	144.1	148.6
GDP, market prices	3836.8	3867.8	3941.8	4004.5	4202.8	4399.0	4643.0	5071.8	5135.8	5282.9	5439.1



Appendix II – Partners of the K-Zone

ABC Busbedrijf
ACU
Airport
Aqualectra
Banco di Caribe
Bloedbank
Bureau Telecommunicatie & Post
Caribbean University
Carmabi
CPS
CTB/Chata
DEZ
Dialyse Center
Extra
FKP
Gemeente Rotterdam
GGD
Giro
Hagen DESIGN & STRATEGY
Hilton
Hospitaal
ICT Platform
IFE
Jacob Geltdekker Institute
La Prensa
La Tentashon
Luna Blou
Mariott
MCB
Meteo
Museum Curacao
Museum Kura Hulanda
NASKO
Renaissance
Selikor
SKO
Sociaal Kennis Centrum
Soltuna
Stimul-IT
SVB
TV11
UNA
USONA
UTS
WTC
Z86