



# **Enabling Inward Development in the Planning System and Practice of the Seychelles**

## **An Examination of Processes and Instruments from Switzerland**

Steven Hawkes

Leading Supervisor: Dr. sc. ETH Markus Nollert

Co-supervisors: Dr. sc. ETH Pius Krütli, Manuela Ronchetti

**Master Thesis**

**Course Spatial Development and Infrastructure Systems**

**August 2019**

Source of title image: Seychelles Planning Authority (2019a)



## Abstract

Efforts to implement the policies of the Seychelles Strategic Land Use and Development Plan and Victoria Masterplan introduced in 2016 are currently coinciding with the long-standing endeavour of the Seychelles Planning Authority to revise existing planning legislation and bring Land Use Plans as well as Development Plans into a binding form.

This thesis picks up the goals pertaining to sustainable development and the efficient use of land in the Strategic Land Use and Development Plan and Victoria Masterplan and puts them in perspective to inward development, the paramount principle of Swiss planning. From this starting point it outlines the planning frameworks of Switzerland and the Seychelles with their constituent parts and practices. For the Seychelles, a particular emphasis was laid on the current transitions in the planning system and practice as well as the current trends and circumstances of settlement development itself. This included a calculation of the settlement reserves of the Seychelles.

Based on these elements, the thesis analysed if the framework is suitable for achieving the goals from the mentioned plans and for achieving inward development more generally. From this, the main challenges identified to sustainable settlement development in the Seychelles were a lack of instruments to contain settlement development within certain boundaries and the ability to bring inward development projects to implementation.

Subsequently, it was explored if a meaningful contribution to addressing these challenges could be made by adapting some of the instruments and practices used in Swiss planning for ensuring inward development to the Seychelles. From the two challenges, two principal solutions were derived. On the one hand, the compiling of approaches to concentrate the settlement growth within certain boundaries by increasing materialisation within these boundaries and enabling the restriction of development outside them. On the other hand, the formulation of an integrated framework designed to bring about the implementation of inward development projects. This framework consists of two models: a strategic one on the district level and a more applied one on the plot level. The latter was subsequently tested with the help of three test study sites.

The results from the analyses as well as the adaption of the Swiss instruments to the context of the Seychelles could be summarised in three main findings. Firstly, that the planning instruments of the Seychelles are on a steady path to forming a coherent framework if attention is given to the implications of formalising them. Secondly, that adaptations to planning practice are necessary if settlement development is to be sustainable, in particular ensuring that settlement development is largely contained within certain boundaries. Finally, in order to ensure the implementation of inward development projects the availability of formal instruments for securing results was revealed to be of great value while availability of informal procedures is also advantageous.

The thesis also produced insights for Swiss planning practice, in particular the importance of the Swiss maxim of the division of the building zones from the non-building zones and the advantages of organising land use planning on a more regional level.

# Table of Contents

<b>1</b>	<b>Introduction.....</b>	<b>1</b>
1.1.	Background .....	1
1.2.	Research Question .....	2
1.3.	Thesis Structure and Methodology .....	2
1.4.	Introducing Inward Development .....	3
1.4.1.	The Strategy of Inward Development .....	3
1.4.2.	Rationale of Inward Development .....	5
1.4.3.	Implementing Inward Development: The Informal Toolset .....	6
1.4.4.	Difficult Application of Instruments in Practice .....	10
<b>2</b>	<b>Overview .....</b>	<b>11</b>
2.1.	Planning System and Practice of Switzerland .....	11
2.1.1.	Swiss State Organisation and Planning System Principles .....	11
2.1.2.	Planning on the Federal Level .....	12
2.1.3.	Planning on the Cantonal Level.....	12
2.1.4.	Planning on the Municipal Level .....	14
2.1.5.	Planning on Other Levels.....	15
2.1.6.	Materialisation Instruments: Reasoning and Repertoire.....	16
2.2.	Introducing the Seychelles.....	17
2.2.1.	Geography and Demographics .....	18
2.2.2.	State Organisation .....	22
2.2.3.	Settlement Characteristics .....	23
2.2.4.	Role of Government in the Housing and Land Market .....	27
2.3.	Planning System and Practice of the Seychelles .....	28
2.3.1.	Planning Legislation.....	28
2.3.2.	Seychelles Planning Authority .....	29
2.3.3.	Strategic Land Use and Development Plan and Victoria Masterplan .....	30
2.3.4.	Land Use Planning .....	32
2.3.5.	Development Plans.....	34
2.3.6.	Materialisation Instruments.....	35
2.4.	Intermediary Summary .....	36
<b>3</b>	<b>Quantification of Reserves .....</b>	<b>39</b>
3.1.	Evaluating the Reserve Calculation of the Land Use Assessment .....	39
3.2.	LUP Version Comparison for Anse Royale .....	40
3.3.	Land Use and Reserve Comparison Schaffhausen.....	42
3.4.	Implications of Reserve Quantification .....	45
<b>4</b>	<b>Situation Assessment .....</b>	<b>47</b>
4.1.	Reserves, Materialisation and the Settlement Edge .....	47
4.2.	Formality: Land Use Plans and Development Plans .....	48
4.3.	Addressing and Implementing Inward Development Projects.....	49
4.4.	Concentration of Effort.....	49
4.5.	Motivation for Transferal of Instruments and Processes .....	50

<b>5</b>	<b>Design and Testing of Approaches</b>	<b>51</b>
5.1.	Efficacy of Settlement Area Boundaries	51
5.1.1.	Materialisation Within the Core Settlement Area	51
5.1.2.	Reduction of Reserves: Dealing with Compensation	53
5.2.	Enabling Inward Development with an Integrated Framework	54
5.2.1.	Strategic Model	55
5.2.2.	Implementation Model	57
5.2.3.	Funding Mechanisms	61
5.3.	Testing: Exemplification Through Case Studies	62
5.3.1.	Concentration of Effort: Choice of Model and Case Studies	62
5.3.2.	Testing Procedure	63
5.3.3.	Financial District	63
5.3.4.	Lower Plaisance	69
5.3.5.	Anse Aux Pins Centre	75
5.4.	Evaluation of Implementation Model	82
<b>6</b>	<b>Synthesis</b>	<b>84</b>
6.1.	Conclusions on Research Questions	84
6.1.1.	Research Question 1	84
6.1.2.	Research Question 2	85
6.1.3.	Research Question 3	86
6.2.	Critical Appraisal of Work	88
6.3.	Practical Implications for the Seychelles Planning Authority	88
6.4.	Implications for Swiss Planning System and Practice	90
	<b>References</b>	<b>91</b>
	<b>Appendix</b>	<b>96</b>
A	Calculations	96
A.1	Population, Floor Area Consumption and Space User Calculations	96
A.2	Housing Potential Calculations	97
A.3	Land Use Categories	98
A.4	Plot Coverage of Reserves	99
B	Mahé Housing Framework Plan	100
C	Inward Development Framework Models	101
D	Selection of Case Studies	102
E	Interviews	103
E.1	Interview with Bernhard Belle: 28 <sup>th</sup> March 2019	103
E.2	Interview with Fanette Albert and Bernadette Boniface: 3 <sup>rd</sup> April 2019	107
E.3	Interview with Terry Biscornet: 4 <sup>th</sup> April 2019	110
E.4	Interview with Francis Coeur de Lion: 9 <sup>th</sup> April 2019	114
E.5	Interview with Joseph Francois: 18 <sup>th</sup> April 2019	116
E.6	Interview with Bernhard Belle: 19 <sup>th</sup> April 2019	119
E.7	Interview with Patrick LaBlache: 29 <sup>th</sup> April 2019	122
E.8	Interview with Julie Low: 8 <sup>th</sup> May 2019	125
E.9	Interview with Eric Talma: 10 <sup>th</sup> June 2019	132
	<b>Acknowledgements</b>	<b>133</b>

## Figures

Figure 1 Schematic Drawing of Principal Settlement Development Possibilities.....	4
Figure 2 Indexed Change of Residential Area, Commercial Area, Population and Jobs.....	6
Figure 3 Workshop Procedure, W: weeks.....	7
Figure 4 Test Planning Procedure, W: weeks.....	8
Figure 5 Competition of Ideas with Subsequent Single study, W: weeks.....	8
Figure 6 Example of a Cantonal Spatial Strategy: Map of the Raumkonzept Schaffhausen.....	13
Figure 7 Seychelles Archipelago.....	18
Figure 8 Inner Islands Political Map.....	19
Figure 9 Seychelles Settlement Hierarchy with Current and Envisaged Centres.....	24
Figure 10 Left: Tenure Types in Housing Market.....	25
Figure 10 Right: Buildings by Number of Storeys in Seychelles.....	25
Figure 11 Building Storeys in Victoria.....	25
Figure 12 Left: Approximate Reclaimed Areas of Mahé.....	26
Figure 13 Right: 1970s Land Reclamation at Victoria Harbour.....	26
Figure 14 Extent of Land Bank on Mahé.....	27
Figure 15 Planning Responsibilities Organisational Structure.....	29
Figure 16 Current Planning Framework of the Seychelles.....	36
Figure 18 Simplified Land Use Plans 2012.....	43
Figure 19 Summary of Land Use Categories.....	43
Figure 20 Plot Coverage Seychelles.....	45
Figure 21 Strategic Model.....	55
Figure 22 Implementation Model.....	58
Figure 23 Financial District Overview.....	64
Figure 24 Two Proposals of the SPA for the Financial District.....	66
Figure 25 Lower Plaisance Overview.....	70
Figure 26 Lower Plaisance Node Centre Concept.....	72
Figure 27 Settlement Plan for Development Study Zurzacherstrasse.....	75
Figure 28 Anse Aux Pins Centre Overview.....	76
Figure 29 Plot Coverage and Storeys at Anse Aux Pins Centre.....	77
Figure 30 Development Strategy for Anse Aux Pins Centre for LUP revision.....	78
Figure 31 Excerpt of Anse Aux Pins LUP Draft.....	79
Figure 32 Mahé Housing Framework Plan.....	100
Figure 33 Strategic Model.....	101
Figure 34 Implementation Model.....	101

## Tables

Table 1 Key Figures for the Seychelles and Schaffhausen.....	20
Table 2 Seychellois Households by Income Levels.....	21
Table 3 Juxtaposition of Bodies, Institutions and Instruments of Swiss and Seychelles Planning Systems.....	37
Table 4 Anse Royale Reserve Comparison.....	42
Table 5 Reserves in the Seychelles and Schaffhausen Canton Using Raum+ Terminology.....	44
Table 6 Summary of Suggested Procedures and Instruments in the Case Studies.....	82
Table 7 Population, Floor Area Consumption and Space User Calculations.....	96

Table 8 Housing Potential Calculations .....	97
Table 9 Land Use Categories in 2012 Land Use Plan Drafts .....	98
Table 10 Reserves in the Seychelles based on Plot Coverage.....	99
Table 11 Inward Development Projects Evaluated for Case Studies .....	102

## Abbreviations

ARE	Bundesamt für Raumentwicklung
ARE TG	Amt für Raumentwicklung Thurgau
BV	Bundesverfassung (Federal Constitution of Switzerland)
DA	District Administrator
GoS	Government of Seychelles
MHILT	Ministry of Habitat, Infrastructure and Land Transport
MNA	Member of National Assembly
LUP	Land Use Plan (meaning a Seychelles planning instrument)
PPB	Physical Planning Bill
RPG	Raumplanungsgesetz (Swiss Federal Act on Spatial Planning)
SLUDP	Seychelles Strategic Land Use and Development Plan
SPA	Seychelles Planning Authority
SPF	Seychelles Pension Fund
UGB	Urban Growth Boundary
UNDP	United Nations Development Programme
VMP	Victoria Masterplan





# 1 Introduction

## 1.1. Background

In 2016, the introduction of the Seychelles Strategic Land Use and Development Plan (SLUDP) and the Victoria Masterplan (VMP) included a great number of policies and projects to be implemented in the Seychelles by 2040 (Government of Seychelles, 2016a, 2016b). A core aspect of the SLUDP and VMP is sustainable development which includes the efficient use of land – a resource considered scarce in the Seychelles (Government of Seychelles, 2014). This is motivated by various pressures on the land, most notably the predicted housing demand and preservation of the natural environment. Thus, efficient land use is marked by a call for intensification and denser development of the built environment (Government of Seychelles, 2016a).

Particularly for the Seychelles Planning Authority (SPA) the two new policy instruments have become the basis for day-to-day planning practice including the processing of building applications and land use planning (Belle, 2019a; Biscornet, 2019). The policies and projects laid out in these two fundamental documents also call for changes to land use planning and planning legislation (Government of Seychelles, 2016a). This has added a new dimension to long-standing efforts of redrafting core planning legislation and introducing statutory land use plans and other planning instruments (Government of Seychelles, 2014; Biscornet, 2019). As new planning instruments and practices are currently being established some of their implications are naturally characterised by uncertainty.

Achieving economic land use and sustainable settlement development lie at the core of Swiss spatial planning being included in the Swiss constitution and the Federal Spatial Strategy of Switzerland respectively (Swiss Federal Council, 1999; Schweizerischer Bundesrat *et al.*, 2012). The primary strategy for addressing these challenges is the strategy of inward development (see chapter 1.4.1) which aims at concentrating settlement development within the existing settlement body (Nebel and Hollenstein, 2018, pp. 7–8). Since the 2014 revision of the Swiss Federal Act on Spatial Planning (RPG) the authorities of Switzerland are obliged to implement this strategy (Grams, 2015, p. 7). However, implementing inward development is no trivial task for the authorities and requires not only the corresponding legal framework but also the right organisational instruments and approaches (Flükiger, 2019). Therefore, establishing a planning framework compatible with inward development is of great topicality in Switzerland (see chapter 1.4.4). Especially so for the smaller cantons and municipalities that are additionally faced with an increased need for cross-boundary cooperation (Grams, 2015, p. 1). This situation is readily comparable to the current challenges of the Seychelles where the ongoing changes to the planning framework and increased emphasis on economic land use need to find their way into implementation.

Thus, the thesis evaluates if this sustainable form of settlement development is supported by the planning framework of the Seychelles during its ongoing transitions. It assesses if the planning system and practice are favourable to achieving the goals of the SLUDP and the Victoria Masterplan and what adaptations may be necessary to facilitate implementation. Due to the strong focus on sustainable settlement development in the Swiss planning framework it is explored if the adaptations can be sourced from Swiss planning.

## 1.2. Research Question

Based on this background the following research questions (RQ) present themselves:

1. How do the components of the planning system and practice of the Seychelles relate to each other and what is the impact of the intended changes to the framework?
2. What are the main challenges to achieving the goals of the SLUDP and VMP concerned with sustainable settlement development and to achieving inward development more generally?
3. Are there any Swiss planning instruments or practices that could be useful to overcome the Seychelles challenges to inward development and how can they be integrated into the planning framework?

## 1.3. Thesis Structure and Methodology

The thesis is organised into six chapters that aim to answer the research questions stated above and are structured as follows:

The Introduction (chapter 1) sets the scene for the thesis. The research questions are formulated on the basis of current planning challenges in the Seychelles. The challenges are placed within the current planning debate of the Seychelles and Switzerland with a focus on sustainable settlement development. Hence, the strategy of inward development, its rationale and instruments for its implementation are presented and a case made for its application in the Seychelles.

The Overview (chapter 2) illustrates how the planning frameworks of both Switzerland and the Seychelles are composed and how they are embedded into their respective state structures. For Switzerland, this is done to give an understanding of how the strategy of inward development is embedded into the planning system and to build a repertoire of instruments that can be called upon when answering RQ3. The content is a result of literature review. For the Seychelles this is done to contribute to answering RQ 1 as well as act as the basis of analysis for the subsequent chapters. The content is based on literature review, expert interviews and analysis of data that was collected in preparation of the SLUDP and VMP. Because spatial planning in Switzerland is primarily a matter of the cantons and municipalities (see chapter 2.1.1), when comparisons between Switzerland and the Seychelles take place they are often more sensible on the cantonal level as opposed to the national level. Thus, for the comparisons made in the thesis to be consistent, the canton of Schaffhausen was chosen wherever possible.

The Quantification of Reserves (chapter 3) estimates the current and scheduled settlement reserves of the Seychelles in three different ways in order to assess if they are in accordance with the planning policies and strategies. This is done through calculations based on data from assessments underlying the SLUDP data as well Raum+ data.

The Situation Assessment (chapter 4) uses the information gathered in the Overview and the Quantification of Reserves to identify the main obstacles of the Seychelles planning system and practice to implementing inward development and achieving the policy goals. Thereby, RQ 2 is addressed. Subsequently, a concentration of effort is performed, determining the two most pressing issues to be addressed in the design phase. Finally, based on the findings the suitability of the transfer of Swiss planning instruments to the Seychelles is elucidated.

The Design and Testing of Approaches (chapter 5) devises and presents solutions to the challenges identified in the Situation Assessment and based on Swiss instruments and presented in the Introduction and Overview. A model framework for addressing complex inward development sites is subsequently tested by applying it to three case studies, i.e. strategic sites in the Seychelles. This testing assesses the merits of current planning practice in the Seychelles as well as the adequacy of the designed model. This aims at answering RQ 3. The case studies were chosen through a further concentration of effort and are sourced from documentation from the Seychelles Planning Authority and expert interviews.

The Synthesis (chapter 6) assesses if the research questions could be sufficiently answered and it critically appraises the work done. The value of the findings to the Seychelles' planning framework and the Seychelles Planning Authority are identified and presented. Finally, the implications of the findings for the Swiss planning framework and debate are highlighted.

## **1.4. Introducing Inward Development**

As stated in chapter 1.1, inward development is a core strategy of spatial planning in Switzerland. This chapter explains how the strategy of inward development is to be understood and what the reasoning is for applying it. Subsequently, the complex question of how inward development can be implemented is covered.

### **1.4.1. The Strategy of Inward Development**

Inward development is the settlement development strategy that aims at satisfying the demand for settlement land within the existing settlement body through intensification of uses. This is contrasted by outward development, meaning the spatial expansion of settlements outside the existing settlement body at the cost of other land uses (Nebel, 2013, p. 21; Grams, 2015, p. 6). The two are normally combined to form the minimal strategy of *inward development before outward development* which states that inward development should take precedence over outward development (Grams, 2015, p. 6).

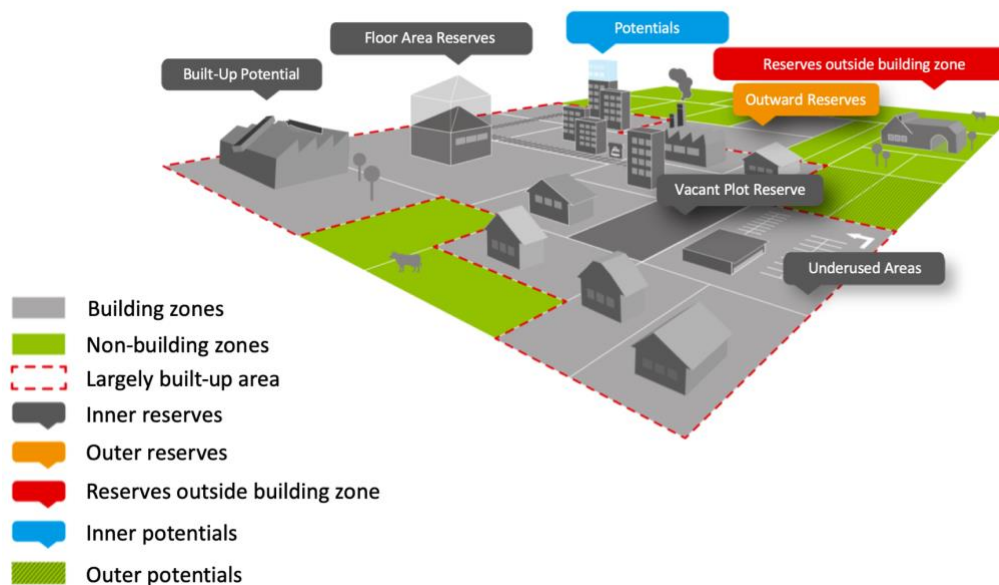
The intensification of uses that forms part of inward development is strongly linked to the concept of densification of the settlement area (Grams, 2015, p. 20). Although, policy goals may aim for an increase of population density, job density or even density of social interactions, the decisive variable that can be influenced the most by planning is the structural density of the built environment, defined by the ratio of floor area to plot area (Nebel, 2013, p. 22; Grams, 2015, pp. 17, 20). A differentiated understanding of density is important, as for instance an increase in structural density can occur without an increase in population (Nebel, 2013, pp. 22–23). This leads on to the question how an increase in population density can be reconciled with an increase in liveability for the population. Therefore, successful inward development must involve measures to ensure said liveability such as improvements to the public realm. In other words, densification needs to yield some kind of additional value to the people to gain acceptance. This additional value created is commonly known as the *quality* of an inward development project. (Nebel, 2013, p. 21; Grams, 2015, pp. 7, 16).

Densification also means that inward development often requires infrastructure upgrades. This includes technical infrastructures such as utilities but also social infrastructures (Grams, 2015, p. 16). Traffic infrastructure is of special significance due to the intrinsic link between settlement development and transportation, requiring coordination of settlement development and transportation infrastructure development (Nebel, 2013, p. 19). For economic and ecological reasons, dense developments should be

in locations of good public transport provision to reduce the need of motorised private transport and increase public transport patronage (Nebel, 2013, p. 19; Grams, 2015, p. 16).

In order to quantify the intensification achievable through inward development, one must assess reserves and potentials (compare Figure 1). *Reserves* are the discrepancy (often given in floor space) between the current built environment and what additional construction is possible according to the valid building and zoning laws. *Potentials* are increases in usage and density that go beyond the currently allowable zoning. As Grams (2015, pp. 16–17) notes, they are often identified for densification on the grounds of spatial planning deliberations or a weighing of interests (see chapter 2.1.1). Therefore, accumulating knowledge on the existing reserves and potentials of the examined planning area in an *overview* is an essential prerequisite for successful inward development (Grams, 2015, p. 14).

### Principal Possibilities for Settlement Development



Quelle: Nebel 2013

Figure 1 Schematic Drawing of Principal Settlement Development Possibilities (Nebel, 2013, p. 29, translated).

Overviews should be developed with local stakeholders and landowners to capture local knowledge and updated readily (Nebel, 2013, pp. 61–62). Although they may cover large regions their basic unit of examination is the plot as this is where inward development manifests itself (Grams, 2015, p. 90). Information on the plots in an overview may include but is not limited to: the size and georeferenced location, the zoning specifications, the status of access and utility provision, information on ongoing procedures, the type of proprietor and their intentions, further materialisation obstacles, the status of said obstacles and, ultimately, an abridged summary of the plots suitability and ripeness for development (Nebel, 2013, pp. 65–67). An example of a platform that has these properties is the ETH-led Raum+ project (Nebel, 2013, p. 57; Professur für Raumentwicklung, 2017, p. 1). Overviews act as the basis for a situation assessment, giving a first indication of where resources on further planning should be concentrated.

This ultimately leads to the identification of measures to be implemented. The main inward development measures according to Grams (2015, pp. 14, 17) are reusing brownfield sites, adding stories, attachments to buildings, infill development through developing vacant plots, densifying existing (residential) areas, replacing old buildings but also securing of open spaces to ensure inward development quality. An often overlooked potential is the intensification of the usage of existing buildings (Nebel, 2013, pp. 24–25). The

majority of these techniques has also been identified in the Victoria Masterplan (Government of Seychelles, 2016b, pp. 42–43) highlighting that although inward development is not an explicit strategy its basic principles do form part of the Seychelles' policy framework.

In Switzerland, the principle of inward development is not just a planning principle but has found its way into law and forms part of the political agenda. Inward development can be understood as a constitutional mandate with Art. 75 of the Federal Constitution calling for "the appropriate and economic use of the land" (Swiss Federal Council, 1999). This is further underpinned by Art. 1 Abs 2 RPG stating that inward settlement development shall be promoted (Swiss Federal Council, 2019). The strategy of inward development also implies that there exists a distinction between land that is part of settlement body and land that is not. This distinction derives from Art. 1 Abs 1 RPG that urges the government authorities to ensure that "building areas are separate from the areas where building is not permitted" (Swiss Federal Council, 2019). Although the majorities of these provisions are not new, the revision of the Federal Act on Spatial Planning shifted inward development from an implicit strategy to an explicit duty for the planning bodies (Grams, 2015, p. 7).

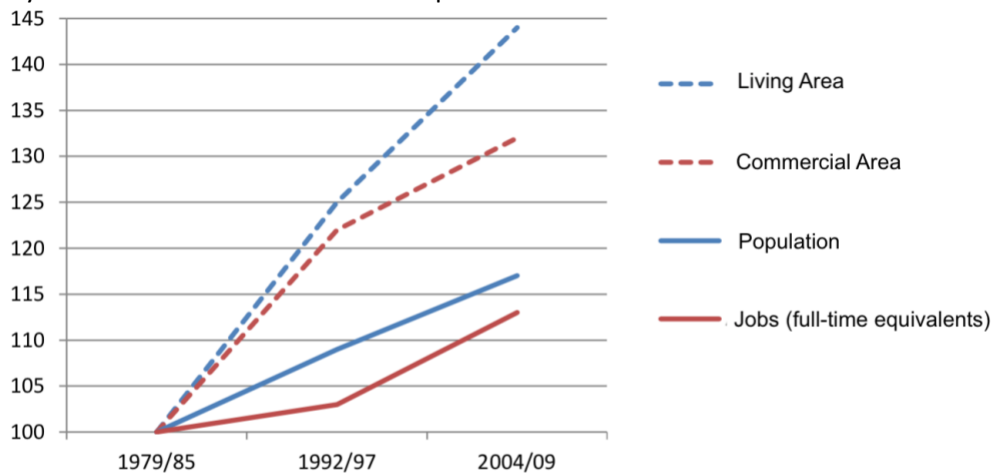
In the Seychelles, settlement development and land use planning have previously not had any comparable paradigms that are supported by constitution or statute (Law of Seychelles, 1972). The upcoming Physical Planning Bill (PPB), however, does mention the promotion of "orderly and sustainable land use and development of land" as one of the three main tasks of the Planning Authority (Government of Seychelles, 2019). In addition, the spatial strategy of the SLUDP calls for "an efficient approach to land use" and priority to be given to development within the current built-up area (Government of Seychelles, 2016a, pp. 33, 87). In conclusion, inward development is not an explicit strategy or paradigm that guides spatial planning in the Seychelles in the same way that it is in Switzerland. However, considering the growth predictions and the wish for sustainable development in the SLUDP and Victoria Masterplan (Government of Seychelles, 2016a, 2016b) there is a strong case for firm commitment to the strategy of inward development in the Seychelles. Therefore, in this thesis its principles shall be the benchmark for assessing the sustainability of settlement development in the Seychelles. This is supported when examining the advantages of the strategy given below.

#### **1.4.2. Rationale of Inward Development**

Inward development is widely promoted for its advantages over outward development, due to the fact that land is a finite resource and thus settlement development is in direct competition with other land uses, e.g. agriculture. The expansion of the settlement area is particularly grave as the conversion of the land cover to sealed surfaces is irreversible with severe consequences for the environment (Grams, 2015, p. 52). In Switzerland, with forests being statutorily protected, it is mainly agricultural land that stands in direct competition to land for settlement development and are lost if outward development is pursued (Lendi, 2010; Grams, 2015, p. 16). Especially for the Seychelles, the environmental impacts of outward development also have economic implications as the environment is the foundation of the tourism industry (Government of Seychelles, 2016a, p. 27).

For Switzerland, the rate at which the settlement area is growing can be easily exemplified through the well documented change of land use. As seen in Figure 2, the settlement area grew at a greater rate than the population in the period from 1985 to 2009. This shows that not only the total settlement area but also per head consumption has been increasing (ARE, 2014). Especially since the RPG revision of 2014 efforts are being made to halt these trends. In the canton of Schaffhausen, for instance, 85% of settlement

reserves used between 2013 and 2017 were inward development reserves (Professur für Raumentwicklung, 2017). However, the efficacy of the revised RPG at reducing outward development can only be assessed after more time has passed since its introduction.



Quelle: BFS; Arealstatistik, Wohnbevölkerung, Betriebszählungen

© ARE

Figure 2 Indexed Change of Residential Area, Commercial Area, Population and Jobs (ARE, 2014, p. 7, translated).

Furthermore, inward development has been shown to be less straining on public finances compared to outward development especially due to the cost savings associated with a reduced need for infrastructure investments (Schrenk *et al.*, 2009; Grams, 2015, p. 12). Especially, for detached housing, the prevalent typology in the Seychelles (see chapter 2.2.3), the long-term infrastructure savings are significant. When compared to greenfield development, inward development in Switzerland has been estimated to reduce costs per inhabitant per year by two thirds which was equivalent to CHF 1'200 to 1'400 in 2017 (Ecoplan, B+S and Hunziker Betatech, 2017, p. 14).

### 1.4.3. Implementing Inward Development: The Informal Toolset

The advantages of inward development are contrasted by its great need for coordination and cooperation, making it a complex task for which there is no "cookbook solution" (Scholl, 1995; Grams, 2015). As Grams (2015, p. 121) notes:

"Ultimately, densification is not a matter of blanket adjustment of floor area ratios in a formal planning instrument but requires a problem-orientated and tailor-made approach the problem at a local level."

Thus, the question is not only what form development should take in a specific area but also how this development can be initiated and implemented. The first question is often answered in some strategy as is the case in the Seychelles through the SLUDP and the Victoria Masterplan. The issue of implementation, however, is often less clear. In Switzerland, smaller municipalities have little expertise on how to go about inward development and are confronted with limited temporal and financial resources for inward development tasks (Flükiger, 2019, p. 5). Consequently, this chapter gives an overview over different ways to organise an inward development project and showcase a selection of informal processes that can be applied despite expertise and resource constraints.

Although inward development is generally the product of a combination of informal and formal planning procedures, this chapter shall only present the informal aspects. Formal instruments are not of lesser importance, however, they are best understood in the context of their respective planning system and are thus presented in chapter 2.

### Informal processes: 3 prototypes

Informal planning processes are those that do not lead to a formalised result but rather to a consensus and are not binding for proprietors (Akademie für Landesplanung und Raumforschung, 2019). They include processes such as test planning procedures, single studies, competitive processes, study assignments. However, as described above this chapter focuses on processes that can be conducted under certain constraints. Therefore, the three prototype informal processes suggested by Flükiger (2019) for this type of setting shall be presented here and will later find their application in chapter 5.3.

#### Workshop procedure

A workshop procedure a single study, meaning it involves one design team developing ideas. This can be appropriate where the depth of a study is more important than the scope. The task does not involve substantial restructuring of the area or innovation and is of limited strategic importance or public interest (Flükiger, 2019). During the design process the team is in a dialog with the responsible authority and optionally also the landowners (Verein Agglomeration Schaffhausen, 2015). The production of multiple variants by the one team can be a valuable support to decision making by showing different possible future developments (Flükiger, 2019). As shown in Figure 3, the initial alternatives can be narrowed down gradually.



Figure 3 Workshop Procedure, W: weeks (Flükiger, 2019, p. 47, translated).

#### Slimmed-down test planning procedure

A test planning procedure is a so-called parallel study and aims to discover development possibilities within a pre-defined area by testing various possible solutions. It involves multiple design teams and the initial assignment is quite vague, e.g. it can be used when planning is at an early stage, with the goal of clarifying the desired spatial development. The designs are established through multiple rounds of critique and redesign (Gilgen, 2012; ARE TG, 2017, p. 28; Flükiger, 2019, p. 54). Because the process is not a competition the results can be openly discussed at a workshop as shown in Figure 4.

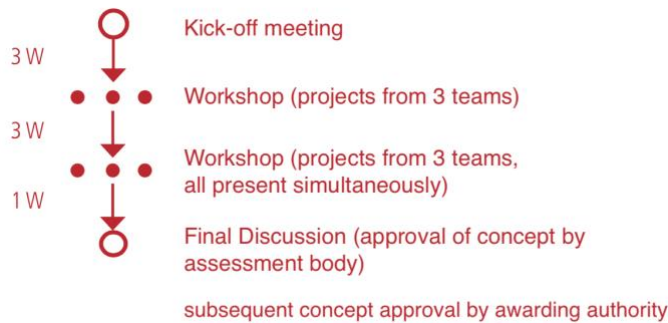


Figure 4 Test Planning Procedure, W: weeks (Flükiger, 2019, p. 50, translated).

#### Competition of ideas with subsequent single study

A competition is a parallel study and is advisable if the general direction of development is established but further specification of solutions is sought. The competition of multiple teams aims at ensuring quality through the drafting of multiple variants; however, the results cannot be influenced along the way. The results of the teams need to be judged by a professional committee (Gilgen, 2012; ARE TG, 2017, p. 28). As Figure 5 show, the winning project shall be further refined in a single study.



Figure 5 Competition of Ideas with Subsequent Single study, W: weeks (Flükiger, 2019, p. 51, translated).

#### Parties involved in an informal procedure

The processes above have various stakeholders involved, depending on the organisational structure chosen. For the processes to yield optimal results, the following roles should be clearly defined in some form (Flükiger, 2019, pp. 46, 49):

- The *awarding authority or initiator* initiates the project and assembles the other bodies. It would often be a public sector body but could also be a private investor.
- The *accompanying or assessment body* includes a delegation of the initiating body, impartial planning experts, government experts and stakeholders from various interest groups. In parallel studies the assessment body rates the finished results. In single studies the accompanying body frequently gives feedback to the design team.
- The *design team(s)* produce the designs and variants. These are done by independent planning experts. Depending on the task they are cross-disciplinary.



- The *project management team* is responsible for organising the informal procedure. In single studies it is omitted, and its tasks performed by the awarding authority and the design team. For parallel studies it is strongly advised to have such a team as organisation is more complex.

The focus on competition and production of multiple variants in these tools is rooted in the principle of the exploration of options and alternatives. This stipulates that complex problems are to be solved by testing multiple solution to establish which are best suited (Grams, 2015). In other words, important decisions based on a single idea where no alternatives were explored are to be avoided.

### **Further informal instruments**

Besides the processes described above, the following informal tools are also useful for achieving inward development irrespective of the planning system they are embedded in. Barring the first tool, they are all connected to the notion of materialisation (see 2.1.6).

#### Masterplan

A masterplan is an informal result that can arise from various procedures. It is an adequate instrument when coordination between different sectors and levels of authority are required or between activities of stakeholders. It specifies and frames the development goals spatially (Gilgen, 2012; ARE TG, 2017, p. 29). The Victoria Masterplan can be classified as a masterplan under this definition.

#### Active land policy

In Switzerland, if the cantonal laws allow it, municipalities have the option of acting on the land market with private landowner, thus engaging in contracts under private law (Mangeng, 2017). This allows the municipality to engage in an active land policy where they can either acquire or swap parcels or negotiate usage rights allowing them to steer development in the desired direction (ARE TG, 2017, p. 28). Often active land policy allows the municipal council to lead the way for other landowners to engage in inward development (Mangeng, 2017, p. 59).

#### Landowner address

The active approaching of landowners by the authorities as to their development intentions is an important step to find and encourage the right stakeholders to engage in inward development (ARE TG, 2017).

#### Consulting services

The authorities consult interested landowners regarding their development possibilities. In a second step, they give assistance with development, or the acquisition or sale of properties. Conciliating between stakeholders can also belong to this process (ARE TG, 2017).

#### Public outreach

Public outreach involves openly informing the public about the development intentions and strategies of the authorities in order to gain acceptance and interest in development (ARE TG, 2017).

#### **1.4.4. Difficult Application of Instruments in Practice**

These organisational and processual approaches never stand alone but are embedded in longer planning processes (Flükiger, 2019). These links between the instruments to form a framework are examined in chapter 5.2 where a prototype for the organisation of inward development in the Seychelles. The usage of a combination of formal and informal planning instruments is becoming more common in Switzerland and is strongly advocated for in the literature (Grams, 2015; ARE TG, 2017, pp. 24–26; Flükiger, 2019, p. 3). Nevertheless, the right choice of instrument and process for a situation is far from trivial and there is still much uncertainty outside the urban centres concerning the application of these processes (Flükiger, 2019, p. 3). Primarily in the Seychelles (Low, 2019), but to a certain extent also in Switzerland (Flükiger, 2019, p. 22), there is uncertainty as to how results from informal processes should best be secured formally. Most inward development tasks cannot be managed without informal instruments, but conversely informal instruments cannot replace formal ones and must always be used in conjunction with the latter (Gilgen, 2012; Flükiger, 2019). Therefore, the Overview (chapter 2) aims at showing how these instruments are embedded in their respective planning framework.

## 2 Overview

This chapter gives an overview of the state of the planning systems in Switzerland and the Seychelles. The latter is also accompanied by a more general introduction to the Seychelles in order to provide the necessary context for comprehension of the planning framework. The overview forms the basis for the situation analysis in chapter 4 and allows an informed decision on what the main challenges to spatial planning are in the Seychelles.

### 2.1. Planning System and Practice of Switzerland

Although efforts to introduce nation-wide spatial planning policy and laws in Switzerland can be traced back to the 1960s, the Federal Act on Spatial Planning (RPG) did not pass legislation until 1980. This nominal planning law is accompanied by functional law and policies of various other sectors which have high spatial relevance. Especially noteworthy are the Federal Act on the Protection of Waters of 1955 (GSchG), the Federal Act on the National Highways of 1960 (NSG) and the Federal Act on the Protection of the Environment of 1985 (USG) (Gilgen, 2012).

#### 2.1.1. Swiss State Organisation and Planning System Principles

Spatial planning is deeply embedded in the rule of law which in Switzerland also means that the citizens have decisional right over law, regulations and partially over plans (Lendi, 2010). Furthermore, with planning being understood as a state task, the planning system strongly mirrors the organisational structure of Switzerland characterised by responsibilities being divided between the federal level, the 26 constituent states (cantons) and the over 2'200 municipalities (Bundesamt für Statistik, 2018).

According to Art. 75 of the Federal Constitution (Bundesverfassung, BV) spatial planning is primarily the task of the cantons and the Confederation only determines the basic principles (Swiss Federal Council, 1999). In practice, the cantons then transfer many planning tasks down to the lowest tier of government, the municipalities (Gilgen, 2012). This goes in line with the principle of subsidiarity as laid out in Art. 5 of the Federal Constitution (Swiss Federal Council, 1999). Thus, tasks are performed by the lowest tier of government that can feasibly perform the task. This leads to differences in processes, terms and instruments especially between the municipalities and cantons which can ultimately lead to differences in the resulting spatial development (Gilgen, 2012).

The relationship between the three tiers is governed by the counter flow principle ("Gegenstromprinzip") which dictates that the plans of higher tiers influence the lower tiers as well as vice-versa. For example, cantonal planning gives a rough guideline on the spatial development of the municipalities but at the same time important municipal plans can influence cantonal planning (Gilgen, 2012; Grams, 2015). Thus, all actions and plans of the various tiers need to be coordinated horizontally as well as vertically.

To coordinate the numerous spatial interests of authorities, sectors and other stakeholders plans are subject to the principle of the *weighing of interests* (Schweizerische Kantonsplanerkonferenz, 2016, p. 14). This commences with an identification of all interests, followed by an appraisal thereof and is concluded by the actual weighing of interests. The latter comprises a decision on which interests overweigh and may also accommodate weaker interests, if possible. The weighing of interests allows the tiers to apply their discretionary powers and makes decisions reproducible and comprehensible. The weighing of interests of

the upper tiers has the greatest impact as it restricts the scope of action for the tiers below (Schweizerische Kantonsplanerkonferenz, 2016, p. 15)

To ensure the adherence to resulting plans they are often stipulated as binding for either authorities, or both authorities and private proprietors alike. As is described chapters 2.1.3 and 2.1.4, this is particularly relevant for structure plans and land use plans. The binding character of a plan is accompanied by the right to appeal to said plan (Gilgen, 2012). For instance, land use plans have direct influence on property rights and the right to appeal helps protect these property rights.

This shows that ownership rights on land influence the planning system and inward development efforts. In Switzerland the guarantee of ownership is laid down in the Art. 26 of the constitution and property is thus highly protected (Swiss Federal Council, 1999). There are few possibilities for compulsory purchase and formal as well as material expropriation are subject to compensation (Gilgen, 2012). Consequently, inward development projects are often dependent on the consent of all involved landowners. The guarantee of ownership does not guarantee a certain planning regime or order, however, a change in the value of land owing to adaptations of land use regulations can cause compensation to be due (Gilgen, 2012).

The binding plans and their effects on ownership are what constitute planning security. Planning security is important to ensure an environment in which stakeholders can make informed decisions and feel prepared to develop (Grams, 2015).

### **2.1.2. Planning on the Federal Level**

On the federal level the main spatial planning instruments are the Swiss spatial strategy (Raumkonzept Schweiz), the sectoral plans (Sachpläne) and additional concepts. The Raumkonzept Schweiz is designed to coordinate the planning efforts of the tiers below. It presents the desired spatial structure of Switzerland and is thus designed to fulfil the requirements of Art. 1 RPG on the federal level (Gilgen, 2012). The sectoral plans are the spatially most explicit federal instruments and are produced by the corresponding government office of the sector in question. Sectoral plans cover topics that are largely under the purview of the confederacy, e.g. defence, arable land or aviation. Concepts are spatially vaguer and cover multiple topics or sectors where the confederacy is not the sole decision-maker (Gilgen, 2012). The sectoral plans and concepts are the formal instruments of the federal level (Grams, 2015).

Although spatial planning is largely the task of the cantons, some select topics are regulated in greater detail on the federal level. Most prominently, the regulation of building permissions whose high level of detail is unusual as spatial planning laws are otherwise the jurisdiction to the cantons (Gilgen, 2012). This covers access and utility provision, development outside of the designated building zones and the reorganisation of parcels. According to Art 22 RPG preconditions for a building permission are the conformity with zoning designations and infrastructure and utility provision (Swiss Federal Council, 2019). The cantons further specify the building regulations in their cantonal laws and bylaws.

### **2.1.3. Planning on the Cantonal Level**

In Art. 75, the Swiss Constitution assigns the main responsibility over spatial planning matters to the cantons (Swiss Federal Council, 1999). The cantons' nominal planning law is often combined with functional law in the form of building legislation (Gilgen, 2012).

The cornerstone of cantonal planning instruments is the cantonal structure plan (Kantonaler Richtplan) which is accompanied by a spatial strategy (Raumkonzept, see Figure 6). Structure plans and their spatial strategies are binding for authorities (cantons and municipalities alike) and consist of a map and a written text. As is the case with all binding planning instruments they must be screened and approved by the next higher tier of government, in this case by the confederacy (Gilgen, 2012). The structure plan aims to balance spatial activities and coordinate vertically and horizontally between other plans, therefore relying on the weighing of interests (see 2.1.1). These instruments do not depict a desired future state, instead they act as the basis for spatially coordinated development (Grams, 2015). Common topics covered in the sections of the plan include settlement, landscape, transport infrastructure and utilities. The plan is also an instrument of distributing information on the nature and status of spatial activities. The degree of fixation of structure plan content is differentiated by the three designations *pre-orientation*, *provisional result* and *fixation* ("Vororientierung, Zwischenergebnis, Festsetzung") (Gilgen, 2012). It is revised every 10 years, with the possibility of ongoing partial amendments (Grams, 2015).

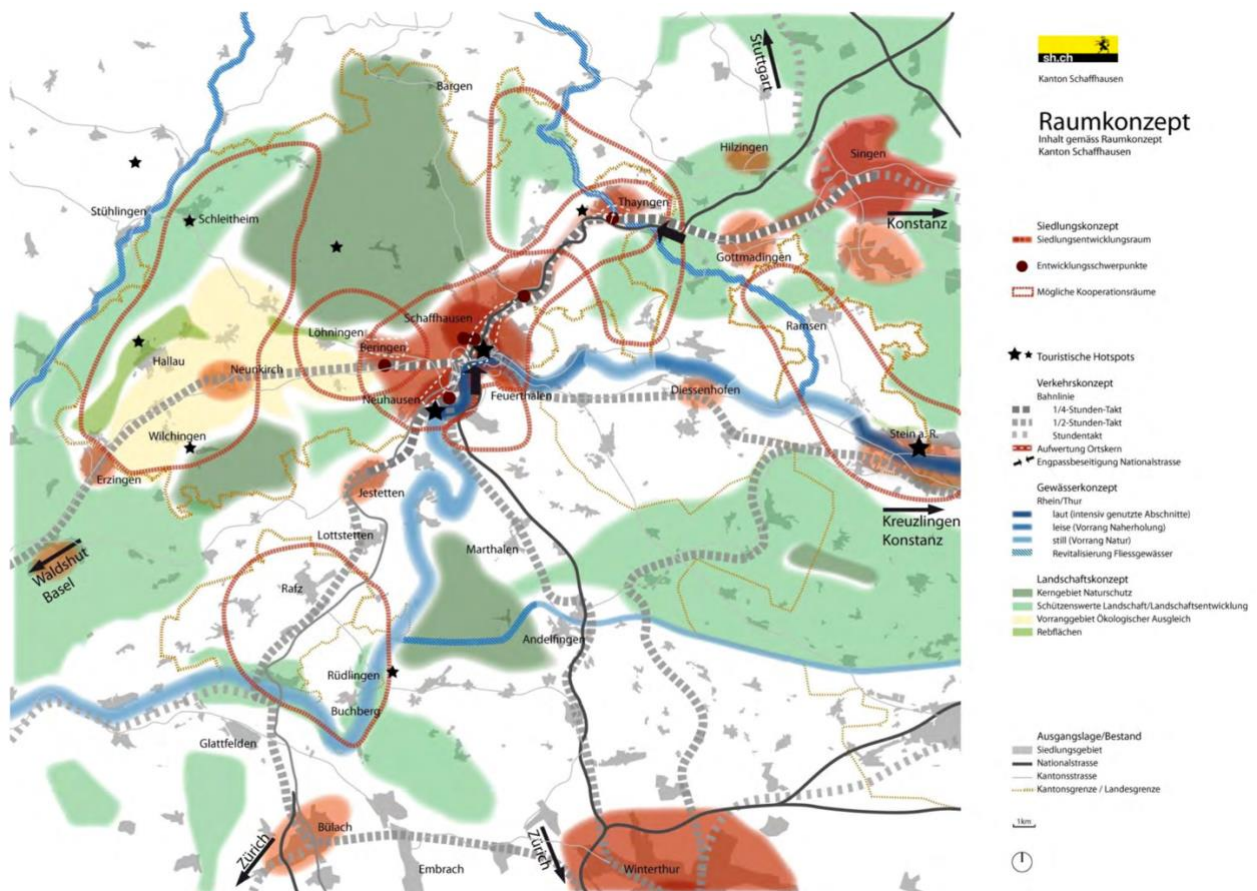


Figure 6 Example of a Cantonal Spatial Strategy: Map of the Raumkonzept Schaffhausen (Planungs- und Naturschutzamt, 2015, p. 19)

In terms of facilitating inward development, the settlement section of structure plans is required to show where and at which quality inward development can be achieved. The plan shall distribute the identified future demand for space across the municipalities by defining where densification is most desirable (Grams, 2015, p. 7).

### 2.1.4. Planning on the Municipal Level

As on the cantonal level, spatial planning in the municipalities often combines nominal and functional law in the form of building codes and zoning regulations. Here planning and execution are very closely connected, as the municipalities are responsible for land use planning as well as handling most building applications (Gilgen, 2012).

#### Land use planning

Municipal land use planning (Kommunale Nutzungsplanung) is the main planning task on the municipal level, as prescribed in Art 14 RPG (Swiss Federal Council, 2019): "Land use plans govern the permissible use of land." Land use plans are binding for authorities as well as landowners and require approval by the canton. Land use plans are not only subject to public display and the right to appeal given to their binding nature (see 2.1.1) but also need to be approved by the citizens of the municipality in a public vote (Gilgen, 2012). They are normally reviewed in 10–15-year cycles and the revision process can take 2.5–3 years. The duration of a review from the initial commitment until the plan enters into force is estimated at five years (Grams, 2015, p. 127).

Land use plans consist of a map and a written text. A basic repertoire of applicable zones is defined by the canton to which the municipalities can make additions if required. Similarly, to the cantonal structure plans, the land use plans' content also has different levels of obligation, making some specifications more binding than others. As described in chapter 1.4.1, the separation of land that is designated for settlement development (building zones) from such land that shall not be built on is one of the key maxims of the Swiss planning system (Lendi, 2010; Gilgen, 2012). Hence, this is an important element of the land use plans. To this end, the building zones undergo demand dimensioning where the extent of the building zones of a municipality is to satisfy the demand of the upcoming 15 years. In addition, land is required to be suitable for development within 15 years to be assigned to the building zone and therefore the municipalities need to assess the suitability of the land. These principles are laid down in federal law in RPG Art. 15 (Swiss Federal Council, 2019). This is an important tool in ensuring economical land use, however, in the past, municipalities have enjoyed great leeway when performing their dimensioning calculations which led to an overestimation of required building zones (Arbeitsgemeinschaft Alpenländer, 2000). Since the RPG revision of 2014 the cantons have more closely defined the magnitude and type of growth of the municipalities (Grams, 2015, p. 7).

It is important to note that there are also numerous exceptions to the division of building and non-building land in the Federal Act on Spatial Planning which allows for the construction of buildings outside the building zones, especially on agricultural land (Swiss Federal Council, 2019).

#### Special use planning

The basic order defined in the land use plans may be complemented by additional planning instruments or specifications that are often overlaid over the basic zoning in a specific area. Common options are precautionary measures (e.g. a spatially confined development moratorium) and options that allow specification and deviation from the basic order (Gilgen, 2012). The latter usually comes in the form of a special use plan ("Sondernutzungsplan") although the naming and scope of this instruments differs between cantons. The instrument is defined in cantonal legislation, e.g. Art. 17 of the planning law of Schaffhausen defines the *Quartierplan* as its special use planning instrument (Grosser Rat des Kantons Schaffhausen, 1997). However, usage of this tool is at the municipalities' discretion. Special use plans

specify development details for a specific area of the municipality and intend not only to steer the direction of development but also increase planning security (Planungs- und Naturschutzamt, 2018). Often, they may enable differing development within their perimeter from that laid down in the municipal land use plan. Common deviations are in density and typology. In many cases enacting such a plan involves land reorganisation ("Landumlegung", see 2.1.6). As a special use plan can be mandated for a plot in the land use plan it is in a sense a restriction of property rights. Therefore, special use plans are subject to public participation and also require approval by the responsible municipal body and by the corresponding cantonal body (Gilgen, 2012). Often special use plans are made with a specific building project already in mind which can streamline the subsequent building application process. However, if there are issues with the application this can lead to overly specific special use plans causing problems as they are hard to amend due to their binding nature (Gilgen, 2012, p. 505). Special use plans can also be privately initiated rather than being prescribed through a land use plan. Often special use plans work as a concession towards the developer for increased *quality* of the development in return (Gilgen, 2012). There has been a call for reconceptualising the land use plans and special use plans in recent years as the increasingly extensive use of special use plans to achieve high quality inward development has led them to become the new norm which questions the basic order of the land use plans (Gilgen, 2012).

### **Communal structure planning and informal planning**

Beyond land use planning there are also other spatial planning instruments available at the municipal level, e.g. the communal structure plan ("Kommunaler Richtplan") which is mandatory in certain cantons. This instrument fulfils similar tasks as the structure plan on the cantonal level and is a good tool for identifying (inward) development potentials at an early stage (Gilgen, 2012). It defines the spatial structure of the municipality, coordinates usages through a weighing of interests and considers financing and scheduling of future developments. Municipalities that do not produce such a plan may have a comprehensive mission statement ("Leitbild") that is produced in a precursory stage of the land use planning process (Grams, 2015). Although these plans and other non-binding concepts are becoming increasingly common in municipal planning for achieving inward development, the land use plans and special use plans remain the main formal instruments and therefore cannot be dispensed with (Gilgen, 2012). Formalisation is important to ensure planning security and not lose the gathered informal results during political decision-making (Grams, 2015, p. 133). The longstanding approach of developing a Leitbild as a precursor to the land use planning process in an abstract manor without prior consideration of parcel-level realities has been criticised for causing implementation difficulties in the realisation stage. The alternative proposal is that of a problem-orientated approach with early exploration of the local circumstances and landowner intentions on an inter-municipal level (Grams, 2015, p. 130).

#### **2.1.5. Planning on Other Levels**

Some planning efforts are also undertaken in functional entities, for instance sub-cantonal planning associations, intercantonal and international planning associations or also in agglomerations. These functional entities for the most part do not correspond to the conventional entities of the three government tiers. However, functional planning levels are growing in importance as increased mobility and specialisation of labour have led to spatial processes transcending boundaries and covering multiple decision-making bodies (Gilgen, 2012). The high autonomy of the Swiss municipalities has been seen to impede vertical and especially horizontal coordination thus makes planning in functional entities, especially on the regional level, arduous (Gilgen, 2012).

### 2.1.6. Materialisation Instruments: Reasoning and Repertoire

In order to achieve economical land use and its constituent parts, such as demand dimensioning, there needs to be ways to ensure that development takes place as intended in the land use plans. The process of achieving the development of land in the building zone according to its use is known as materialisation (EspaceSuisse, 2019). There are many reasons why materialisation may not take place. In Switzerland, these reasons include noise pollution, site contamination, plot geometry, access provision, topography and natural hazards such as danger of flooding. The most common reason by far is, however, the willingness of the landowner to develop (Nebel, 2013; Professur für Raumentwicklung, 2017). RPG Art 15a gives the cantons and municipalities the mandate: "to take the measures that are required in order that building zones are used for their assigned purpose, in particular measures required under land law such as land reorganisation projects" and also the ability to set deadlines for development of a parcel (Swiss Federal Council, 2019). This is necessary to address issues such as the hoarding of developable land, a practice which is particularly prevalent in less urban areas, where development of the land is deferred due to an outlook on potential financial gains (Grams, 2015). This issue cannot be circumvented as a majority of the developable land, especially in the smaller Swiss municipalities, is in the hands of private landowners (Grams, 2015, p. 100). The above-mentioned law provides the basis for instruments to encourage materialisation through certain limitations to property rights.

Below, the main materialisation instruments and the most important formal inward development tools specific to Switzerland are shortly introduced. Informal tools, including those useful for materialisation, are presented in 1.4.3.

#### Land reorganisation ("Landumlegung")

Land reorganisation is a tool that allows the reorganisation of parcel divisions in an area where development and access and utility provision is not readily possible due to parcel geometry or complicated ownership situations. The reallocation of parcels is performed so that the parties involved receive land in equal value to the land they contributed (ARE TG, 2017, p. 28; Planungs- und Naturschutzamt, 2018, p. 5). Land reorganisation is often accompanied by the special use planning process (see 2.1.4) and exists in all cantons in some form. The canton of Schaffhausen for instance allows under Art. 19 of the cantonal building laws (Grosser Rat des Kantons Schaffhausen, 1997) for it to be used if the "current division of parcels impedes the development of the land". It can be applied to vacant plots as well as to areas that are already partially overbuilt, making it a valuable tool in inward development.

#### Focus zone ("Schwerpunktzone")

This is a materialisation instrument available in the canton of St. Gallen. In areas that have a high priority for being redeveloped (large public interest) the municipalities have the right to enact a focus zone. In a focus zone, if  $\frac{3}{4}$  of landowners in the area agree to development the remaining landowners are required to take part as well. This process falls under compulsory purchase laws and should thus only be considered as a last resort for achieving materialisation (Mangeng, 2017).

#### Deadlines and right of purchase contracts

There are numerous ways in which deadlines can be used to steer development and ensure materialisation. A common option is for the municipality to make land use plan amendments dependent on construction within a certain time period, e.g. 5 years. If the landowner fails to meet the agreement,



the municipality may take some kind of action such as reassessing the zoning or exercising a right of purchase (Mangeng, 2017). For example, in Schaffhausen according to Art. 29a of the building code the municipality could have the right to acquire the parcel in question (Grosser Rat des Kantons Schaffhausen, 1997). This process is often done through a right of purchase contract that allows a party to purchase a plot in the future under predefined conditions. The selling price can be defined in the contract and may also deliberately be below market value. This incentivises the landowner to develop within the timeframe given in order to avoid a financial loss (Gilgen, 2012). According to Art. 29b of the building code (Grosser Rat des Kantons Schaffhausen, 1997), when land is newly assigned to the building zone there is a default deadline for realising construction. If it is not met the municipality may acquire the land at market value.

#### Added value levies ("Mehrwertausgleich")

Zoning designations can have an effect on the value of land. The revised RPG stipulates in Art 5 (Swiss Federal Council, 2019) that added values created through planning advantages should be compensated. This is predominantly the case when the value increases by newly allowing development or allowing denser development on a plot. Known as an added-value levy ("Mehrwertausgleich"), it is noted in the land registry. The tax is due in addition to capital gains tax (Gilgen, 2012). It is due when the earnings are realised, meaning when the property is either developed or sold. From a federal perspective a minimum 20% tax is due on added value generated by newly assigning land to the building zone. However, the cantons can decide to choose a higher rate and may also tax gains from the changing of designations within the building zone at a rate that they deem appropriate. The income generated through this levy shall either be used to compensate landowners whose property value has decreased (e.g. as a result of releasing their land from the building zone) or used for some other spatial planning tasks, as is specified in Art 5 RPG (Swiss Federal Council, 2019). For instance, the canton of Schaffhausen has chosen a 30% levy on transferring land to the building zone and 20% for changes within the building zone, both of which feed a cantonal fund for the purposes mentioned above (Kantonsrat Schaffhausen, 2018). Increases in the allowable density, however, can either be levied by the municipalities at a maximum rate of 20% for a municipal fund or alternatively concessions are negotiated by the landowners in an urban development contract (Kantonsrat Schaffhausen, 2018).

#### Contracts under administrative law

Concessions or intentions of landowners, e.g. on certain development, services or deadlines, can be laid down in a contract under administrative law with the landowner(s) and the municipalities as contracting parties. These contracts may also count towards compensating planning advantages in place of money (Verein Agglomeration Schaffhausen, 2015, p. 20; ARE TG, 2017, p. 28).

In general, it can be noted that measures that curtail property rights more strongly are often less popular but also at the same time often the most effective at materialisation (Arbeitsgemeinschaft Alpenländer, 2000). Successful inward development therefore depends on finding a balance between different approaches in order for a municipality to achieve development with support from landowners and the public.

## **2.2. Introducing the Seychelles**

In order to understand the Seychelles planning system, it is important to know some basic facts about the nation as well as understand the state's organisational structure. For the presented information to be put

into context, comparisons to respective figures from Switzerland and Schaffhausen canton in particular are made.

### 2.2.1. Geography and Demographics

Having been an independent island nation since 1976, the Seychelles have a land mass of 455m<sup>2</sup> and had a population of approximately 93'400 people in 2015 (Government of Seychelles, 2014, p. 4; National Bureau of Statistics, 2017, p. 7). The country (see Figure 7) consists of 115 islands and is located in the Indian Ocean; the capital being 1'350 km from the east coast of Africa (Government of Seychelles, 2014, p. 60).

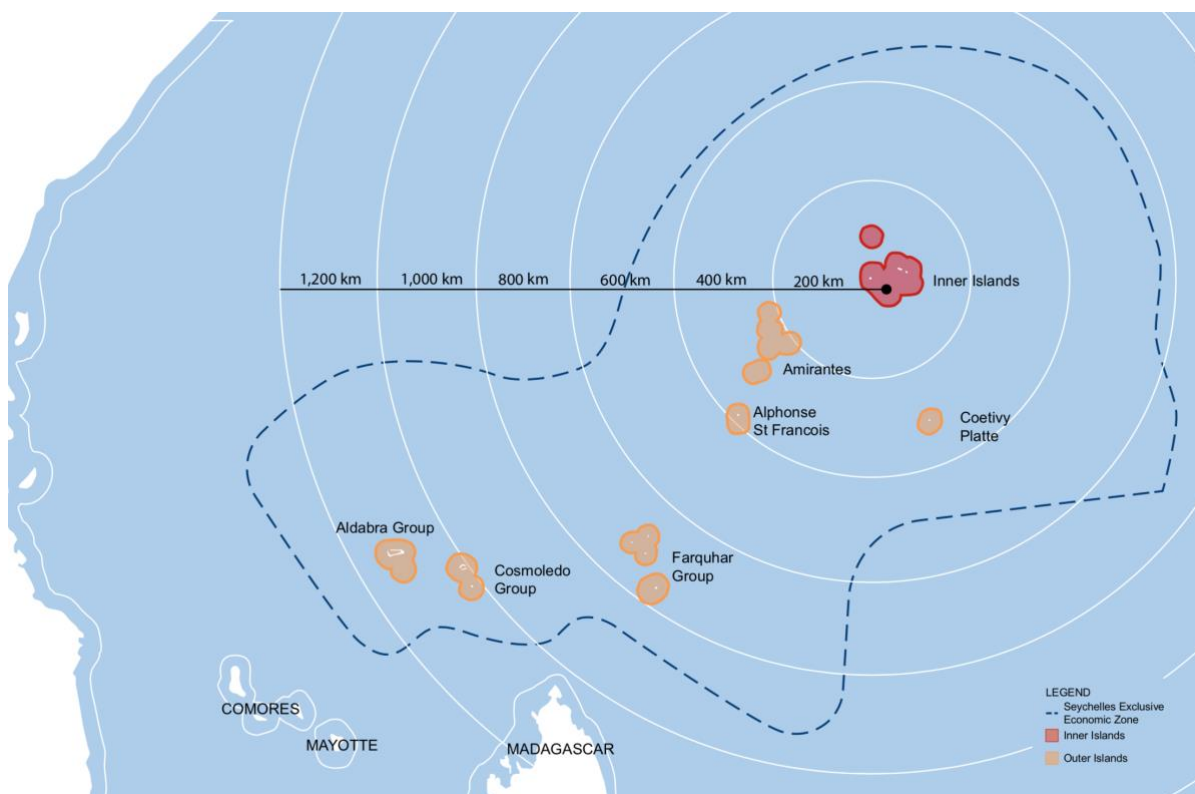


Figure 7 Seychelles Archipelago (Government of Seychelles, 2015b, p. 5).

The islands of the Seychelles are separated into the small and barely inhabited coralline Outer Islands and the 41 granitic Inner Islands of which the three largest are home to 99% of the nation's population (Ketterer, 2006; Government of Seychelles, 2016a, p. 4). These three larger islands are Mahé (148 km<sup>2</sup>), Praslin (38 km<sup>2</sup>) and La Digue (10 km<sup>2</sup>) of which Mahé is the largest and most populous island, on which the capital, Victoria, is located (see Figure 8). Despite the small land area, the Seychelles are a far spread nation with the Outer Islands lying between 230 and 1'150 km away from Mahé (Government of Seychelles, 2014, p. 61, 2016a, p. 4).

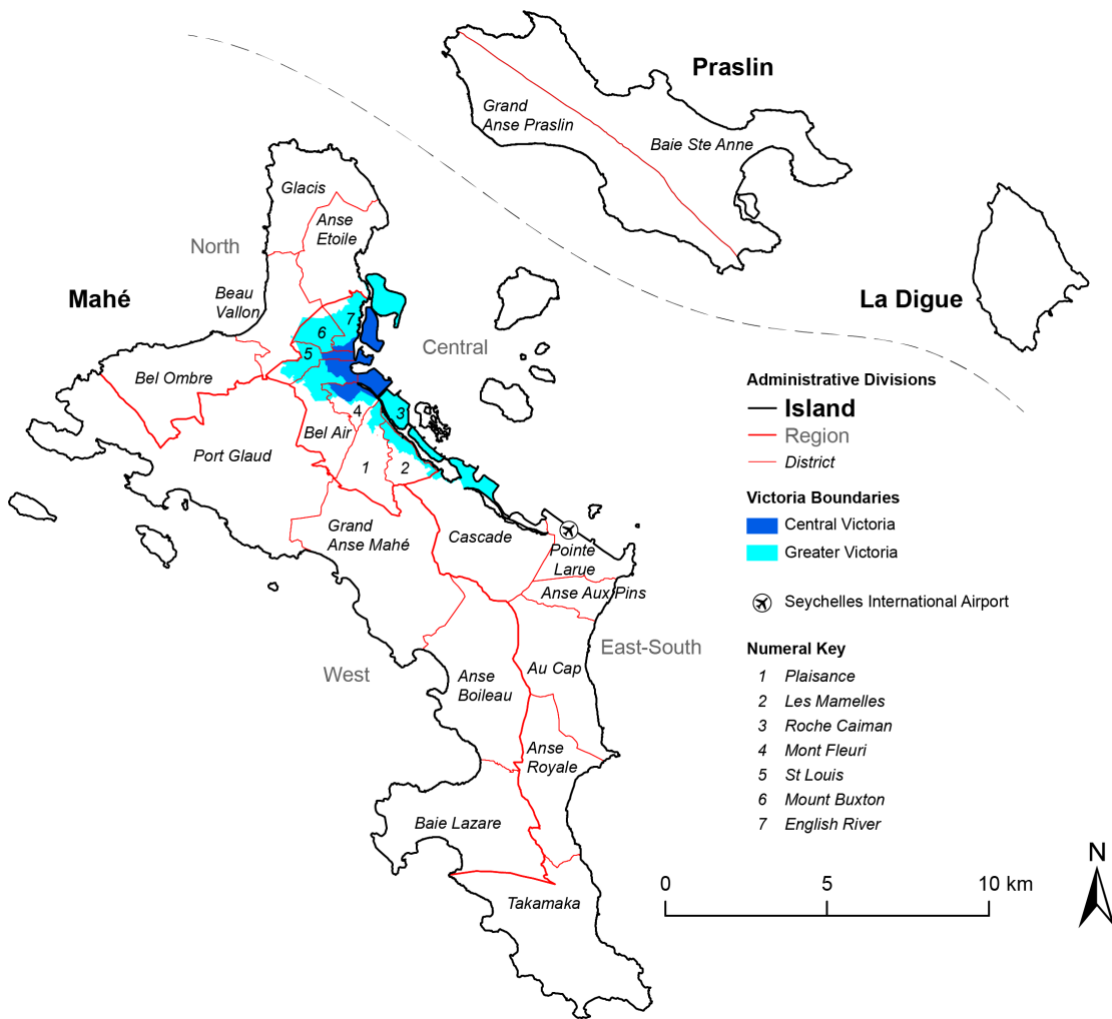


Figure 8 Inner Islands Political Map (Own diagram, data: ARUP, 2015).

Due to its similar size and population, the canton of Schaffhausen (see Table 1) was chosen for a comparison with the Seychelles. The comparison aids in placing the spatial challenges and tasks into perspective. The Seychelles can be equated to a small Swiss canton that also needs to fulfil federal functions.

Table 1 Key Figures for the Seychelles and Schaffhausen

	Seychelles	Canton Schaffhausen
Population 2015	93'400 <sup>1</sup>	79'840 <sup>2</sup>
Population 2030	111'700–127'500 <sup>3</sup>	86'500–94'400 <sup>4</sup>
Employees	55'120 <sup>3</sup>	45'628 <sup>6</sup>
Land Mass [km <sup>2</sup> ]	455 <sup>5</sup>	298 <sup>6</sup>
Land Cover (%)		
Settlement area	18 <sup>7a</sup> , 7.4 <sup>7b</sup> , 31.4 <sup>7c</sup>	11.4 <sup>6</sup>
Agricultural land	22 <sup>7a</sup> , 3.3 <sup>7b</sup> , 3.4 <sup>7c</sup>	43.9 <sup>6</sup>
Forested land	43 <sup>7a</sup> , 89.4 <sup>7b</sup> , 65.1 <sup>7c</sup>	43.3 <sup>6</sup>
Other	17 <sup>7a</sup> , 0 <sup>7a</sup> , 0.1 <sup>7c</sup>	1.4 <sup>6</sup>
Population Density [Inhabitants/km <sup>2</sup> ]	205	268
Household Size	3.6 <sup>8</sup>	2.2 <sup>9</sup>
GDP per capita (\$)	15'410 <sup>10</sup>	86'478 <sup>9</sup>
Employment by sector (% of workers)		
1 <sup>st</sup> sector	0.9 <sup>9</sup>	4.3 <sup>11</sup>
2 <sup>nd</sup> sector	22.5 <sup>9</sup>	29.4 <sup>11</sup>
3 <sup>rd</sup> sector	76.6 <sup>9</sup>	66.4 <sup>11</sup>
Modal Split (%)	of trips	of legs
Motorised Private Transport	40.9 <sup>12</sup>	39.0 <sup>13</sup>
Public Transport	32.9 <sup>12</sup>	16.0 <sup>13</sup>
Human powered Transport	26.2 <sup>12</sup>	45.0 <sup>13</sup>
Local government entities	26 <sup>6</sup>	26 <sup>7c</sup>

<sup>1</sup> National Bureau of Statistics (2017, p. 7)

<sup>2</sup> Volkswirtschaftsdepartement Kanton Schaffhausen (2018)

<sup>3</sup> see Appendix A.1

<sup>4</sup> Bundesamt für Statistik (2016)

<sup>5</sup> Government of Seychelles (2014)

<sup>6</sup> Schaffhauser Kantonalbank (2017)

<sup>7a</sup> Payet (2003)

<sup>7b</sup> Food and Agricultural Organization of the United Nations (2015)

<sup>7c</sup> Government of Seychelles (2014)

<sup>8</sup> Government of Seychelles (2015b)

<sup>9</sup> Bundesamt für Statistik (2019)

<sup>10</sup> The World Bank (2016)

<sup>11</sup> National Bureau of Statistics (2017)

<sup>12</sup> Government of Seychelles (2014, pp. 282–283)

<sup>13</sup> Kanton Schaffhausen (2017)

## Trends and Predictions

The Seychelles are expecting a growing population (see Table 1) for the coming years with a prediction of up to 135'300 by 2040 (Government of Seychelles, 2015a). At the same time the household size, having fallen from 4 members per household in 2002 to 3.6 in 2015, is predicted to continue falling to 3.2 by 2040 (Government of Seychelles, 2015a). These two trends lead to a predicted growth in the number of households of 12'448 in the 2014 to 2040 period to a total of 41'433 units, a 43% increase (Government of Seychelles, 2016a, p. 25). As can be seen from Table 1, Schaffhausen is subject to a similar trend in

population growth. Household size has also historically sunk and will continue to sink, albeit more slowly, leading to a 21% increase in the number of households by 2045 (Kohli, 2016, p. 4).

In the Seychelles, the makeup of income levels of households is also predicted to shift considerably with a considerable increase in the number of Seychellois who can afford their own house, as can be seen in Table 2. This heightened wealth is likely to increase per capita demand for land, adding to the increase in demand for land from the growing population. Thus, pressure on land and resources will continue to grow (Ketterer, 2006, p. 57). This development has been a major motivation for establishing the Seychelles Strategic Land Use and Development Plan (Government of Seychelles, 2016a, pp. 19, 20). These trends are important boundary condition that will guide spatial planning issues for the upcoming years.

Table 2 Seychellois Households by Income Levels (Government of Seychelles, 2015a)

Income level	Description	No of Seychellois Households 2014	% of Seychellois Households 2014	No of Seychellois Households 2040	% of Seychellois Households 2040
Low	Can lease social housing or purchase with subsidy	11'378	42.56%	8'708	23.28%
Medium-low	Can purchase social housing	10'063	37.64%	14'503	38.77%
Medium-high	Can participate in Land Bank (see 2.2.4) and build privately	3'574	13.37%	8'057	21.54%
High	Can buy land privately and build privately (self-develop)	1'719	6.43%	6'141	16.42%

## Land cover

An estimation of the land cover of the Seychelles can only be conducted under great uncertainty, as this data is not systematically collected (Coeur Du Lion, 2019). Therefore, only a rough picture of land cover and its change over time can be drawn by comparing a past estimation from 1998, a rough UN estimation from 2015 and the land uses as they are assigned by the 2012 Land Use Plan drafts which act as an indication of the land cover in the future (Payet, 2003; Government of Seychelles, 2014; Food and Agricultural Organization of the United Nations, 2015). This reveals a past reduction in the land area used for agriculture and a likely future increase in the settlement area (see Table 1). The past development of the forest area is less conclusive but currently forests are coming under pressure by settlement expansion. For La Digue, the past change in land cover is documented in more detail, revealing that the "built-up areas have increased by nearly 30%" and the " area covered with forest and grassland, and areas used for agriculture has decreased significantly by up to 45%" in the 1999–2011 time frame (Government of Seychelles, 2014, p. 864).

Compared to the canton of Schaffhausen, agricultural land in the Seychelles is far less prevalent and the settlement area is larger. This indicates a lower settlement density despite similar population density (see Table 1). 46.6 % of the land in the Seychelles is protected. When discounting the Outer Islands this leaves 22.3 % (Government of Seychelles, 2014, p. 26).

## Economy

The country is a member of the Group of Small Island Development States (SIDS), meaning that it faces economic restrictions due to its limited size and geographic isolation. This makes it vulnerable to exogenous environmental and economic shocks (Ketterer, 2006, p. 57; Government of Seychelles, 2014, p. 58). As seen in Table 1, the previously dominant agricultural sector (plantations) only contributes very marginally towards employment (Government of Seychelles, 2014, p. 64). The industrial sector is dominated by tuna canning and processing (7% of all jobs) whereas the tertiary sector is heavily based around tourism which provides about 30% of all jobs (Government of Seychelles, 2014, p. 64). A large-scale shift from agriculture to tourism has occurred over the last decades, partially as a consequence of the opening of the Seychelles International Airport in 1971 facilitating tourism and a drop in the profitability of the agricultural sector (Payet, 2003; Ketterer, 2006). Tourism shall be complemented by the maritime sector ("blue economy") and financial services as the main sectors that the Seychelles intend to build on in the future for economic growth, a strategy that also underlies the SLUDP (Government of Seychelles, 2016a, p. 56).

## Transportation

Public transport on the Seychelles is organised by bus and has a high modal split share with 32.9% of trips (see Table 1). The island of La Digue is an exception in respect to transport behaviour as a majority of trips are made by bicycle with private vehicle usage being banned (Government of Seychelles, 2014, p. 110). These statistics are contrasted by a rise in popularity of private transport in the Seychelles with a 300% increase in the vehicle fleet of the nation from 6'050 to 17'515 between 1990 and 2010 (Government of Seychelles, 2014, p. 27). The future rise in travel demand is sought to be managed through a multi-modal approach in the SLUDP (Government of Seychelles, 2016a) although no exact modal split goals are named.

### 2.2.2. State Organisation

The state organisation of the Seychelles is strongly influenced by two factors: its presidential republic political system and the limited size of the country. This leads to the national level being the main level of decision-making which is the main tier of government with the competence to approve budgets and collect taxes (Government of Seychelles, 2014, p. 66; Francois, 2019).

The two primary political bodies are the National Assembly and the Cabinet of Ministers. The former being the legislative and the latter forming the Government of Seychelles (executive) under the lead of the President of Seychelles (Government of Seychelles, 2014, p. 66). Of the numerous government ministries, the Ministry of Habitat, Infrastructure and Land Transport (MHILT) is the one responsible for formulating planning policy. In particular, the execution of planning policy lies with the Seychelles Planning Authority (SPA), a department within MHILT. Other departments of relevance to spatial issues, such as the Lands Department responsible for the land registry and all land in government ownership, are also part of MHILT (Francois, 2019).

Below the national tier lies local government. The most important body of local government is the district (see Figure 8). 25 of the 26 districts are led by nominated District Administrators (DA) who are assisted by civil servants from the District Administration. The DAs are responsible for implementing government policy at the local level but they also interact with the inhabitants through participation and respond to local needs (Ketterer, 2006; Government of Seychelles, 2014, pp. 68–70). The 26<sup>th</sup> district of the Seychelles, the Outer Islands, are mainly under the responsibility of the Island Development Company, a commercial

parastatal organisation (Government of Seychelles, 2014, p. 924). Furthermore, a representative is elected per district as representative to the National Assembly which is complemented by some proportionally elected members. The Members of National Assembly (MNAs) are also involved in local decision-making and engage with the DAs as well as the public (Ketterer, 2006; Government of Seychelles, 2014, pp. 68–70).

There has been an ongoing effort in recent years to decentralise some government power to lower tiers since 2011 (Government of Seychelles, 2014, p. 70). This has resulted in the formation of 7 regional councils in 2018 with the councillors appointed by National Assembly (Government of Seychelles, 2018). The regional councils have budgeting powers and oversee projects. The DAs of a region are henceforth accountable to the Regional Councils rather than directly to the Local Government Department of national government. The DAs are responsible for implementation of decisions made by the councils. As it stands, the future of the regional councils is unclear. They are either to be solidified through elections or alternatively replaced by district councils (Francois, 2019).

### **2.2.3. Settlement Characteristics**

Only a narrow coastal strip along the foot of the granitic mountains of the main islands is suitable for development, amounting to 5.4 % of the land (Payet, 2003, p. 330). This land hosts 85 % of settlements and infrastructure (Government of Seychelles, 2014, p. 7). The Seychelles' settlement structure is characterised by numerous villages that are contrasted by Greater Victoria on Mahé, the main urban area with the city of Victoria as its centre (see Figure 9). The strong concentration of services and population around Victoria leads to a reliance of the other islands on Mahé for services (Government of Seychelles, 2014, pp. 106–108). Except the Seychelles International Airport at Pointe La Rue and the University of Seychelles at Anse Royale all important services such as the port facilities are located in the Victoria region (Ketterer, 2006). To alleviate this concentration, the SLUDP intends to establish a clearer settlement hierarchy with more regional centres (Government of Seychelles, 2016a, p. 40).

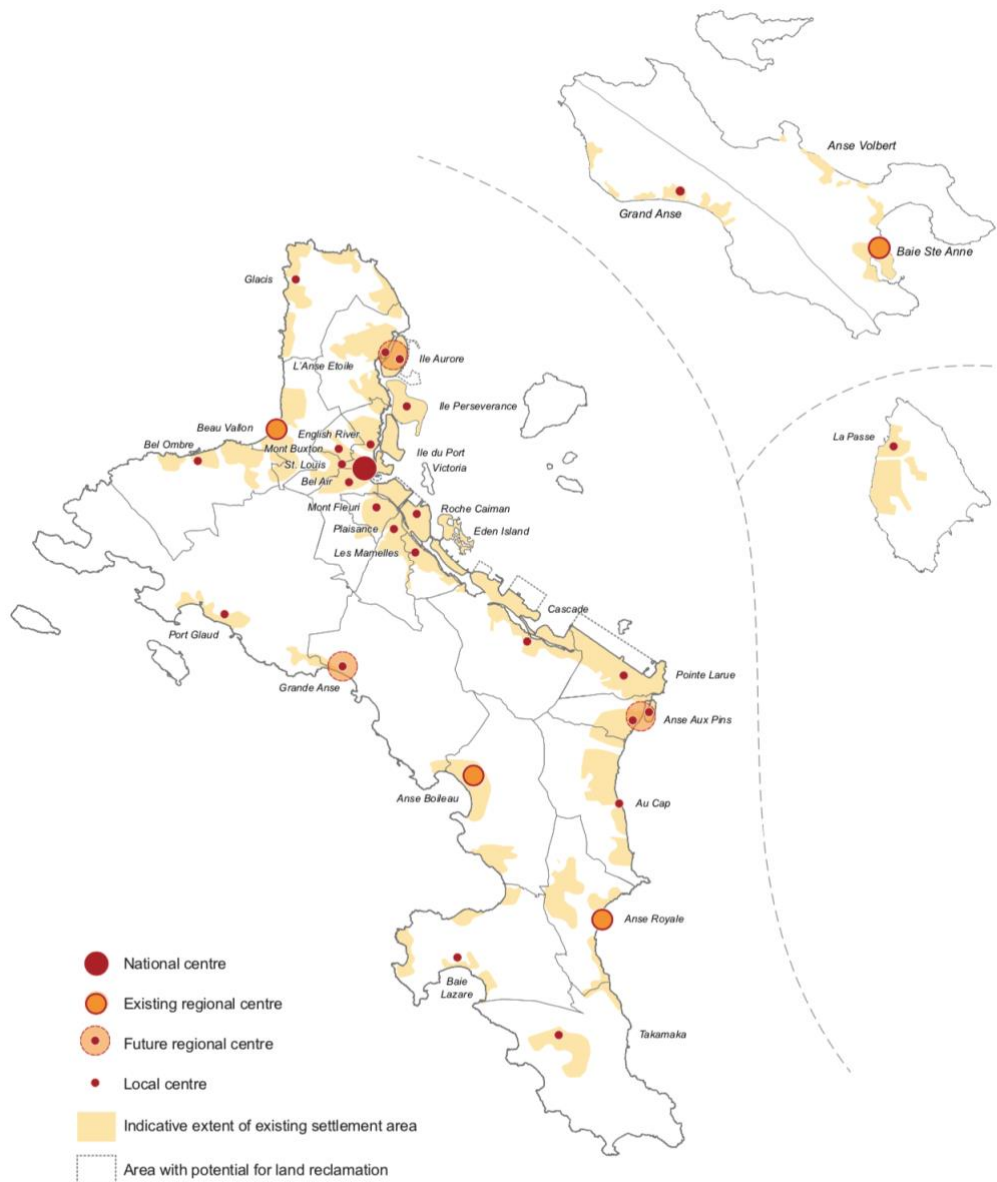


Figure 9 Seychelles Settlement Hierarchy with Current and Envisaged Centres (Government of Seychelles, 2016a, p. 41).

## Housing in figures

Below, a more detailed analysis of the built environment is undertaken to further the understanding of the settlement structure. Figure 10 shows that the Seychelles housing market has been focused on buying rather than renting, with 71% of dwelling units found to be occupied by their owner. 73% of the housing stock were described as a "building used wholly as one housing unit" while 22% were characterised as apartment units (Government of Seychelles, 2015c, p. 2.7). 17% of the housing supply (5'128 units) as of 2014 was social housing, owned in some form by the government (Government of Seychelles, 2015c). The share of apartment units has increased in recent years, especially for social housing, as Seychellois have slowly come to accept this type of housing as an affordable alternative to the detached house (Government of Seychelles, 2014, p. 155; LaBlache, 2019).



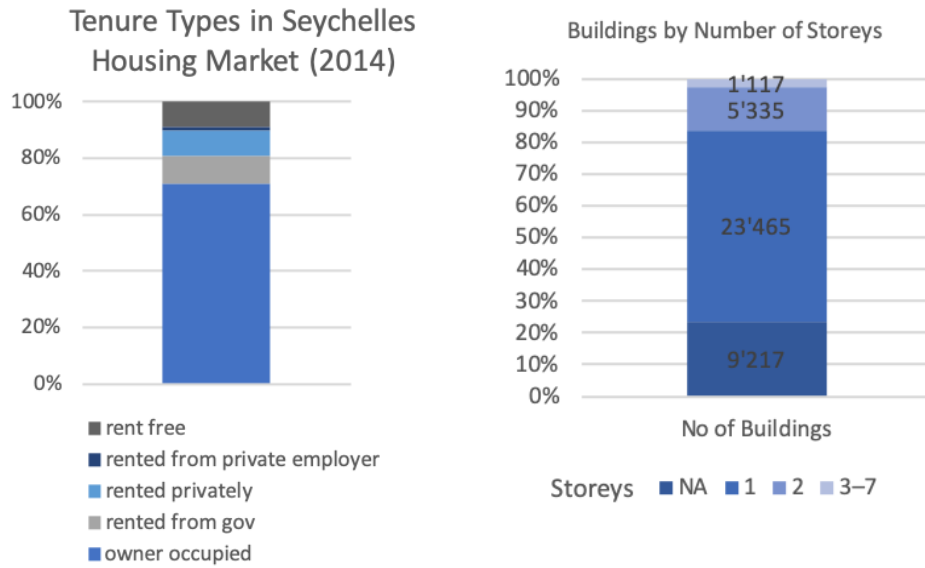


Figure 10 Left: Tenure Types in Housing Market (Own diagram, data: Government of Seychelles, 2015c).  
 Figure 10 Right: Buildings by Number of Storeys in Seychelles (Own diagram, data: ARUP, 2015).

The large share of detached housing is also reflected in the number of storeys of the Seychelles housing stock. 59.7 % of all buildings in the Seychelles are single storey (see Figure 10). There were just 1'117 buildings in 2014 with 3 or more storeys, making up 2.85% of the stock, with the maximum storey count being 7. The largest concentration of multi-storey buildings can be found in Inner Victoria where many non-residential uses lie (see Figure 11).

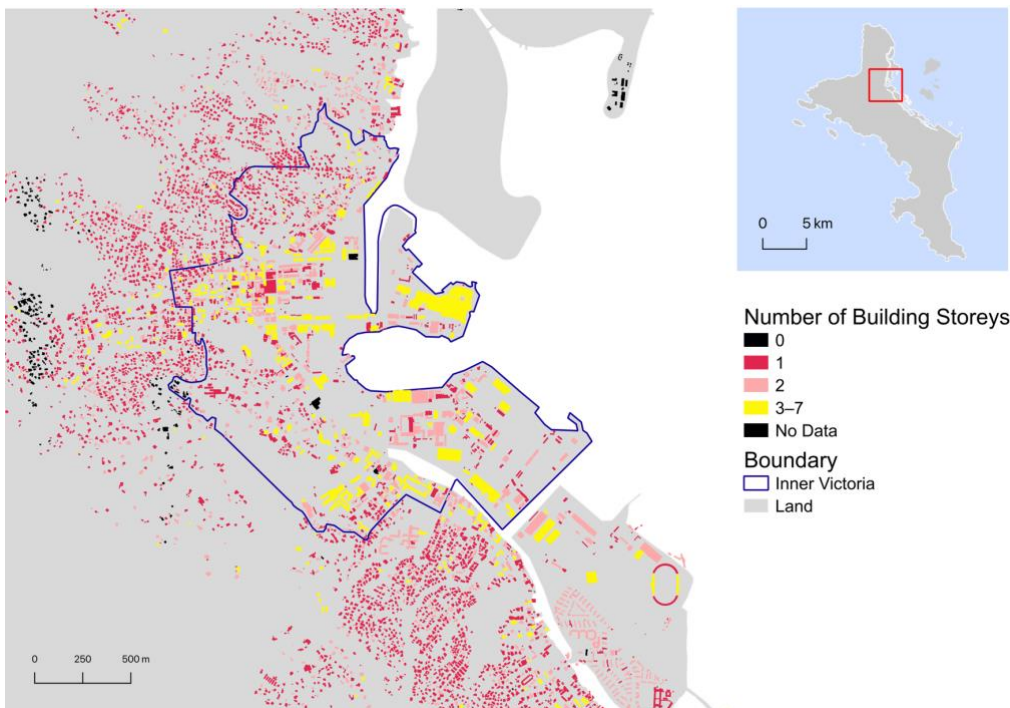


Figure 11 Building Storeys in Victoria (Own diagram, data: ARUP, 2015).

There are numerous factors that contribute to these settlement characteristics. Those that are a direct result of planning practice are laid out in chapter 4. There are also some more physical constraints which

are not eminently connected to planning but need to be taken into deliberation when discussing densities. Firstly, only 35% of Mahé's population is connected to the sewage system while the majority of settlements rely on septic tanks for waste water management (Government of Seychelles, 2014, p. 35). Such septic tanks can have an adverse ecological impact on surface water and groundwater and are considered incompatible with denser development (Government of Seychelles, 2016a, p. 182). Secondly, due to the limited funds of many private landowners, large plots are often occupied by small houses. This has led to gradual development of housing where the initial house is extended, sometimes repeatedly (Francois, 2019; LaBlache, 2019). This leads to the important metric of floor area consumption. Although the exact per capita value for the Seychelles is not known, an estimate per unit is given in the Appendix to the Strategic Plan at 70 – 100 m<sup>2</sup> of gross floor area (Government of Seychelles, 2015a). Paired with the present and predicted household sizes (see Appendix A.1) this yields 19.4–31.3 m<sup>2</sup> of gross floor area per capita.

### Settlement development through land reclamation

Previously settlement development in the Seychelles has been strongly led by outward development. Although the scarcity of land as a resource was identified at an early stage (Payet, 2003), this did not lead to a densification of the existing settlements. Instead, the demand for land has been repeatedly satisfied through land reclamation projects, predominantly along Mahé's eastern coast, as shown in Figure 12 and Figure 13 (Payet, 2003).

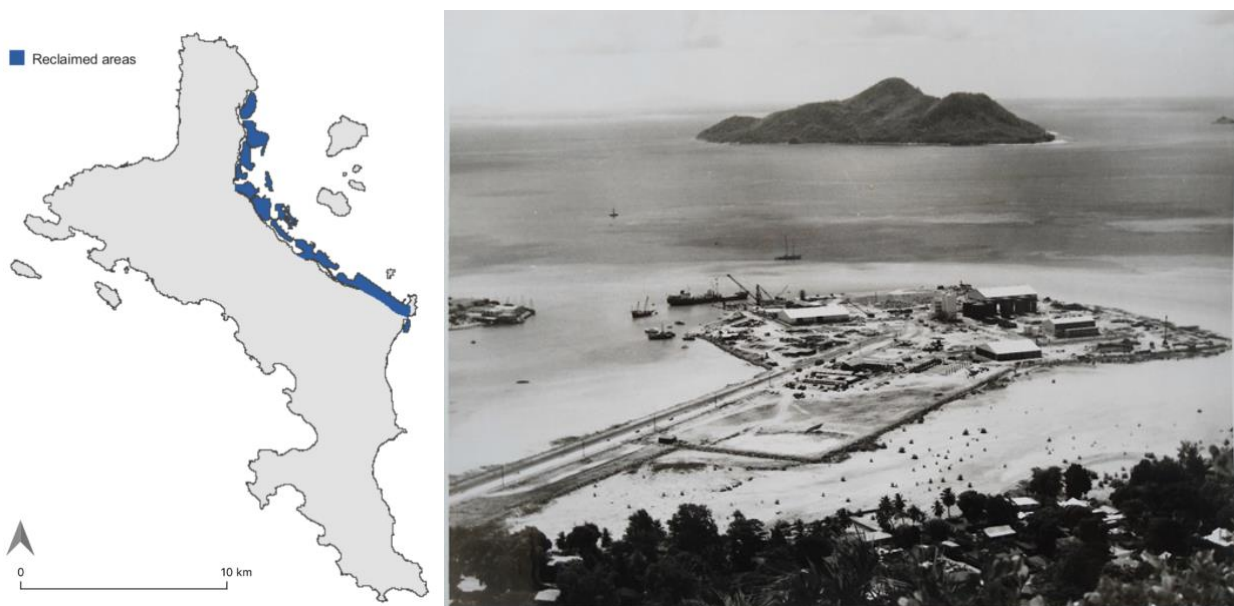


Figure 12 Left: Approximate Reclaimed Areas of Mahé (Government of Seychelles, 2014, p. 107).

Figure 13 Right: 1970s Land Reclamation at Victoria Harbour (Seychelles History Museum, 2019).

Unlike outward development land reclamation does not reduce the area of agricultural, forest and other land. However, the requirement for new infrastructures and the engineering of these reclaimed lands comes at high financial costs especially at greater depths (Debono, 2012). In the Seychelles, the shallow waters and scarcity of land suitable for development is thought to have made land reclamation financially viable (Payet, 2003). However, since low-density development has been predominant on existing land and land reclamation sites alike (Government of Seychelles, 2014, p. 102), the land reclamations have not led to an overall more economic land use. Land reclamations have also had the effect of Victoria becoming

detached from its waterfront (Government of Seychelles, 2016b, p. 18). To the effect that re-establishing this connection and activating the waterfront has been outlined as one of the six key strategies of the Victoria Masterplan (Government of Seychelles, 2016b, p. 32). In summary, although land reclamation can provide land for settlement development it is not a comprehensive alternative to inward development.

#### 2.2.4. Role of Government in the Housing and Land Market

The Government of Seychelles (GoS), through MHILT and government owned companies, plays a very active role in the provision of housing and is thus a major player in the housing market. The government acts as a supplier by constructing (social) housing, such as Ile Perseverance, a land reclamation project close to Victoria, with 2'056 government provided housing units. Additionally, GoS acts as a facilitator through schemes for land allocation, loans and financing (Government of Seychelles, 2014, pp. 155–157, 166).

A facilitating scheme of particular relevance to spatial development is the Seychelles Land Bank. The Land Bank are specific plots of government land (see Figure 14) that are allocated to Seychellois who participate in the scheme. The plots are allocated on a leasehold basis and allow the lessee to construct a first home on the land. This requires the applicant to have a certain minimum income. If construction does not take place within 5 years, GoS may repossess the property (Ministry of Habitat Infrastructure and Land Transport (MHILT), 2018). The land is offered by GoS at a reduced rate to enable those to develop a house who would not be financially able to do so in the private market. Although there are no restrictions by the Land Bank on the typologies built on these plots as long as they are residential, the overwhelming majority are developed as detached housing. Before the review of the Land Bank Policy in 2018, the land was given out on a freehold basis rather than as a leasehold which led to many of the allocated plots remaining undeveloped as there was no means of ensuring their development (Albert and Boniface, 2019).

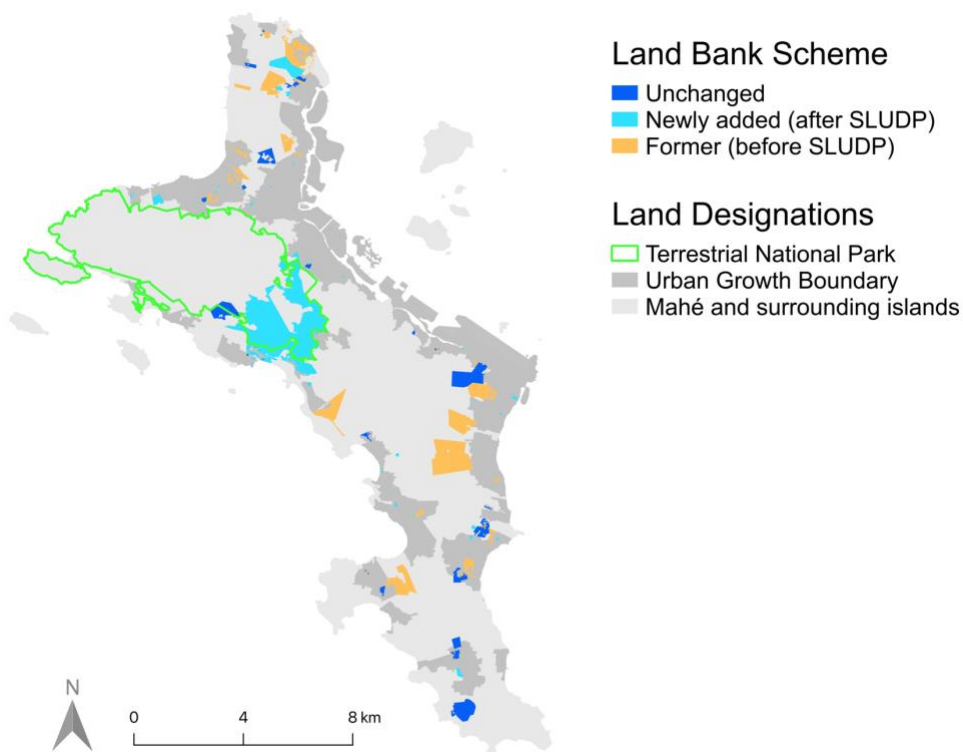


Figure 14 Extent of Land Bank on Mahé (Own diagram, data: ARUP, 2015).

Due to the low-density of development and the location of many of the plots on remote forested hillsides, some of which are even in Protected Areas (see Figure 14), it is evident that the Land Bank Scheme is partially at odds with sustainable development and economic land use (see chapter 1.4.1). For this reason, the scheme came under review when the SLUDP was prepared, resulting in suggestions to reassign Land Bank land to other uses as well as a reduction of plot size for Land Bank plots from the previous 1'000 m<sup>2</sup> per plot to the current 400 – 800 m<sup>2</sup> (Government of Seychelles, 2016a, p. 93; Albert and Boniface, 2019). In the SLUDP a Land Bank area of 9.65 km<sup>2</sup> was proposed (ARUP, 2015). Furthermore, the plan suggests that housing delivery shall be less focused on the GoS providing housing itself and see a shift towards more private involvement (Government of Seychelles, 2016a, p. 290).

The role of the GoS in the land market is more difficult to determine than in the housing market. As the Seychelles Land Registry is not completely digitised and not all land is surveyed it is very difficult to estimate how land tenure is distributed spatially and quantitatively. The Lands Department does not possess a complete overview over the extent of state-owned land. A rough approximation suggests that at least a quarter of the Inner Islands are government-owned much of which can be found in the National Parks (Government of Seychelles, 2014, pp. 99–100, 408; Albert and Boniface, 2019; Coeur Du Lion, 2019). Consequently, there is no systematised and readily available data on the suitability of government land for development, including that of the Land Bank (Albert and Boniface, 2019).

## **2.3. Planning System and Practice of the Seychelles**

Below, the main planning institutions as well as instruments of spatial planning in the Seychelles are introduced and some prevalent planning practices highlighted. Subsequently, these instruments and practices are summarised and contrasted with their Swiss equivalents in chapter 2.4.

### **2.3.1. Planning Legislation**

The heart of Seychelles planning legislation is the Town and Country Planning Act (1972) (Cap 237) which predates the country's independence. As described in chapter 2.3.2, this is set to be replaced by the Physical Planning Bill in the course of 2019, although introduction has been sought since at least 2014 (Government of Seychelles, 2014, p. 6; Biscornet, 2019). Both pieces of legislation pertain to the organisation of the Planning Authority and its functions, specifications on the production of Land Use Plans and Development Plans, and regulations on planning permissions and development control (Law of Seychelles, 1972; Government of Seychelles, 2019). The central elements of the new bill are bringing legislation in accordance with the current organisational structure and practices of the Seychelles Planning Authority (Government of Seychelles, 2014, p. 75; LaBlache, 2019). It also lays out the clearer foundation for the introduction of binding Land Use Plans as described in chapter 2.3.4.

The Seychelles also have a long-standing tradition of environmental protection. For instance, the National Parks and Nature Conservancy Act (1969) (Cap 141) that established the legal basis for the national parks and protected areas dates to 1969 and the Environmental Management Plan of 1989 was one of the first of its kind (Payet, 2003; Ketterer, 2006). The protection of waterways dates back even earlier with the State Land and River Reserves Act (1903) (Cap 228) allowing a 10 m vegetation buffer along riverbanks. However, this has not been enforced and development in urban areas often encroaches on rivers (Payet, 2003). The importance of environmental preservation also becomes apparent when considering Environmental Impact Assessments (EIA). These are to be compiled by a developer when making a building application for a larger project and are processed by the Department of Environment. However, a lack of

coordination between the Planning Authority and the Department of Environment on approving of applications and an insufficient monitoring process of adherence to the EIA conditions have been observed in the past (Payet, 2003; Government of Seychelles, 2014, p. 92).

### 2.3.2. Seychelles Planning Authority

The Seychelles Planning Authority (SPA) is a government department led by a CEO and has two main lines of operation. On the one hand, it is responsible for drafting, developing and implementing planning instruments and policy and on the other, it deals with almost all building applications made in the Seychelles (compare Figure 15). The first line of operation falls under the purview of the minister of MHILT, the second under that of the Planning Authority Board (Francois, 2019). Besides approving building applications, the Board also has decision power over construction guidelines, land uses and some land use policies. The Board consists of members from the private sector as well as from various government ministries (Servina, 2019). The mission of the SPA includes the regulation of land use, the enforcement of the planning acts and the enabling sustainable development (Law of Seychelles, 1972; Servina, 2019). Beyond this, SPA is also consulted on purchase decisions made by the Lands Department and the ministry concerning government land (Francois, 2019).

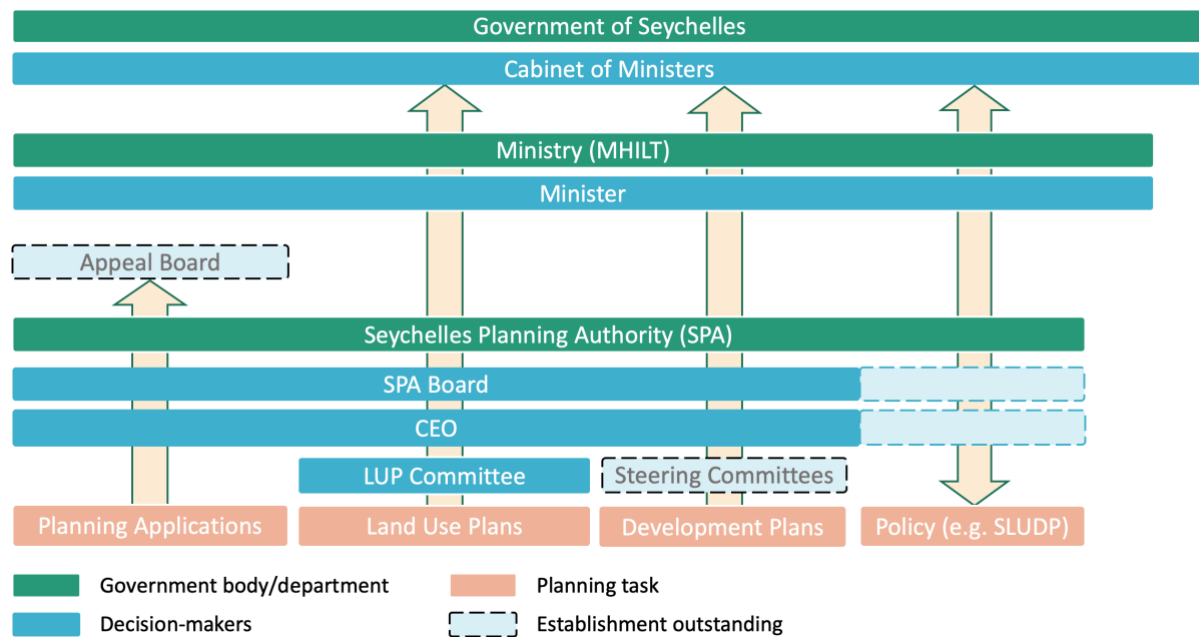


Figure 15 Planning Responsibilities Organisational Structure (Own diagram, based on: Seychelles Planning Authority, 2018; Belle, 2019b; Biscornet, 2019; Government of Seychelles, 2019).

Although the Planning Authority was intended to be an autonomous body from the onset this has so far not been achieved (Payet, 2003, p. 332). The SPA is still in the process of becoming a separate body corporate (Francois, 2019) which should transfer budgetary powers from the Ministry of Finance to the Planning Authority Board. The close relationship between the ministry and the SPA has established feedback loops between policy-making and implementation which has produced an efficient system (Payet, 2003). However, in the past the spatial planning efforts by the Planning Authority have been predominantly of an informal nature which has led to criticism that decisions lack consistency (Chow, 2014). The pragmatic approach to Land Use Planning also led to the quashing of the Baie St. Anne Land Use Plan in 2016 by the Supreme Court of Seychelles (Supreme Court of Seychelles, 2016). As a

consequence, the SPA has been determined to revise land use planning, planning application and appeal processes to achieve greater consistency between daily practice and underlying legislation, increase transparency and heighten planning security. At the core of these efforts lies the draft for the Physical Planning Bill which is expected to be approved by the Cabinet of Ministers in the course of 2019 (Biscornet, 2019).

Even though assessing planning applications is only one of many tasks of SPA (see Figure 15) it is by far the task with the most staff is allocated to it. Strategic planning in the form of land use planning (see chapter 2.3.4), Development Plans (see chapter 2.3.5) or implementing the policies of the SLUDP and VMP is allocated considerably less staff (Belle, 2019b).

The deficits in terms of time, experience and budget of the Planning Authority for strategic planning are contrasted by the repeated successful securing of international funds for urban and infrastructure development projects, e.g. via the World Bank. Often, not only the financial contribution is of importance but also the expertise that is brought to the Seychelles for the duration of such projects. Examples of this practice are the assistance of the United Nations Development Programme (UNDP) in the drafting of the new Physical Planning Bill, the World Bank in building geospatial databases to help decision-making or that of the Abu Dhabi Urban Development Council in the making of the SLUDP (Biscornet, 2019; Coeur Du Lion, 2019). There are also funding possibilities that draw on domestic sources, e.g. by getting approval and funding for projects by the Seychelles Development Committee, a committee responsible for allocating funds to specific government projects across all ministries (Belle, 2019b).

### **2.3.3. Strategic Land Use and Development Plan and Victoria Masterplan**

The Seychelles Strategic Land Use and Development Plan (SLUDP) and the Victoria Masterplan (VMP) are comprehensive planning documents produced by an external consultancy, ARUP, and involving much participation by the public at numerous charettes. Finalised in 2016, their compilation was initiated by the Council of Ministers in response to rising problems concerning traffic and the need for more coordinated planning. The two documents that describe the desired spatial development of the Seychelles and Mahé up to 2040, are designed to guide the actions of the SPA, for instance when assessing planning applications (Government of Seychelles, 2016b, p. 5). Being informal instruments, they are not legally binding and their contents needs to be weighed against other interests. Hence, the plans require operationalising through fixation in formal instruments as is intended with the Land Use Plans (Francois, 2019).

#### **Strategic Land Use and Development Plan**

The Strategic Land Use and Development Plan includes a vision for the Seychelles, a spatial strategy and eight *topic strategies* which cover numerous spatial issues in a sectoral fashion. Subsequently, the plan includes the Mahé Framework which specifies the strategies of the plan for Mahé and localises the planning measures. Finally, the plan includes a schedule for implementing its policies including necessary adaptations the Land Use Plans as well as a vision for each district (Government of Seychelles, 2016a, pp. 12–13).

Many of the policies in the plan strengthen the case for inward development and economic land use in the Seychelles. These policies include the promotion of increased densities (policy H6) and mixed-use development (E9), the protection of agricultural land (E14), restrictions on development in Protected Areas (EV1) and the coordination of land use planning and transport (TR1). The quality aspect of inward development is captured by policies that call for ensuring high quality design of new development (CH7)

and the development of a high-quality public realm (CH8). There are also policies set out to ensure implementation of this type of development such as the promotion of developer contributions (IP4).

In policy F3 the plan suggests an approach similar to Switzerland's strategy of inward development before outward development by stating that development should be concentrated within certain central areas, known as Urban Growth Boundaries (see chapter 2.3.4). If these areas are not sufficient for meeting the housing demand and certain additional conditions are met, it is possible to resort to opening up additional land, mainly forested, for development (policies F3 and H8). This additional development beyond the Urban Growth Boundaries is specified in policy F3 as expected to

"be limited in scale and extent, be low profile, low density and not require significant engineering or earthworks (Government of Seychelles, 2016a, p. 214)."

This means, if reserves cannot meet demand, the excess demand shall at least partially be satisfied by resorting to area-intensive outward development. Hence, it is evident that not all policies in the SLUDP are consequently aligned towards the goals of inward development. This can be attributed to the fact that inward development is not an explicit strategy or goal of the plan. The plan's primary approach to land use is described as "meeting the country's needs" through "efficient and integrated land use management" (Government of Seychelles, 2016a, p. 11). Despite this lack of clear commitment to inward development, the overwhelming majority of policies in the SLUDP are in accordance with its principles.

### **Victoria Masterplan**

The Victoria Masterplan is based on the policies and strategies of the SLUDP and aims to coordinate the spatial development of Greater Victoria (see Figure 8) until 2040 in greater detail. The plan's goal is to make Victoria "a vibrant Creole Capital and Indian Ocean hub which is an attractive place to live, work, visit and invest" (Government of Seychelles, 2016b, p. 3). The aspect of living is likely the most challenging hereof, as the city is currently characterised by its small number of inner-city residents and resultant lack of vibrancy. This is in stark contrast to the growth expectations which locate 40% of the Seychelles' housing development by 2040 within Greater Victoria (Government of Seychelles, 2016b, p. 14). Consequently, the plan intends substantial transformations to the city's fabric which are not only supported by numerous strategies but are also made explicit through a plethora of concrete development projects. Besides continued commitment towards developing the numerous land reclamation projects along the eastern coast, the core projects in the Masterplan include the establishment of a financial district and a complete overhaul of the waterfront (Government of Seychelles, 2016b). In terms of implementation, all proposals of the masterplan are summarised in action plans and scheduled. Organisational and funding aspects of the proposals are briefly covered as well. The plan calls for the establishment of a Greater Victoria Development Unit to ensure its implementation. However, no such committee has been formed in the wake of the plan's adoption (Belle, 2019b).

Regarding inward development, the Victoria Masterplan reiterates many of the policies and goals as described in the SLUDP. A noteworthy addition is the promotion of intensification and infill development (policy DG3). This is exemplified by a case study for two streets adjacent to the city centre (Hangard Street and Serret Road) that includes overviews as described in chapter 1.4.1 and a suggestion on what typologies could be appropriate in this area (Government of Seychelles, 2016b, p. 48). However, there is no indication as to how the suggested development was derived from the overview and what makes it a suitable solution to the problem. This makes it difficult to reproduce the approach at other sites. Being able to do so would, however, be of great value to the SPA as experience with intensification and infill is limited. This is

characterised by the fact that the aforementioned case study was specifically conducted at the request of the SPA to further the understanding of how these processes work (Biscornet, 2019).

Although the Victoria Masterplan can be understood as a masterplan as is described in chapter 1.4.3., its scope and content are more equivalent to the Swiss regional or communal structure plan (see chapter 2.1.4) as is summarised in Table 3.

#### **2.3.4. Land Use Planning**

In its basic function the Land Use Plan (LUP) of a Seychelles' district can be readily be compared to that in Switzerland as described in 2.1.4, as it aims to determine the various land uses (Government of Seychelles, 2019). However, it differs in many aspects as are described in this chapter. Land use planning contributes greatly to achieving two of the core objectives of the SPA as defined in Section 5 of the Physical Planning Bill, those being: "to promote and ensure orderly and sustainable use and development of land in Seychelles" and to "safeguard the immediate and long term public interest in the processes and effect of planning and development of land in Seychelles" (Government of Seychelles, 2019, p. xiv).

There have been long-standing efforts to establish binding Land Use Plans in the Seychelles. Originally named a *Plan d'Aménagement du Territoire*, a first attempt was made in 1992 but did not achieve official endorsement (Seychelles Planning Authority, 2015). The subsequent attempt at establishing land use plans was undertaken in 2012 with UNDP funding (Coeur Du Lion, 2019). These plans, however, were more of a depiction of the current land uses rather than of the intended development adjusted to demand. Additionally, there were no policies such as those of the SLUDP to guide their production (Low, 2019). Following the adoption of the SLUDP, a renewed effort in reviewing the Land Use Plans and making them binding is being undertaken. To this end, a first batch of plans have gone through extensive public consultation with local stakeholders and are to be accompanied by a tailored text, called a scheme text. These practices which are markedly different from the ones in 2012 where consultations were less pronounced (Low, 2019). The first 5 Land Use Plans are currently awaiting final assessments before being presented to the Cabinet of Ministers and the National Assembly for approval (Belle, 2019a; Low, 2019).

So far, the existing Land Use Plans of 2012 and where available the drafts of 2017 and beyond have been used as an authority-internal basis for decision-making regarding planning applications. As Land Use Plans have not been binding for proprietors, it has been common practice for the SPA to negotiate with landowners in order to make their applications be in line with the draft Land Use Plans and policy goals (Belle, 2019a; Biscornet, 2019). It is anticipated that the intended introduction of binding Land Use Plans and of an Appeals Committee will reduce the need for negotiation of planning applications (Biscornet, 2019). However, this strategy has put the SPA in a passive, mitigating role rather than an active, steering role when it comes to influencing development. This is exemplified by the fact that the SPA does rarely actively approach landowners but rather they later approach the authority with designs and blueprints (Belle, 2019b).

The ongoing review of the Land Use Plans is done by the Land Use Planning Committee which under the lead of the SPA unites stakeholders from all relevant government departments as well as the local MNA and DA of the district for which the plan is being made. This committee is tasked with producing all the Land Use Plans of the districts. In addition, the development of the Land Use Plans is temporally pooled by regions, in order to consult the Regional Councils (Seychelles Planning Authority, 2017c, 2019b; Low, 2019). Following their introduction, the Land Use Plans are to be reviewed every 10 years with a more brief update every 5 (Government of Seychelles, 2019).



Similarly, to the development of a mission statement and a communal structure plan in Switzerland, the land use planning process includes a type of spatial strategy that is based on the district visions presented in the SLUDP (Seychelles Planning Authority, 2017a; Low, 2019). An example hereof can be seen in Figure 30.

In order for the policies of the SLUDP and VMP to manifest and reduce the need for extensive negotiations with landowners the establishment of formalised, proprietor and authority binding Land Use Plans is a top priority to SPA and the ministry (Belle, 2019b; Biscornet, 2019; Francois, 2019). It is intended for the Land Use Planning Committee to review all 25 Land Use Plans within a two year timeframe (Seychelles Planning Authority, 2017c, 2019b). It remains unclear how this schedule can be kept considering that the equivalent process in Switzerland commonly yields one plan in three years (Grams, 2015, p. 127).

### **Land use categorisation**

Land Use Plans in the Seychelles do not use floor area ratios to define densities but use plot coverage (maximum share of parcel area allowed to be covered in sealed surfaces) in combination with a maximum number of floors that can be erected. Some land use types also feature a minimal plot size which is meant to assure low levels of development in the respective areas and mitigate the negative environmental impacts of septic tanks (Seychelles Planning Authority, 2015; Belle, 2019a). To incentivise the connection of plots to the sewage system, the allowable plot coverage is greater for parcels that are connected to said utilities (Seychelles Planning Authority, 2015). This sewage bonus has, however, not led to the wide spread adoption of central sewage as the connection a plot to the system often requires negotiation with neighbouring landowners (Low, 2019).

Land that is not primarily intended for development is divided into several categories, each with different development possibilities:

- Protected Areas (marked with a P in the Land Use Plans) are primarily those that are statutorily protected through the National Parks and Nature Conservancy Act (1969) (Cap 141) and the erection of permanent structures is greatly restricted. Thus, this mainly encompasses National Parks, protected coastlines and wetlands (Government of Seychelles, 2014; Low, 2019). A large proportion of these areas are in government ownership (LaBlache, 2019).
- Agricultural Land (marked with A) can serve different types of agricultural uses. This category is mainly used for government owned agricultural land that is then often leased to farmers and allows no permanent structures. Privately owned agricultural land, however, is mostly classified as "Residential and Agriculture", a residential category (marked R), allowing for full residential development if the landowner seeks such (Seychelles Planning Authority, 2015; Belle, 2019a).
- Forest Land (marked F) consists mainly of forested areas. In general, these are not to be developed but exceptions can be made for private residential development if the ecological value of the land is assessed to be low by the Department of Environment (Low, 2019). Consequently, the SLUDP calls for opening up some of these areas to development following careful consideration when the growth requirements for housing can no longer be met (Government of Seychelles, 2016a, p. 94).
- Buffer Land (marked E) are mainly intended for safeguarding river and rainwater catchments or are characterised by unstable terrain. The conditions for developing it are similar to those of Forest Land (Low, 2019).

The quantification of the land use categories based on the 2012 LUPs is subject to chapter 3.3. Thus, an indication of the prevalence thereof is given in Figure 18.

### **Urban Growth Boundaries**

The aforementioned release of buffer land and forest land is strongly connected to the concept of the Urban Growth Boundary (UGB). The SLUDP also advocates for the introduction of these boundaries to the Land Use Plans (Government of Seychelles, 2016a, p. 87) which has seen implementation in the latest drafts, e.g. at Anse Aux Pins (Seychelles Planning Authority, 2017a). According to the SLUDP policy H2, Urban Growth Boundaries confine an area in a district that should cover the growth requirements for housing for at least the five upcoming years. Consequently, in accordance with policy H6 of the SLUDP "Promote Appropriate Densities" the areas within the Urban Growth Boundaries are where density allowances will be increased in the forthcoming Land Use Plans (Government of Seychelles, 2016a, p. 92). The location of the Urban Growth Boundaries for Mahé and the housing classification within have been indicated in the SLUDP (see Appendix B) but the exact location is subject to the Land Use Plan review of each district.

The resulting increase in reserves from increasing densities within the Urban Growth Boundaries has not been met by an equal reduction of the residential zones or development area (ARUP, 2015; Belle, 2019a). This is largely due to the fact that the legal consequences of barring the development on a plot of land have yet to be conclusively settled. It remains unclear if this constitutes a curtailment of the Seychelles' constitutional property right under Section 26 to "peacefully enjoy [...] property" (Government of Seychelles, 1993) and to what extent it may result in compensation payments (LaBlache, 2019). As the Land Use Plans are not yet approved and legally binding the matter has not been taken to the Supreme Court of Seychelles, so there is no precedent regarding it. If the constitutional property rights do prove to include a fundamental right to develop private property this would greatly restrict the Planning Authorities possibilities to contain the settlement area. It is currently intended that Buffer Zones and Forest Land may also be developed following approval from the Department of Environment in an effort to avert compensation claims (Low, 2019). However, this makes it difficult to see how development can be effectively contained within the Urban Growth Boundaries as intended. Furthermore, as the SLUDP is designed to guide development until 2040, reserves were calculated accordingly (Government of Seychelles, 2015d). However, it is not apparent how the area within the UGB was calculated to satisfy the demand of 5 years, especially as not every plot is assessed in detail as to its development potential (e.g. topography) before zoning.

#### **2.3.5. Development Plans**

The Physical Planning Bill is drafted to also allow for the production of Development Plans. These plans are intended to cover smaller areas than the LUPs and define development in greater detail, specifically the location, dimensions, functions and types of buildings. They also help coordinate the development of utilities and facilities (Francois, 2019). The SPA is aiming at producing Development Plans for strategic sites, for instance for nearly all village centres of the districts or for the major projects of the Victoria Masterplan such as the Financial District and the Waterfront (Biscornet, 2019; Low, 2019). So far, Development Plans have been exclusively produced by the SPA itself and most pertain to land that is in government or parastatal ownership. There are, however, ambitions to increase private investment and involvement in the plans (Francois, 2019). Their approval process is similar to that of the Land Use Plans, involving consultation, approval by the Cabinet of Ministers and gazetting. The Development Plans are therefore

also intended to be legally binding for proprietors and authorities and valid for a period of 10 years (Biscornet, 2019; Government of Seychelles, 2019). There is no direct link between the Development Plans and the Land Use Plans apart from the fact that the former need to be in agreement with the latter. Building applications are then to be based on the phasing of the Development Plans (Francois, 2019).

In the past, local initiative to redevelop the district centre in some districts has been high which prompted the (mid-project) involvement of the SPA to develop a Development Plan. However, some of these districts had not yet started on the review of the Land Use Plan on which the Development Plans should be based. This has either led to bringing the LUP review forwards or triggered an abridged LUP review of the immediate vicinity of the Development Plan perimeter, the results of which are later to be incorporated in the full LUP review of the district (Low, 2019). In conclusion, the limited manpower of the SPA has led to a prioritisation of Land Use Plans over Development Plans (Biscornet, 2019) which has led to some coordination difficulties between these two instruments in the districts. Thus, the preferred succession and dependencies between the Land Use Plans and Development Plans is still a matter of debate (Belle, 2019b).

The first Development Plans are currently in development or close to approval by the minister but there is still a great amount of uncertainty surrounding the instrument. First designs for Phase 1 of the Victoria Waterfront presented to the PA Board have been noted to not incorporate all aspects of the Development Plan but it is yet unclear if the designs will be adapted accordingly before approval. So far the Development Plans have mainly focused on government-related projects and have not been binding in the sense described above (Low, 2019). For many of the specifications made in the Development Plans it is unclear how these can be understood to be binding in the manner that would be common to the Swiss instrument with similar purpose, the Special Use Plan (see chapter 2.1.4). In Switzerland this process often requires land reorganisation (see chapter 2.1.6), an instrument which does not exist in the Seychelles (Francois, 2019). This limitation could reduce the effectiveness of Development Plans when private landowners are involved. There are ongoing deliberations on contributions that landowners could be required make to Development Plans but it is not yet clear how these will be regulated and what landowners will receive in return for their concessions (Low, 2019).

### **2.3.6. Materialisation Instruments**

The Seychelles planning system only has limited possibilities for ensuring the development of plots with formal materialisation being particularly scarce.

The major impediments to materialisation are commonly considered by the SPA to be inheritance disputes, inconvenient topography or shape of the parcel and issues relating to the provision of central sewage (Biscornet, 2019; Francois, 2019). These issues are all connected to how parcels are divided and zoned. As Francois (2019) notes, the issue of limited funds available to many landowners is amply compensated by the large number of government schemes to enable private development (see chapter 2.2.4).

Changes to the division of parcels can be achieved through amalgamation and subdivision of plots (Belle, 2019a). Zoning and also development do not require the presence of utilities. There is no equivalent to the instrument of land reorganisation where the costs of access and utility provision is distributed among the participating landowners according to defined rules (Francois, 2019). Therefore, it can prove difficult to provide access to utilities such as the sewage system to a plot if there is no agreement among neighbouring landowners (Low, 2019). In general, there is very little cooperation among landowners, hence, development is often executed on an individual plot level. Due to boundary setbacks this can result in

smaller buildings than would be possible if cooperation were to take place (Belle, 2019a). In conclusion, there are only limited possibilities to alter the division of parcels and compulsory purchase is not readily possible without significant public interest (Government of Seychelles, 1993; Belle, 2019a).

Furthermore, the SPA does not pursue an active land policy (see chapter 1.4.3). Firstly, as a budget-dependent entity its financial ability to do so is limited. Secondly, the management of government land is the responsibility of the Lands Department which is primarily focused on securing land for the direct use by government departments and bodies. Cooperation between the SPA and the Lands Department has increased in recent years, leading to a densification plots in government use (Francois, 2019). The SPA could also ensure development on private land but has no corresponding tools available (Francois, 2019) as deadlines or conditions connected to zoning or development, only exist for Land Bank plots (see 2.2.4).

With private landowners, the SPA has used some informal materialisation methods that include approaching, negotiating and consulting. Notable examples being attempts at resolving a dispute among landowners in Anse Lazio (Low, 2019), negotiations for securing a public space on Benezet Street (Low, 2019), and the address of landowners concerning their development intentions on Hangard Street through the local DA (Belle, 2019b). Although some progress could be made in all three examples, none has been brought to a close so far. Besides these occasional active approaches, the SPA mainly offers consulting services to landowners approaching the authority (see chapter 2.3.4).

## 2.4. Intermediary Summary

The connections between the various processes and authorities described in chapter 2.3 are presented in a concise form in Figure 16.

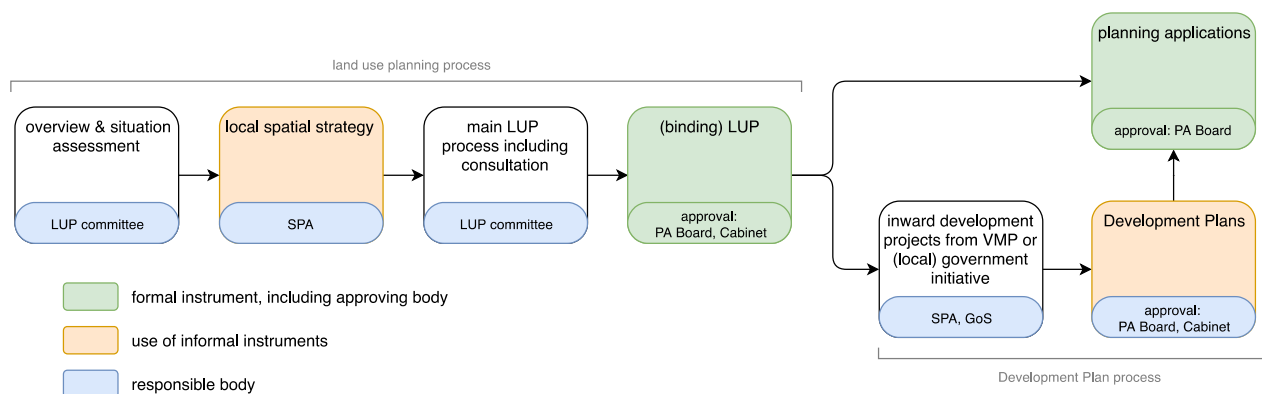


Figure 16 Current Planning Framework of the Seychelles. Own diagram, based on chapter 2.3, Francois (2019), Government of Seychelles (2019), Low (2019).

To put these elements of the planning framework into perspective Table 3 equates the elements of the planning systems and practices of the Seychelles and Switzerland to each other to clarify where overlap exists and where the differences lie. Some aspects are specifically compared to the canton of Schaffhausen, as it has important characteristics in common with the Seychelles (compare chapter 2.2.1).

Table 3 Juxtaposition of Bodies, Institutions and Instruments of Swiss and Seychelles Planning Systems

<b>Instrument</b>	<b>Switzerland / Schaffhausen</b>	<b>Seychelles</b>
<b>Important Legislation</b>		
Nominal planning law	Federal Act on Spatial Planning, Cantonal Planning Laws (RPG)	Town and Country Planning Act (pending: Physical Planning Bill)
Environmental law	Federal Act on the Protection of the Environment (USG)	National Parks and Nature Conservancy Act
Law on waterways	Federal Act on the Protection of Waters (GSchG)	State Land and River Reserves Act
<b>Planning on national (and cantonal) level</b>		
Main strategic planning instrument	Cantonal Structure Plan (binding to authorities)	SLUDP (guiding to authorities)
Further strategic planning instruments	Many, e.g. regional structure plan	Victoria Masterplan
Spatial strategy	Federal + Cantonal Spatial Strategy (Raumkonzept)	Spatial Strategy in SLUDP
Coordination of plans	Counterflow principle	Top down
<b>Planning on municipal/District level</b>		
(Informal) strategic planning instruments	Concepts, masterplans, Communal Structure Plan	VMP for Greater Victoria, otherwise none
Land use planning instrument	Municipal Land Use Plan (binding)	District Land Use Plan (not yet binding)
Land use planning procedure	Municipal committee	National committee, regional coordination
Definition of density	Floor area ratio	Plot coverage and number of storeys
Site-based specification of planning	Special Use Plan (binding)	Development Plan (not yet binding)
Responsibility for planning applications	Normally municipal task	National task (Planning Authority)
Informal processes	Test planning, competitive processes	Charettes, negotiations

<b>Materialisation</b>		
Demand Dimensioning	Reserves for 15 years	UGB for 5 years, reserves for ~25 years
Division of settlement area	Building zones vs non-building zones	Zones with varying degrees of protection, UGB
Pegging of zoning to construction within deadline	Yes, both for newly zoned land and existing land <sup>1</sup>	Only for Lank Bank (government land)
Compensation of effects of planning decisions	Mehrwertausgleich, compensation under compulsory purchase law	Potentially: compensation under compulsory purchase law
Reorganisation of parcels	Land reorganisation (Landumlegung), Schwerpunktzone (only St. Gallen)	Subdivision and amalgamation
Temporary halting of planning	Planungszone <sup>2</sup>	Negotiations by SPA
State housing policy	No supply of social housing. facilitation of home ownership <sup>3</sup>	Provision and facilitation of home ownership and social housing
Active Land Policy	Engagement and budget depend on municipal council	Purview of Lands Department, budget-dependency
Informal materialisation practice	Varies by municipality: (negotiations, landowners address, etc.)	Negotiations (SPA), landowner address (DA)

<sup>1</sup> Art 29a+b RPG Schaffhausen (Grosser Rat des Kantons Schaffhausen, 1997)

<sup>2</sup> According to Art. 25 RPG Schaffhausen (Grosser Rat des Kantons Schaffhausen, 1997)

<sup>3</sup> Wohn- und Eigentumsförderungsgesetz (Gilgen, 2012, pp. 377–78)

### 3 Quantification of Reserves

Based on the preceding overview of how the planning system is organised in the Seychelles, this chapter quantifies the settlement reserves of the Seychelles and assesses their expedience. As will be established in chapter 2.3.4 the reserves in the Land Use Plans are currently being increased to meet with the policies of the SLUDP. Those policies were based on the demand for land calculated in the *Land Use Assessment*, a supplementary report prepared for the SLUDP. This chapter examines the settlement reserves of the Seychelles in three ways to obtain a differentiated picture. Firstly, based on the calculations in the Land Use Assessment, secondly based on a comparison of Land Use Plans and thirdly in comparison to the canton of Schaffhausen where reserves are based on the methods of the Raum+ platform.

#### 3.1. Evaluating the Reserve Calculation of the Land Use Assessment

The reserve calculations in the SLUDP Land Use Assessment are based on the assumption that the demand of 15'783 additional housing units by 2040 in the Seychelles is expected to require 495.81 ha of land (Government of Seychelles, 2015d). The assessment estimated that the reserves in the 2012 Land Use Plans are only sufficient for 13'719 units, leaving a shortfall of 2'064 residential housing units (Government of Seychelles, 2015d). Therefore, the 2012 Land Use Plans were assessed to accommodate over 85% of the expected housing demand till 2040. This is a high percentage share considering the 2012 LUPs had been produced to reflect the status quo, i.e. without considering future demand (Low, 2019).

Irrespective of pre-existing Land Use Plans, the Land Use Assessment tried to assess the availability of land for development. For this purpose, it defined the land categories A and B. Category A was defined as "undeveloped land possibly suitable for development" with an area > 1'000 m<sup>2</sup> and a plot coverage < 1 %. Category B was defined as "developed land suitable for intensification" with a minimum size of > 5'000 m<sup>2</sup> and a plot coverage of ≤ 25 % (Government of Seychelles, 2015d). Therefore, category A includes outward development reserves and potentially also larger inward development plots within the settlement body while category B would mainly include inward development reserves that are suitable for intensification. The assessment yielded 2'463 ha of land in category A and 958 ha in category B. Subsequently, all land not assigned to a residential classification in the 2012 LUP was excluded and a materialisation rate of 55% was assumed (Government of Seychelles, 2015d). The area of the resulting reserves is not stated in the assessment but was equated to a shortfall of 2'064 housing units, as mentioned above.

As can be seen from the definition of A and B land, plots smaller than <1'000 m<sup>2</sup> were not included in the calculations. However, such plots clearly hold reserves that cannot be discounted. Using the same minimum requirement of 400 m<sup>2</sup> per housing unit as in the Land Use Assessment, plots in the 400–1'000 m<sup>2</sup> range with < 1% coverage that are classified as residential in the 2012 Land Use Plan Drafts amounted to 305.9 ha of reserves spread over 4'365 plots (See Appendix A.2). When applying the same 55% materialisation rate as in the Land Use Assessment an additional 2'400 units of housing are the result. As this compensates the shortfall estimated in the assessment it can be concluded that the 2012 Land Use Plans could sufficiently cover the housing demand for 2040.

This stands in contrast to the current LUP review practice that is to greatly increase the reserves beyond predicted demand through allowing denser development without equivalent reduction in the extent of developable land elsewhere. Furthermore, the reserves are not evenly distributed across the Seychelles and the assessment suggests that the majority of districts have reserves that exceed demand (Government of Seychelles, 2015d, p. 6.21). However, a reduction of oversized reserves for districts with low demand

has not been performed while preparing the SLUDP nor the Land Use Plans. This spatial mismatch of reserves is also frequently postulated for Switzerland where it is thought to be partially caused by tax competition between the municipalities (Nebel, 2013, pp. 12–13); an issue not present in the Seychelles, however.

In conclusion, the shortfall of reserves stated in the Land Use Assessment cannot be considered sufficient to merit the extensive increase in reserves that form part of the currently ongoing LUP reviews.

### **3.2. LUP Version Comparison for Anse Royale**

As the ongoing revision of the Land Use Plans is set out to increase the reserves compared to those available under the 2012 LUP drafts it is important to know the magnitude of these changes. A comparison for the whole of the Seychelles cannot be done as only a few select districts have completed reviewing the LUP. Nevertheless, an analysis on the differences in reserves for the Anse Royale district, a designated regional centre, can act as an indication of the type of changes that can be expected more generally (see Figure 17).



3 Quantification of Reserves

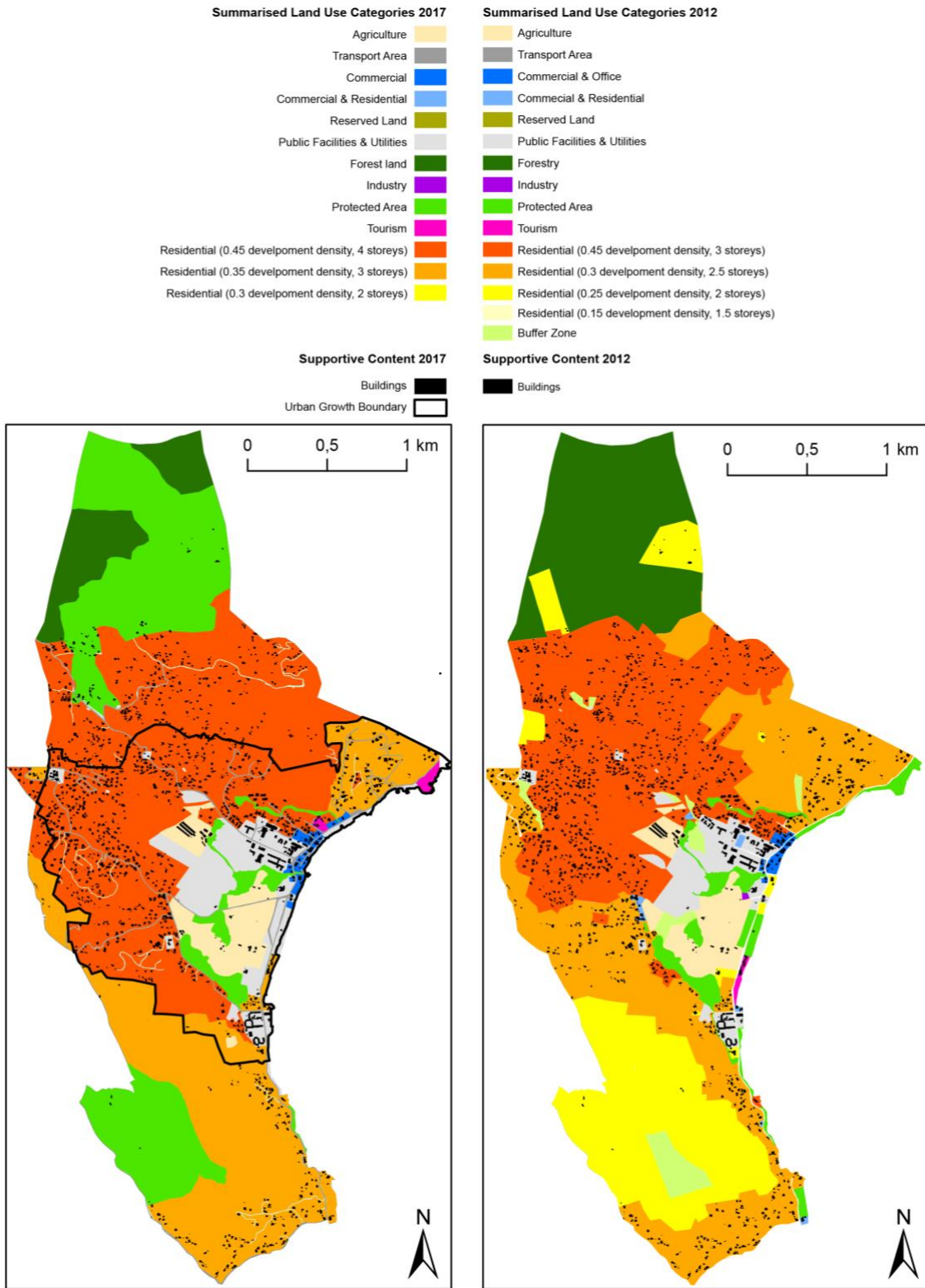


Figure 17 Anse Royale LUP 2012 and 2017 (Own diagram, data: ARUP, 2015; Government of Seychelles, 2015d; Seychelles Planning Authority, 2015).

Table 4, shows how extensive the residential reserves of Anse Royale are if 20 % of all plots were developed to the limits defined in the Land Use Assessment (Government of Seychelles, 2015d) without including the sewage bonus (see chapter 2.3.4). The calculations show that both the revised as well as the old LUP could accommodate housing for significantly more people than predicted. The 6.7% reduction in the land area available for development in the new draft does not suffice to compensate the large increase in reserves through allowing higher densities. If 20 % of the potential of the new Anse Royale LUP was materialised, as stated Table 4, this district alone could satisfy the entire housing demand of the Seychelles until 2040.

Table 4 Anse Royale Reserve Comparison (see Appendix A.2)

	2012 LUP Anse Royale	2017 LUP Anse Royale
Residential land [ha]	512.6	438.8
Other settlement land [ha]	32.9	58.5
Non-settlement land [ha]	163.9	211.1
% of district residential	72.3%	61.9%
% of district in development area	76.9%	70.2%
Population potential (Swiss method)	13'900 – 35'740	19'280 – 49'580
Population potential (Seychelles method)	18'081	20'380
Actual Population 2014 <sub>1</sub>	4'614	4'614
Predicted Population 2040 <sub>1</sub>	7'618	7'618

<sub>1</sub> Government of Seychelles (2015d)

Based on these calculations, a significantly smaller land area of the Seychelles could be designated for development, while still providing enough reserves to satisfy the demand by 2040, without any alterations to the structural densities defined in the LUP guidelines.

### 3.3. Land Use and Reserve Comparison Schaffhausen

To set the reserve calculations underlying the land use planning of the Seychelles and the assumptions they are based on into perspective a comparison to the comprehensive reserve overview of the canton of Schaffhausen, a Raum+ project (compare chapter 1.4.1), is performed below.

Based on the 2012 Land Use Plans of the 3 main islands, Mahé, Praslin and La Digue, the land use categories can be amalgamated to give an overview of the land uses (see Appendix A.3). As visible in Figure 18 and Figure 19, the largest land uses were residential (30.82%) and forestry (30.96%). They are followed by protected areas (26.97%) which are also largely forested. The remaining land is divided between agriculture with 3.02% of the land and 8 further categories, that can be counted to the settlement area, which make up the remaining 8.17% of the land. These 8 miscellaneous categories and the residential areas make up the land primarily intended for settlement development which is 39% of land in the LUPs (8'005 ha). In comparison, the canton of Schaffhausen has only allocated 8.1% (2'418 ha) of its total area to the building zone (Professur für Raumentwicklung, 2017, p. 20).

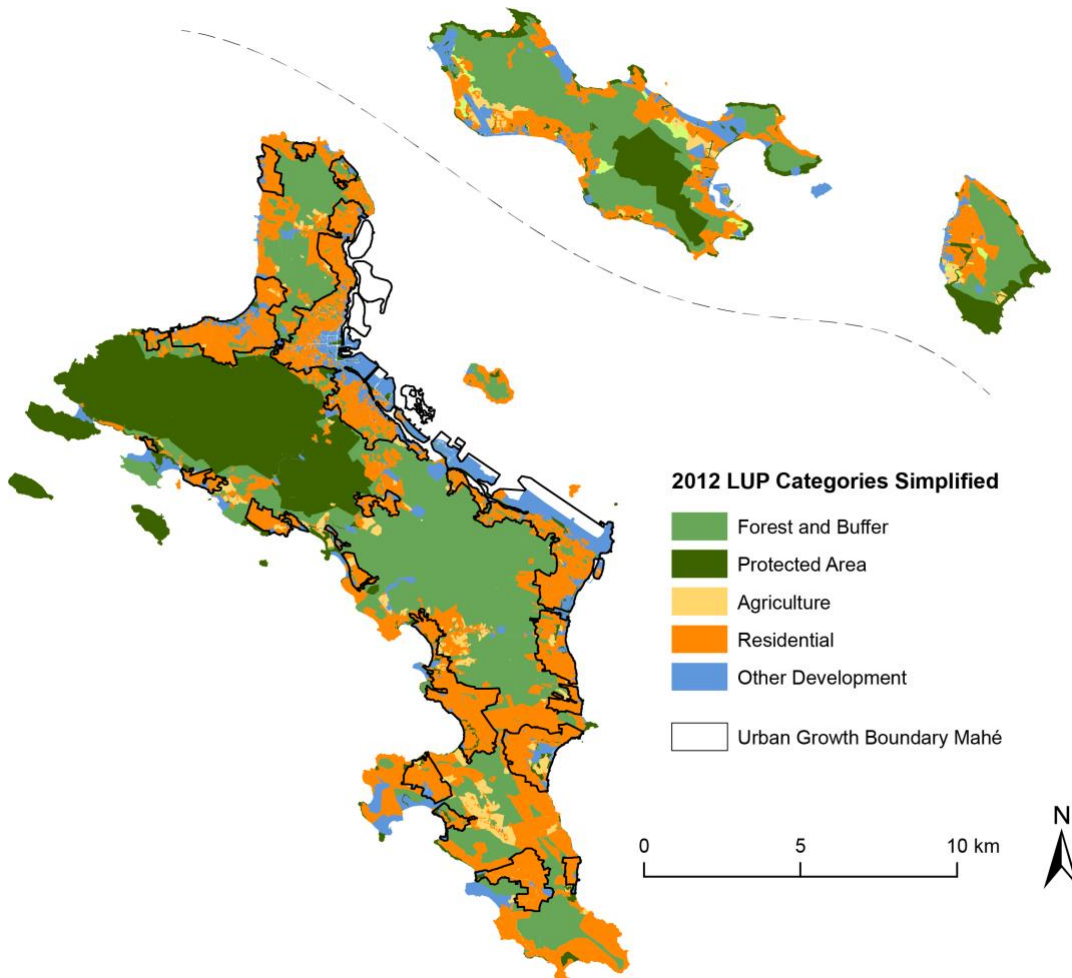


Figure 18 Simplified Land Use Plans 2012 (Own diagram, data: ARUP, 2015).

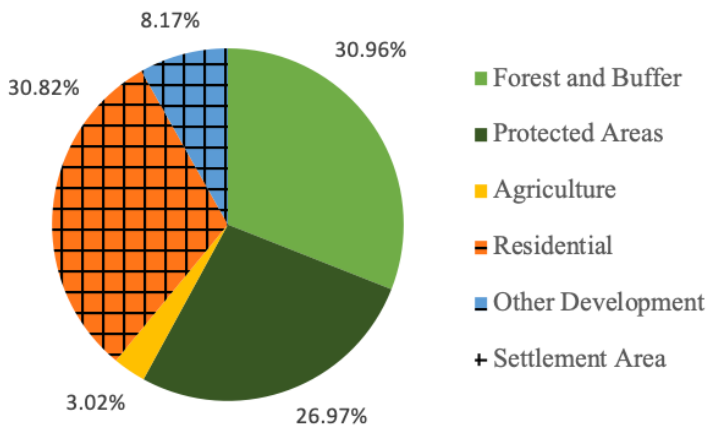


Figure 19 Summary of Land Use Categories (Own diagram, data: ARUP, 2015).

In terms of settlement area reserves the Raum+ project defines numerous types. One is the vacant plots suitable for infill ("Baulücken"). They are 200–2'000 m<sup>2</sup> size, undeveloped and in the building zone (Professur für Raumentwicklung, 2017). For assessing their prevalence in the Seychelles, a threshold of < 1 % plot coverage was chosen to count as undeveloped. The other major categories are the inward and

outward development potentials ("Innen- und Aussenentwicklungspotentiale"). These development potentials are > 2'000 m<sup>2</sup> in size and are a mixture of developed and undeveloped plots. For the Seychelles only the undeveloped plots were chosen (< 1 % plot coverage) because an assessment of the redevelopment potential of the entire existing stock does not exist and cannot be readily derived from existing data.

The reserve comparison of the two political entities according to the applied Raum+ terminology shows that the size of reserves in the Seychelles far exceeds that of the canton of Schaffhausen (see Table 5). Nevertheless, the ratio of vacant plots ("200–2'000m<sup>2</sup>") to development potentials ("larger") is identical. The fact that the vacant plots make up 77 % of undeveloped plots in the Seychelles underlines the importance of having appropriate tools to activate this reserve type.

Table 5 Reserves in the Seychelles and Schaffhausen Canton Using Raum+ Terminology (see Appendix A.4)

Plot range size	Schaffhausen				Seychelles			
	Area sum [ha]	area share	number of plots	share of plots	Area sum [ha]	area share	number of plots	share of plots
<b>200-2'000 m<sup>2</sup></b>	69	20%	756	66%	790.31	20%	9'569	77%
<b>larger</b>	271	80%	392	34%	3'180.99	80%	2'901	23%

Beyond these basically suitable reserves there are also 11'535 parcels that are < 200 m<sup>2</sup> in size of which 6'961 are undeveloped (see Appendix A.4). Such small plots would generally be considered undevelopable unless instruments are available for rearranging the division of parcels. However, as these parcels only amount to 59.34 ha their significance is small compared to the larger parcel types.

In the Raum+ overviews it is common to use the metric of reserves per space user, to assess the development pressure on the reserves. Space users are defined as the sum of population and employees of an examined area (Professur für Raumentwicklung, 2017, p. 13). In 2017, 27 m<sup>2</sup> of reserves per space user were calculated for Schaffhausen canton (Professur für Raumentwicklung, 2017, p. 20) while for the Seychelles this number is 251–267 m<sup>2</sup> (see Appendix A.1). Even the Raum+ region with the highest reserves per space user (Obere Leventina, Ticino) had significantly smaller reserves per space user than the Seychelles, with 100 m<sup>2</sup> (Professur für Raumentwicklung, 2017, p. 38).

While 66 % of the reserves of the canton of Schaffhausen can be considered inward reserves that would be in accordance with the principles of inward development it is not readily possible to assess such a share for the Seychelles. However, the 958 ha of category B land as defined in the Land Use Assessment (see chapter 3.1) largely constitute inward development potential. However, not all Category B land is entirely in the settlement area. When considering the amount of Category B land, the spatial pattern of the plot coverage (see Figure 20) and the intended density increases within the UGB it can be assumed that there are also significant inward reserves available in the Seychelles. As Schaffhausen's inward reserves are smaller than the Category B land alone, it is safe to assume that the Seychelles have the larger inward reserves even if their share may not be as great as the 66% of Schaffhausen.

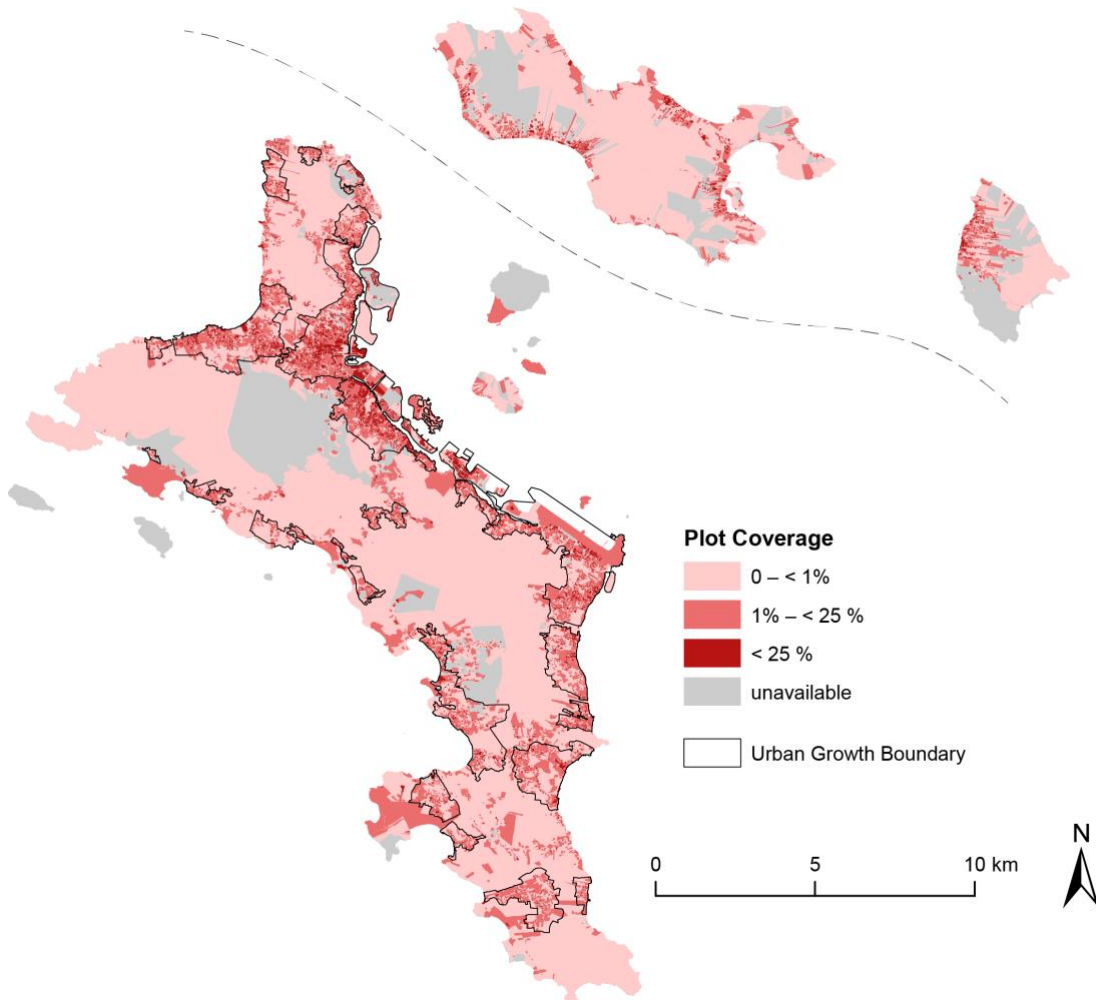


Figure 20 Plot Coverage Seychelles (Own diagram, data: ARUP, 2015).

To summarise, the extent of the reserves in total as well as per space user in the Seychelles is far greater than that in Schaffhausen or in fact any Swiss region that uses Raum+.

### 3.4. Implications of Reserve Quantification

The critical examination of the land demand and LUP reserve calculations of the SLUDP Land Use Assessment revealed that the predicted shortfall in reserves by 2040 cannot be confirmed. This is an important finding, as the current reserve increases happening with the LUP reviews are based on said prediction.

Subsequently, it was shown that the LUP review for Anse Royale has yielded a LUP with far greater reserves than the demand of this district could satisfy by 2040. Although not all LUPs have been reviewed, there is no indication that demand dimensioning is being conducted more rigorously in other districts. As this conclusion differs quite markedly from that of the Land Use Assessment the impact of the choice of methodology on reserve calculations is epitomised. This ambiguity was resolved through comparison to the reserves of Schaffhausen. The comparison showed that the reserves of Schaffhausen are undoubtedly far greater than those of the Seychelles.

This difference can either be the result of oversized reserves or it can come from a higher per capita land and/or floor space demand in the Seychelles. As explained in chapter 2.2.3, land demand per capita is likely to be higher due to the prevalence of septic tanks. However, as sewage treatment coverage is aimed by the SLUDP to increase greatly by 2040 this demand should decrease. Per capita floor space demand in the Seychelles, on the other hand, is lower than in Schaffhausen. The gross floor area per capita lies at 19 – 31 m<sup>2</sup> (see chapter 2.2.3) while that of Schaffhausen is estimated to be 40 – 50 m<sup>2</sup> (Professur für Raumentwicklung, 2017, p. 36). On balance, the differences in per capita demands between the Seychelles and Schaffhausen does not fully explain the larger reserves. This is supported by the numbers shown in Table 4 that still predict oversized reserves when using the Seychelles calculation method of land demand from the Land Use Assessment.

Ultimately, this concludes that the reserves of the Seychelles are oversized which is not compatible with sustainable settlement development. Despite the SLUDP policies, the ongoing LUP reviews are not aiming to reduce these reserves. The SLUDP policy that more land must be secured or opened up for development could not be confirmed in this chapter. In other words, the development pressure on the land must primarily be understood as a result of lenient land use planning practices and policies.

## 4 Situation Assessment

This chapter assesses to what extent the planning framework is favourable to achieving the policy goals and inward development goals and what potential there is for further encouraging such development. It identifies the key shortcomings and assets of the Seychelles planning framework based on the Overview in chapter 2 and the Quantification of Reserves in chapter 3. Subsequently, the chapter assesses the transferability of elements of the Swiss planning framework and practice to the Seychelles. These findings then form the basis for the design of the concept in chapter 5.

### 4.1. Reserves, Materialisation and the Settlement Edge

As seen in chapters 2.3.4 and 2.3.6, the possibilities to restrict development to certain areas as well as the repertoire of instruments for encouraging materialisation in the Seychelles are limited. As developable land is also readily available outside the Urban Growth Boundaries (see Figure 18) and there are few possibilities to foster development within, there is limited practicality in determining the UGB as containing reserves for 5 years, as is suggested in policy H2 of the SLUDP (Government of Seychelles, 2016a, p. 87). This gives rise to the question what tools would be required in order for the Urban Growth Boundaries to have their intended effect on the spatial development. As illustrated in chapter 2.1.6, this involves both ways to restrict outward development as well as to encourage inward development. This is underlined by the conclusions in the Land Use Assessment which calls for a clearer definition of the settlement edges in order to promote densification and "to limit sprawl, protect the environment and ensure the character of existing settlements is retained" (Government of Seychelles, 2015d, p. 6.23). Moreover, the Land Use Assessment states that a key component for the reserves being able to satisfy the demand is the ability to materialise the land that is in private ownership. The report suggests "additional policy levers or mechanisms to secure delivery of the land" may be necessary (Government of Seychelles, 2015d, p. 4.4).

This does not undermine the intended densification within the Urban Growth Boundary. However, the current practices on land outside the UGB, especially those for buffer land and forest land (see chapter 2.3.4) are not in line with inward development goals and thus will be addressed when designing solutions in chapter 5.

In order to conceive tools for encouraging materialisation it is essential to understand what the reasons are for low materialisation and what further effects this can have. As seen in chapter 2.3.6, an important part hereof are the impediments experienced by the landowners. One major factor lies in the practice of assigning land to the settlement area without assessing its suitability for development beforehand. Many of the obstacles are also strongly connected with the limited possibilities to modify the division of parcels and organise the provision of access and utilities across parcels.

However, there are also issues that are caused by the planning practice itself. Low materialisation makes it necessary to have extensive settlement reserves as only a small part will be developed. However, as this increases the availability of easily developable plots there is less incentive to devote attention to more challenging reserves, e.g. those involving higher costs due to topography or missing utilities. Furthermore, the high availability of land gives little reason to increase densities. This leads to a self-reinforcing effect as oversized reserves lead to lower materialisation (Arbeitsgemeinschaft Alpenländer, 2000).

Therefore, the issue of low materialisation is intrinsically connected to the oversized reserves identified in chapter 3. The dimensioning of reserves is not at the centre of attention in the ongoing Land Use Plan reviews and the assigned reserves may greatly exceed the expected demand (see chapter 3.2). It is also not clear why the Land Use Plans are being laid out for a 25-year timeframe if their revision cycle is defined at 10 years (compare chapter 2.3.4). This approach to zoning also reduces the leverage of the SPA as it cannot attach a change of the land use to conditions such as timely materialisation or design quality (compare "Deadlines and Right of Purchase Contracts" in chapter 2.1.6). Furthermore, a longer timeframe also means greater uncertainty thus increasing the vulnerability to changes of boundary conditions. In other words, a reduction of the oversized settlement area reserves is a key component to sustainable land use.

In conclusion, the current land use planning practice along with the limited number of materialisation instruments available are hard to reconcile with the policy goals of the SLUDP laid out in chapter 2.3.3. Hence, ensuring sustainable development and restricting extensive sprawl are hard to achieve in this setting.

## **4.2. Formality: Land Use Plans and Development Plans**

As seen in chapters 2.3.4. and 2.3.5., neither the Land Use Plans nor the Development Plans are in binding form yet. In general, a lack of formal planning processes has negative effects on planning and legal security for the authorities, landowners and stakeholders (Grams, 2015, p. 126). Furthermore, without formalisation results from informal planning procedures cannot be secured (Flükiger, 2019). The thorough recurring negotiations and participatory processes undertaken by the SPA (see chapter 2.3.6) epitomise this issue through their hitherto mixed success. Therefore, sufficient planning security given by formalised instruments is a cornerstone of an integrated planning framework as well as for achieving high quality inward development which is so far missing in the Seychelles.

In their current form it is not apparent how Development Plans fit into the planning framework (see Figure 16), especially if involvement of the private sector is to take place. Although the SPA may have the power to negotiate or stall development proposals that are not in line with a Development Plan, there are no provisions to compel private landowners who do not wish to develop. As the Development Plans are intended to follow the Land Use Plans both temporally and contents-wise there is no feedback between these two instruments. This is in contrast to the Swiss Special Use Plans that can be prescribed for certain areas in the Municipal Land Use Plan, which allow deviation from the Land Use Plan, as described in chapter 2.1.4. Furthermore, this type of instrument can allow new sources of financing as is not only common in Switzerland but is also proposed in the Victoria Masterplan as "developer contributions secured through grant of planning consent" (Government of Seychelles, 2016b, p. 216). Although the SPA has a good track record of securing funding (see chapter 2.3.2) additional funding sources would be advantageous to realising the projects and measures of the SLUDP and the Victoria Masterplan. Though, these can only be accessed if formalisation is achieved.

Thus, the formalisation of instruments in the planning framework as is currently intended by the SPA has many advantages. At the same time, it is also an act that needs ample preparation. In addition, the consistency and planning security given by formalisation is always contrasted by the dynamic nature and continuous processes of planning and inward development that require flexibility and adaptability (Grams, 2015). Therefore, to maintain the balance between responsiveness and consistency a strengthening of the formalised components of the planning system must be complemented by effective informal components



(Gilgen, 2012). More specifically, the integration of the Seychelles planning framework not only involves formalisation of the LUPs and Development Plans but also a toolbox of informal instruments and processes.

### **4.3. Addressing and Implementing Inward Development Projects**

The importance of informal procedures for the Seychelles becomes apparent when considering that the foundation for future development has already been laid by the SLUDP and VMP. For the numerous development projects scheduled in the Victoria Masterplan and equally for those outside the perimeter of the masterplan the question of implementation arises. As highlighted in chapter 2.3.3., especially the projects outside the perimeter will require great spatial coordination and expertise as they need to be planned from ground up without the guidance from the existing policy instruments. In particular, the intended Development Plans for the many district centres or strategic sites (see chapter 2.3.5) could profit from a coordinated approach that increases the chances of bringing projects to fruition.

Although, the projects in the Victoria Masterplan can equally profit from further specification and formalisation, the establishing of the desired course of development for these projects has been adequately covered by the masterplan. However, as seen in chapter 2.3.3, the formation of a cross-governmental steering committee, i.e. the Greater Victoria Development Unit, as instructed in the Victoria Masterplan has not taken place. Thus, implementing the projects in the plan as well as ensuring the coordination between them falls to the SPA. This diminishes the attention given to the VMP, as the SPA needs to compete with other government departments for funding of projects by applying via the Seychelles Development Committee (Belle, 2019b). The valuable weighing of interests that took place when establishing the SLUDP and the VMP is thus undermined and the spatial interests need to be renegotiated which negatively impacts the effectiveness of these strategic plans. In addition, the coordination of projects within Victoria is not trivial as the city is divided into eight districts (Low, 2019) but the practice of preparing the Land Use Plans by region offers a strong starting position to master this task.

In order to make well-informed decisions on spatial matters it is also essential to have sufficient information in the form of overviews (Grams, 2015, p. 69). Such overviews were created for numerous projects when producing the Victoria Masterplan (e.g. Hangard Street and Lower Plaisance) and assessment of further sites as to their redevelopment potential is underway (Belle, 2019b). However, there are many obstacles to collecting large scale overviews as well as those relevant to the plot level. The two most noteworthy obstacles are the poor availability of information on land ownership as a consequence of the non-digitised land registry (see chapter 2.2.4) and the limited knowledge on the suitability and ripeness of the plots for development. This impacts the ability to assess the overall reserves for land use planning on a national scale as well as the assessment of the potential of individual sites.

### **4.4. Concentration of Effort**

From the presented issues two topics present themselves as being instrumental to achieving sustainable settlement development in the Seychelles and must be addressed when designing solutions. Firstly, achieving an effective differentiation of land intended for development from land that is not. Secondly, establishing an integrated framework that facilitates inward development projects.

The exact division of tasks within government and the formation of committees will not be focused on as it is private stakeholders and their involvement in planning who are key to realising projects.

#### **4.5. Motivation for Transferal of Instruments and Processes**

The identified spatial problems and contentious issues within the planning framework of the Seychelles are also largely present in the Swiss system and practice, especially for smaller municipalities (Grams, 2015, p. 50). Both include similar population dynamics and the trend of expanding settlement areas at the cost of other land uses (chapter 2.2.1), similar materialisation obstacles, comparable planning instruments (see Table 3), limited overview over reserves and potentials, an ongoing debate to what extent development should be permissible in areas outside the settlement area, limited resources to engage in inward development and limited experience with informal inward development processes.

The comparable problems and challenges justify the exploration of applying select Swiss planning instruments and processes to assess if they can contribute to mastering the spatial challenges of the Seychelles presented in the Concentration of Effort. Concurrently, the two settings also exhibit multitudinous differences. The two most pronounced differences being the degree of formalisation of the planning system and the organisational state structure. Therefore, any transfer deliberations must also include adaption to the local context.

The choice of instruments and processes to be transferred is not only based on their compatibility with the planning system of the Seychelles but also considers how effective they have proven in Switzerland at ensuring sustainable settlement development.

## 5 Design and Testing of Approaches

This chapter aims to design and appraise solutions for the two main topics earmarked in chapter 4.4. These are the efficacy of settlement area boundaries (chapter 5.1) and a framework for enabling high-quality development (chapter 5.2). Primarily, this is done with the help of concepts from Swiss planning as explained in chapter 4.5.

### 5.1. Efficacy of Settlement Area Boundaries

As seen in chapter 4.1, the Urban Growth Boundaries are not set to be effective if they are not accompanied by facilitation of development within and restrictions on development outside them. This chapter showcases numerous options of how these two goals may be achieved.

#### 5.1.1. Materialisation Within the Core Settlement Area

As established in 2.3.6, many obstacles to materialisation are connected to a lack of possibilities to reorganise parcel divisions paired with a limited motivation of neighbouring landowners to co-operate.

A powerful tool for reorganising the division of parcels, regulating issues relating to access and utilities and ensuring involvement of relevant landowners is the *Landumlegung* as it is known in Swiss law (see chapter 2.1.6). Yet, it is a complex instrument with long execution periods that requires legal amendments impacting property rights. Its transferability to the Seychelles is therefore not ensured. If the element of coercion is omitted and all landowners need to agree to participation its transferability is greatly increased. However, this diminishes its power to ensure materialisation in deadlocked situations. If adaptations to property rights are possible the instrument of the *Schwerpunktzone* (see chapter 2.1.6) can also be highly effective, however, it should only be used last resort due to its coercive nature (Mangeng, 2017, p. 81). Nevertheless, it is often argued landowners become willing to co-operate in light of the mere possibility of such a restricting designation being enacted on their property (Mangeng, 2017).

For co-operation amongst landowners as well as with the GoS to be worthwhile there need to be ways of securing the results of informal discussions and agreements. These include contracts under private law and those under administrative law such as urban design contracts and binding Development Plans (see chapter 2.1.6 and 5.2.2 respectively).

To ensure the timely materialisation of plots that do not exhibit the hurdles described above one can attach deadlines for development to the plots. Deadlines need to be coupled to consequences to ensure their usefulness. As described in 2.1.6, one possibility is a right of purchase for the authority. For outward reserves excluding the land from the residential zone is also conceivable (Arbeitsgemeinschaft Alpenländer, 2000). As this type of arrangement already exists in the Seychelles for the Land Bank (see 2.2.4) it could be readily extended to the private sector. The encumbrances could be declared when some type of other change to the plot occurs, e.g. a subdivision, change of use application or rezoning. As described with the *Schwerpunktzone*, this tool can be a strong incentive for materialisation and it is rare for landowners not to meet the deadline (Gilgen, 2012).

A lack of materialisation or exhaustion of density allowances may also have more practical reasons such as density waiving as a result of a "density jump" (*Dichtesprung*). A density jump can be caused by the density allowances not corresponding to a sensible typology (Nebel, 2013, p. 23). For instance, plot

coverage and storey count are too low for a viable multi-family dwelling while a detached house would not exhaust the density limits. The prevalence of plots in the 1 – 25 % plot cover range (see Figure 20) despite all residential categories except "very low residential" allowing higher covers (Government of Seychelles, 2015d) is a strong indication that density waiving is present in the Seychelles. A thorough examination and adaption of density regulations could resolve such issues.

Beyond the formal aspects, informal practices for encouraging materialisation that motivate landowners to engage in development can foster development without requiring any change to the legal framework. They can be introduced speedily but some also require considerable investment of time and negotiating skills by the planning authority when being pursued. These, as described in 1.4.3, include:

- Landowner address (see chapter 2.3.6) has already been established in the Seychelles. With formalisation of the planning these endeavours can become more successful. For larger projects the timing and preparation of a landowner address need to be well conceived as is described in chapter 5.2.
- Consulting services and public outreach as are also already being practiced (see chapter 2.3.6). To date, public outreach has been focused on the land use planning process. If inward development projects, especially Development Plans, are to be extended to the private sector open communication can help increase awareness and acceptance of the authority' endeavours (ARE TG, 2017).
- An active land policy (see chapter 2.3.6), is hindered by the budget-dependency of the SPA. This issue could be alleviated if the SPA becomes a body corporate as intended. However, the ability to purchase and sell land would need to be vested in the authority which would require very close co-operation with the Lands Department. In conjunction with an active land policy, an exchange market for land can also be a useful tool. In such a market the government can trade plots of land in its ownership with private landowners rather than being required to purchase them (Arbeitsgemeinschaft Alpenländer, 2000; Mangeng, 2017). The large land reserves of GoS which includes the Land Bank are a good pool for such an exchange. This can also be complemented by a platform for private landowners and investors to advertise their land among each other as is suggested in SLUDP policy IP5 (Government of Seychelles, 2016a, p. 291).

In conclusion, there are numerous ways to encourage materialisation including formal and less formal options. The more formal instruments, most notably those involving an element of coercion, have the greatest potential of achieving materialisation. Here it is crucial to find a balance between safeguarding landowners' rights and achieving the desired increase in materialisation rates. The instrument most promising for application in the Seychelles are deadlines with a right of purchase contracts as they require less expertise and resources than instruments such as Landumlegung and are very similar to the existing instruments available in the Land Bank. However, since many plots are possibly not readily developable (see chapter 2.3.6), this tool alone is unlikely to have a meaningful impact.

Thus, a repertoire of multiple tools is preferable as one instrument alone cannot address the multitudinous materialisation obstacles. The choice of tools should be motivated by the most prevalent materialisation obstacles. As these are not currently known in detail (see chapter 2.3.6) this makes the creation of a plot-level overview a prerequisite for choosing the right instruments and thus increasing materialisation.

### 5.1.2. Reduction of Reserves: Dealing with Compensation

Zoning outside the Urban Growth Boundaries is characterised by two major circumstances, as established in chapter 4. Firstly, the settlement reserves of the Seychelles are oversized, an issue that will become more pressing if an increase in materialisation rates in the UGB takes place. Secondly, development is not sufficiently barred from land outside the settlement area, namely forest land and buffer zones.

Determining what types of construction shall exactly be permissible outside the development zones and under what conditions requires detailed deliberation. The greater the number of exceptions, the less effective the distinction between the two types of land becomes and the harder it is to ensure sustainable development.

As seen above, reducing the reserves always means some form of restriction on development on the land in question. As shown in chapter 2.3.4, restricting development on a plot may possibly justify compensation payments. Therefore, addressing the topic of compensation is a prerequisite for any solution on reducing the development area.

It must be kept in mind that as there is no precedent on this issue it is currently not known to what extent compensation may be due (LaBlache, 2019). It could apply only in select situations or not be due on the full difference in value. In a worst-case scenario the GoS would be required to pay full compensation on any restriction to development, thus, resulting in payments in a magnitude at which the government is unlikely to be willing to pay. Therefore, below, options are also explored how these costs can be lowered or alternatively, funds generated to cover these costs.

- The change of laws and possibly even Section 26 of the constitution (see chapter 2.3.4) would be most effective. However, it is also highly disruptive and lies outside the jurisdiction of the SPA and the ministry.
- A temporary moratorium on planning permissions outside the UGB would shift development pressure to the UGB. This tactic has proved effective in the past with a policy on Praslin and La Digue that had not allowed construction above a 50 m contour line (Government of Seychelles, 2014). However, the moratorium cannot continue indefinitely and could also be contestable at court.
- The eligibility of a compensation claim is partially grounded in how strongly a landowner can have assumed that they would have been able to develop their plot prior to the restriction. For instance, if a plot has always been classified as forest land the claim to a right on development may be less justifiable than if a plot is reclassified from residential to forest land. If Land Use Plans are to become binding in the near future this considerably strengthens the eligibility of compensation claims compared to the current more guiding character of the LUPs. Therefore, a reduction of the settlement area prior to the formalisation of the Land Use Plans is a measure that may greatly reduce the magnitude of later compensation claims.
- The ambiguity surrounding the consequences of formalisation of land use planning includes some further aspects of interest. When the Swiss municipalities were tasked to formalise their land use planning in the early 1980s it was concluded that all reserves that were in the building zone but not sufficiently supplied with road access and utilities exceed the demand of the dimensioning timeframe (15 years). They were to be considered oversized reserves and thus not eligible for compensation (Walter, 1981). The applicability hereof to the Seychelles is, however, uncertain as

currently the assignment of land to a zone is not inherently linked to access and utility provision or the predicted demand as it is in Switzerland through Art. 15 and Art. 19 RPG.

- Introducing the binding Land Use Plans with less extensive reserves also opens up a second possibility for steering development. An added value levy similar to Switzerland (see chapter 2.1.6) would allow the GoS to capture some of the value increases experienced by landowners when densities are later increased. This could help fund compensation payments elsewhere. As described in 5.2.3, this tool may also be used to fund or enhance inward development projects.
- More immediate payment in kind is also conceivable where a loss in development rights in an area would be compensated to a larger landowner by an increase in rights elsewhere. This type of exchange is also the guiding idea of an approach used in the Swiss municipality of Sils Maria in the canton of Graubünden. There, a limiting development to a small area of a wider land area (e.g. an entire district) is met by allowing greater densities within the small area than would otherwise have been possible (Knüsel, 2018). The quantum of development allowed is defined in a way that on balance the value of land does not decrease substantially. In Switzerland, substantially has been ruled to mean  $\frac{1}{4}$  or possibly even  $\frac{1}{3}$  of the land value. Thus, potential court rulings in the Seychelles may also allow some situations where compensation for reducing development possibilities is not due or not due in full.
- Finally, if the loss of development possibilities is considered as a lessening of the value of the land then this loss is dependent on the value that is attributed to other permissible activities. For example, allowing agriculture, agroforestry or agri-tourism as proposed in SLUDP policy E15 (Government of Seychelles, 2016a), may be considered of sufficient value to compensate the curtailment of development rights. However, for steep forest land this type of compensation is less likely.

In summary, there are multiple ways of mitigating the negative side effects of reducing the development area and tightening rules on buffer and forest land. Nearly all profit from a significant reduction of reserves prior to the enactment of binding LUPs since this results in an increase in the legitimacy of compensation claims.

## 5.2. Enabling Inward Development with an Integrated Framework

This chapter aims to provide a framework that acts as an enabling environment for inward development projects. Including how sites can best be identified, proposals for their development be designed and how these proposals can be brought to implementation. Specific elements of the suggested framework will subsequently be tested on case studies and ultimately evaluated as to their pertinence.

The framework has been divided into two models for reasons of clarity and their differing spatial scales.

The Strategic Model, presented in chapter 5.2.1, follows the principles of the settlement area management according to Nebel (2013) paired with the establishment of an inward development strategy (Grams, 2015; ARE TG, 2017). It embeds them into the existing planning framework of the Seychelles (see Figure 16).

The Implementation Model, presented in chapter 5.2.2, follows the same principles but advances to the more concrete plot level. It focuses on informal processes for finding the right project for an area and their interplay with formal result securing (sourced from Fischer, Thoma and Salkeld, 2016; Flükiger, 2019).

Although an inward development project, as every complex spatial transformation project, can be understood as a new task that requires a bespoke approach and solution (Grams, 2015), planning processes still require guidance and fixed points to come to fruition. This guidance is what the models aim to provide.

### 5.2.1. Strategic Model

The strategic model, depicted in Figure 21, is designed to show how inward development can be approached on the district through to national level and to clarify the relationship between inward development projects and land use planning. The individual steps of the model are elucidated below.

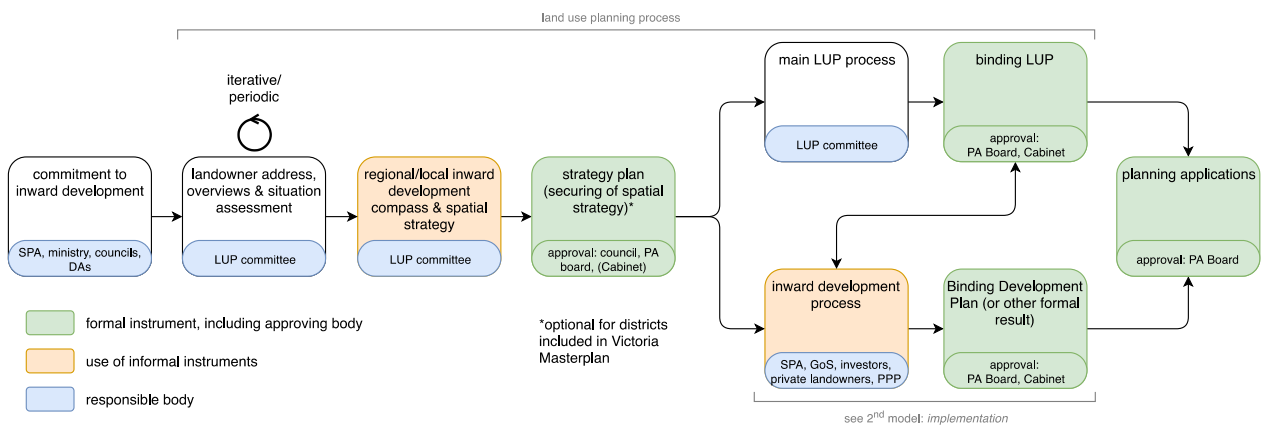


Figure 21 Strategic Model. (Own diagram, based on Grams, 2015; Verein Agglomeration Schaffhausen, 2015; ARE TG, 2017, p. 8). Enlarged version in Appendix C.

### Commitment to inward development

As of yet the spatial policies of the Seychelles are not univocally laid out towards inward development (see chapter 2.3.3). In order for land use planning and individual projects to follow this strategy more stringently it is essential for the relevant decision-makers to clearly commit towards inward development. This requires commitment not only from the Planning Authority but also on the local level (DAs and councils) as well as political backing by the minister. Commitment to the strategy of inward development shall not only guide the actions of the public sector but is best also openly communicated to the public in order to raise awareness and garner support for the principle. Especially, if a settlement area management project is to be sustained, binding commitment is a pre-requisite for all further steps (Nebel, 2013, p. 93).

### Landowner address, overviews and situation assessment

Being in possession of comprehensive overviews including data relevant to planning is vital for obtaining a clear understanding of existing reserves and potentials (Schrenk *et al.*, 2009). As was established in chapter 4.3, there is currently a lack of such knowledge present at the SPA. This constricts sustainable land use planning and is a hindrance to informed decision-making. In particular, data on land ownership and the sentiment of landowners towards development of their property is essential information that needs to be readily available (Professur für Raumentwicklung, 2013, p. 8). To this end, landowners should be actively addressed for their intentions to be ascertained. Considering limited resources, priority should be given to those landowners with undeveloped plots or in possession of known strategic sites. As was seen

in the charettes for the SLUDP, there is abundant local knowledge present in the Seychellois communities which can greatly benefit planning efforts (Tunnell, 2015a).

More comprehensive overviews will allow for a more detailed situation analysis which in turn leads to more well-founded and reproducible decisions in the subsequent design or strategy-making phase. Beginning the planning process with the real-life problems on the plot level rather than by carrying high-level policies down ensures that the resulting plans are actually viable. This avoids appeals to the decisions in the final stages before approval (Grams, 2015) as have often been encountered by the SPA when finalising Land Use Plans (Biscornet, 2019).

It is important to note that overviews as well as situation assessments cannot be collected or performed just once but must be updated repeatedly (Grams, 2015, p. 69). This approach mainly differs from current practice by decoupling the landowner address and overviews from land use planning and making them permanent tasks. From there onwards, the model follows roughly the same steps as the current land use planning procedures. Consequently, the collection of overviews and performing of a situation analysis is the task of the LUP Committee (see chapter 2.3.4).

### **Inward Development Compass and spatial strategy**

So far, the SLUDP has only very vaguely defined where growth should occur in a national spatial strategy and the districts possess no spatial strategy of their own apart from a short vision (see chapter 2.3.3). Although the desired spatial development is more clearly defined for the Victoria Masterplan perimeter, its implementation is still largely unclear (see chapter 4.3). Thus, to promote and enable inward development the designing of spatial strategies on the sub-national level is vital to define the course of development of the districts.

The subsequent suggestion for establishing a spatial strategy largely follows the method of the *inward development compass* as proposed by Grams (2015, pp. 133–136), which is complemented by the elements suggested by Amt für Raumentwicklung of the canton of Thurgau (ARE TG, 2017, pp. 15–25). The object is to identify in what way the various areas of a district or region could be developed in the future. Based on the insights gained through the situation analysis in the previous step of the model, the constituent parts of the settlement body are assigned to various categories that define in rough terms what direction development should take. Grams uses the four categories *re-orientate*, *advance*, *preserve* and *leave be* (Grams, 2015, p. 135), while a category for newly developing undeveloped plots may also be added (ARE TG, 2017, p. 23). The category *leave be* contains those areas with only limited potential for development over the plan period.

Once categories have been assigned it is important to prioritise the projects and set a schedule for their implementation (ARE TG, 2017, p. 25). To ensure spatial coordination this process is best conducted regionally rather than locally (Grams, 2015, p. 137). This is also sensible in the context of the Seychelles as Land Use is already coordinated on a regional level and not purely a district-centred task. In case of an ongoing Land Use Plan revision these results are then complemented by additional deliberations and public consultation as were made for the Anse Aux Pins Land Use Plan (Seychelles Planning Authority, 2017a).

The development of the compass as well as the strategy is best suited as a task for the LUP Committee with assistance from experts, from other government departments and from beyond. Although for designing a development strategy it is often recommended to conduct test designs or a competition of



ideas (Grams, 2015, p. 120) this has been desisted from in the model. Such procedures are very resource intensive and not merited in the context of the simple strategy suggested here, especially as the general direction of development is given by the national spatial strategy (Government of Seychelles, 2016a, pp. 35–37). Thus, the more complex informal procedures will be reserved for clarifying development on the project level as is described in chapter 5.2.2.

### **Strategy plan**

There is no consensus in Swiss planning practice as to whether the results attained up to this point should be secured in a binding way for the authorities. Some inward development guides see a municipal structure plan (*Kommunaler Richtplan*) as the result of these planning efforts (Verein Agglomeration Schaffhausen, 2015). Others suggest they lead to a non-formal strategy plan (ARE TG, 2017) much in the same vein as the inward development compass of Grams (2015). With the Victoria Masterplan, eight districts of the Seychelles already possess a situation assessment and detailed spatial strategies which act as a guiding policy to the authorities (Government of Seychelles, 2016b). However, the remaining districts do not have any such comparable strategy. Therefore, the model suggests formalising the new spatial strategy in an authority-binding strategy plan, in order to secure the main results for the upcoming planning stages. If future revisions of the Victoria Masterplan do not include a detailed situation assessment and update to the spatial strategy, then separate strategy plans need also be developed for the Victoria Masterplan area. The strategy plans may be local or regional corresponding to the level the spatial strategy conducted at. The content of a strategy plan may vary depending on the district but may be understood as an abridged version of the *Kommunaler Richtplan* (compare chapter 2.1.4).

### **Main land use planning process**

Once the spatial strategy has been established and secured it can be used as a strong basis for the detailed technical aspects of the Land Use Plan review process. The details of these proceedings can then follow current practice in the Seychelles (see chapter 2.3.4).

### **Inward development projects**

At the same time, the results obtained up to this point form optimal groundwork for individual projects as most should already have been captured in the spatial strategy. For further details on the steps "inward development project" and "Binding Development Plan" in Figure 21 the Implementation Model in chapter 5.2.2 can be consulted. This stage is concerned with how the best development strategy for a specific site can be found and the results formally secured in order to realise development. This process can take place either in parallel to or after a LUP review. As postulated in chapter 4.2, having a feedback loop between these two processes is important and ensures sufficient flexibility while maintaining planning security. Thus, if land use planning takes place first, the plot-level project should be allowed to go beyond the specifications of the Land Use Plan if this is found to be necessary.

### **Building applications**

Once a Land Use Plan has been approved smaller development projects can be brought forth. Larger projects would often be preceded by an informal process, as mentioned above, before any planning applications were made.

## **5.2.2. Implementation Model**

This model, as seen in Figure 22, is designed to show how inward development can be approached on the site or project level and clarify the relationship between informal and formal instruments. It also rethinks how Development Plans are understood in order to introduce one of three ways of securing the results of informal planning. Henceforth, this formal instrument of safeguarding shall be known as the "Binding Development Plan". The term "Development Plan" shall still apply to the informal instrument as currently used in the Seychelles but does not form part of the model. The model is designed to work not only for projects with public and private involvement but also for those led by private initiative.

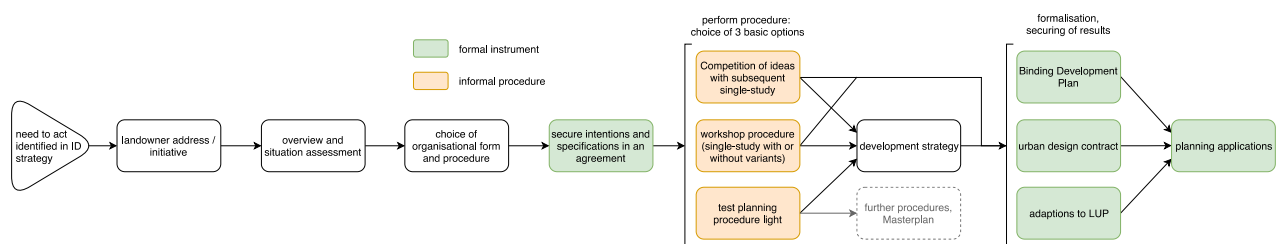


Figure 22 Implementation Model (Own diagram, based on Fischer, Thoma and Salkeld, 2016, pp. 16–17; Mangeng, 2017; Flükiger, 2019). Enlarged version in Appendix C.

## Identifying the need to act

Triggers for starting planning on a complex site are numerous and divers. Ideally, the need and time to act has already been identified in the spatial strategy. This ensures that the right stakeholders are involved in the planning processes from the onset which has not always been the case in the past (compare chapter 2.3.5).

The planning authority's wish for action is often accompanied by some other initiative or change in circumstances. This initiative may come from a different actor, e.g. the private sector, local government or national government (Schrenk *et al.*, 2009, p. 20; Flükiger, 2019, p. 37). In a self-affirming way, such incentive is often the result of other development projects being realised in the vicinity (VLP-ASPAN, 2017).

## Landowner address or initiative

If the intentions of the landowners affected have not already been registered when creating the overview of reserves and potentials (compare chapter 5.2.1 Strategic Model) it is essential to capture them at this point. This can help identify the key landowners relevant to the project.

## Overview and situation analysis

Overviews and situation assessments, as described in chapters 1.4.1 and 5.2.1, are not only relevant at the district and national but also to specific projects. This stage is important to identify the potentials of a site but also its restraints, laying the basis for the following designs and decisions.

## Organisational form and procedure

This stage is crucial to the success of the project. Here, the appropriate organisational form and informal procedure for the site must be found. The choice for both is highly dependent on the site and its characteristics including its size, landowner situation, current use and the previous planning history

(Flükiger, 2019). A site where the direction of development is quite clear-cut requires a different approach from one where no consensus as to its best use has been found yet. In this stage there should also be deliberations on what to expect from the results of the informal procedure. A lack of clarity can lead to uncertainty concerning subsequent steps after the process has been concluded (Flükiger, 2019, p. 22). Furthermore, it is important to clearly define the responsibilities of the various stakeholders involved to ensure their benevolence.

### **Securing intentions and specifications**

When the intentions of the stakeholders and specifications on the procedure have been defined, they should ideally be secured in a committing agreement. Especially, if the decisions concerning the carrying of costs or allocation of land have already been made. On the one hand, the agreement acts as a specification of requirements. For government-led projects, this is laid down in the "Pflichtenheft" (Flükiger, 2019, p. 41). On the other hand, it acts as a type of partnership agreement – the "Partnerschaftsvereinbarung" of Fischer et al. (2016, p. 16) – for projects led by landowners or investors. This stage is important, so that landowners and authorities alike commit to the project and that there is clear guidance throughout. The form the agreement takes is largely dependent the parameters described in the previous stage.

### **Performing the procedure**

Although the exact organisation of procedures is project-dependent three basic approaches have been chosen in accordance with Flükiger (2019) to show the spectrum of informal procedures. When going through an informal planning procedure there is always a principal choice between single study and parallel study procedures, as described in chapter 1.4.3. The number of teams involved does not necessarily equate to the number of proposed variants as a design team can produce multiple variants. It has proven useful to also draft multiple variants in the early stages of a "single study" in order capture the spectrum of possible solutions (Flükiger, 2019, p. 45). Discarded solutions help build up a rationale of how the decision was reached and can be revisited if the circumstances change (Grams, 2015, p. 73). Although parallel studies in general have many merits, they are also more resource intensive in terms of time and cost. Although the preparation of the SLUDP featured the drafting of scenarios (Tunnell, 2015a), there is currently no standard competition of ideas in planning practice in the Seychelles, especially on the project level. Therefore, approaches have been selected which encompass this competition to capture its benefits, especially its characteristic resulting in robust decision-making.

The three prototypical approaches, as suggested by Flükiger (2019, pp. 47, 50, 51) and described in chapter 1.4.3, are:

- the competition of ideas with subsequent single study
- the workshop procedure
- the slimmed-down test planning procedure

These three prototypes are deliberately left unadapted in the model to assess how they perform when tested (see chapter 5.3). This is done to see if insights can be gained on these informal procedures that would also be useful to Swiss planning.

Equally important to the steps of an informal procedure is its organisational structure, especially as the division of responsibilities has not always been clear-cut in projects in the Seychelles, see chapter 4.3 and

Low (2019). Informal processes normally include the four bodies as described in chapter 1.4.3: the awarding authority, the accompanying body, the design team(s) and the project management team (Flükiger, 2019, pp. 46, 49). Below, an indication is given of who takes these roles in the Seychelles.

- the awarding authority or initiator: The SPA, another government(-related) body or a private investor
- the accompanying or assessment body: a member of the SPA, members of other government bodies, impartial experts (e.g. advisers from international organisations), local stakeholders from special interest groups, local government delegates (e.g. the DA)
- The design team(s): a government department (e.g. the SPA or Infrastructure Department of MHILT) or independent architects
- The project management team: tasks covered by awarding authority and design team in single studies. For parallel studies, an ideal body would be the steering committee as is proposed in the Victoria Masterplan (see chapter 4.3).

### **The intermediary phase**

Depending on what procedure was chosen the following steps may differ. If a single study has already provided a clear idea of how the site should develop it is possible to directly proceed to formalisation and implementation of the project. With some projects, especially those involving test planning procedure where the direction of development had to first be found, the informal procedure will likely not have yielded a final result. This type of site may be subject to a second informal procedure or even the development of a masterplan that leads to a regrouping into smaller projects. This is similar to the structure of the Victoria Masterplan that contains separate sub-masterplan such as the Waterfront Masterplan (Government of Seychelles, 2016b). The result of the informal procedure may also be a development strategy. These strategies are a possible result of most informal procedures and are the equivalent of the spatial strategy (see 5.2.1) but on a project scale. The development strategy captures the main aspects of the desired development of the site (Fischer, Thoma and Salkeld, 2016). Thus, their content is similar to that of the concepts and Development Plans as they are currently produced in the Seychelles (see chapter 2.3.5). The gathered results from the informal processes can now find their way into formalised instruments.

### **Formalisation: the securing of final results**

The results of informal procedures cannot be secured unless they are followed up by some type of formalisation (Flükiger, 2019). As shown in chapter 4.2, as soon as the private sector is involved, the current form of Development Plans is unlikely to suffice to ensure the implementation of a project. However, the Physical Planning Bill does call for Development Plans to be binding. Thus, these Binding Development Plans are to include the aspects of a project that can be prescribed. They could share similarity to the Swiss *Sondernutzungsplan*, as seen in chapter 2.1.4. Provisions may include but are not restricted to building lines, heights (or floor area ratios), general usage mixes, certain architectural and design features, parking regulations, pedestrian networks, sight axes, open space specifications, schedules and phasing. The Binding Development Plan should be binding to authorities as well as landowners. As seen in chapter 4.2, this type of plan can not only be the result of an informal planning procedure but can also be mandated for a certain area in advance through demarcation in the Land Use Plan if the site is considered to be of particular importance. Although this setup is not essential it does make the planning framework more integrated by connecting land use planning to inward development. Thus, uncoordinated

development can be reduced in an area if a Binding Development Plan is mandated by the LUP. However, in some cases it may be desirable to allow exceptions for individual landowners not to follow the Binding Development Plan, e.g. to prevent deadlock or the stalling of development. In this case, the landowner should be obliged to follow the general guidelines of the development strategy or at least the local spatial strategy, in order for development to remain integrated and coordinated. (Fischer, Thoma and Salkeld, 2016, p. 17).

Besides the detailed Binding Development Plan and the adaption of the Land Use Plan according to the development strategy there are also other conceivable forms of formalisation. These may take contractual form, such as an urban design contract. Here, the most basic principles for development and potential services or rewards may be agreed on in a formal contract and are again binding to authorities and landowners alike (Fischer, Thoma and Salkeld, 2016). This form of formalisation is of interest if a project is borne by private landowners rather than being led by the government or a professional investor, as can often be the case in smaller projects or those where less temporal coordination is required.

### 5.2.3. Funding Mechanisms

Following the Strategic Model is likely to burden public finances, as generating overviews, compiling spatial strategies and securing them in strategy plans all involves additional effort and time by the SPA and other bodies involved. Despite this, Grams (2015) notes that careful preparation of the land use planning process can reduce the time required over all as less appeals need to be processed and the plans enjoy higher support. This is especially true if a plan cannot come into force due to these appeals and the process needs to be rerun. Both the occasional rejection of land use plans at Swiss town meetings (Grams, 2015) as well as the previously quashed LUP in Praslin (Supreme Court of Seychelles, 2016) are cases in point hereof.

Costs of planning for informal processes under the Implementation Model can greatly vary depending on the size and type of project (Flükiger, 2019, p. 44) with the two basic available pillars of financing being the private sector and government. A lean and optimised project organisation and aptly chosen procedure can help reduce costs without a decrease in quality (Flükiger, 2019, p. 34). Optimally, the SPA would have a part of its budget set aside for smaller planning undertakings and only need apply for additional funding for larger projects, e.g. via the Development Committee. Private financial backing can greatly increase the funds available and also ensures commitment of the private sector towards a project. Depending on the project, this may also include international funds, e.g. under the purview of the World Bank or UNDP as has previously been the case (Biscornet, 2019; Coeur Du Lion, 2019). A common tactic is for the authorities to fund the early and informal planning stages in advance. Subject to a prior agreement with the landowners (compare model stage *Securing intentions and specifications*) the authority is repaid partially or in full in form of cash, land or other levy after completion of the project (Fischer, Thoma and Salkeld, 2016, p. 11). This is based on the assumption that landowners and investors are willing to carry the additional costs and effort involved with the inward development process as the outcome promises higher gains than not participating. These concessions are often accommodated by providing density bonuses for participating (see chapter 2.1.4) or through an added value levy where developers settle their obligation through planning efforts rather than payment (see chapter 2.1.6). As seen in chapter 2.3.4, the Seychelles have some experience with density bonuses which could be extended to specific planning procedures. Added value levies do not exist as of yet but could greatly increase the leverage of the SPA and, as seen in chapter 5.1.2, they are also useful for other topical planning issues. They can also be used to recover financial contributions from developers who were not party to an initial agreement for carrying development costs but later decide to join in and take part in a development strategy or an urban design

contract. The introduction of added value levies is also supported by the SLUDP which suggests collecting developer contributions, called *planning gain*, in order to fund infrastructure (Government of Seychelles, 2016a, p. 347).

In conclusion, fostering inward development, as presented in the Implementation Model, does not need to be come at great cost to the state budget. This effect could be augmented if inward development succeeds in reducing the need for land reclamation (see chapter 2.2.3).

### **5.3. Testing: Exemplification Through Case Studies**

As the choice of approach to an inward development task is highly dependent on the specifics of the area in question and applying generic formulae does often not yield optimal results it is of great importance that solutions be tested on real-life examples. Testing a model on a specific area or site shows an example of how it could be applied to help understand its practical implications. This allows to compare the planning process to date to that resulting from the model. Furthermore, testing reveals potential shortcomings of the model that may require refinement. These will be summarised in chapter 5.4.

#### **5.3.1. Concentration of Effort: Choice of Model and Case Studies**

Following from the above it is clear that inward development manifests itself at the plot level which is where discussion concerning densification take place (Grams, 2015, pp. 130, 160). Therefore, in a concentration of effort, the case studies primarily test the Implementation Model. This because it is focused on the plot level, its content is highly dependent on the specific project at hand and because it includes tasks where the SPA has little prior experience. Although the Strategic Model is of great importance to integrating the planning framework and identifying areas suitable for development in the first place, it is the Strategic Model that aims at bringing projects to fruition.

To test the model, three varied case studies were chosen in a further concentration of effort. The choice of sites for the case studies was based on the following criteria.

1. The sites should be of high relevance to planning in the Seychelles. This equates to a combination of projects that are included in the Victoria Masterplans as well as other projects that are currently seen by the Planning Authority as being of importance.
2. The sites should have characteristics that make them core or complex tasks according to Scholl (1995), i.e. difficult unsolved problems that are not routine projects. They consequently exhibit a certain degree of complexity.
3. The choice is influenced by the availability data and documentation for the sites which, unfortunately, is often limited.

A detailed listing of the evaluation of the suitability of all the sites can be seen in Appendix D. There was a total of 15 projects that either featured in the Victoria Masterplan or are currently subject to Development Plans. These were evaluated according to criteria numbers 2 and 3. This left four sites, three of which were selected that together could cover all the core aspects of the model presented in 5.2.2 to ensure its thorough testing. Although highly suited for the model, the Victoria Bay and Waterfront project was excluded as it is overwhelmingly on government land and it involves a land reclamation project (Government of Seychelles, 2016b). This yields the three projects "Financial District", "Lower Plaisance" and "Anse Aux Pins Centre" for the testing.

### 5.3.2. Testing Procedure

Testing the model on the various sites consists of the following parts:

- Overview and situation assessment
- Choice of procedure and organisational setup
- Alternative approach
- Comparison to Swiss sites
- Potential solutions
- Critical evaluation of the result

The first two points simply follow the steps of the Implementation model. It is important to note that projects are always embedded into the existing planning framework in some form. They are episodes within a story and are at different planning stages (Flükiger, 2019, p. 36). This influences the approach taken. The Financial District, for instance, has already gone through numerous rounds of proposals and is partially already in the realisation phase. Thus, the model cannot be implemented in its entirety at any of the sites. For this reason, the suggestions for approaching the sites also include a more hypothetical part that blends out the current progression of planning, the alternative approach. The Comparison to Swiss sites compares the case studies to similar best practice examples from Switzerland to see if the current approach to the site is adequate and how the alternative approach compares. In potential solutions it is briefly shown what development potentials are being missed in the current planning environment that could be activated when following the model and the alternative approach. The critical evaluation shows what could be learnt about the site and the planning system through application of the model. Evaluation of the model itself, however, takes place in chapter 5.4.

### 5.3.3. Financial District

In the Victoria Masterplan this area in the heart of Victoria (see Figure 23) is proposed as a future mixed-use district with both residential and commercial uses and enhancements to the public realm (Government of Seychelles, 2016b, p. 116).

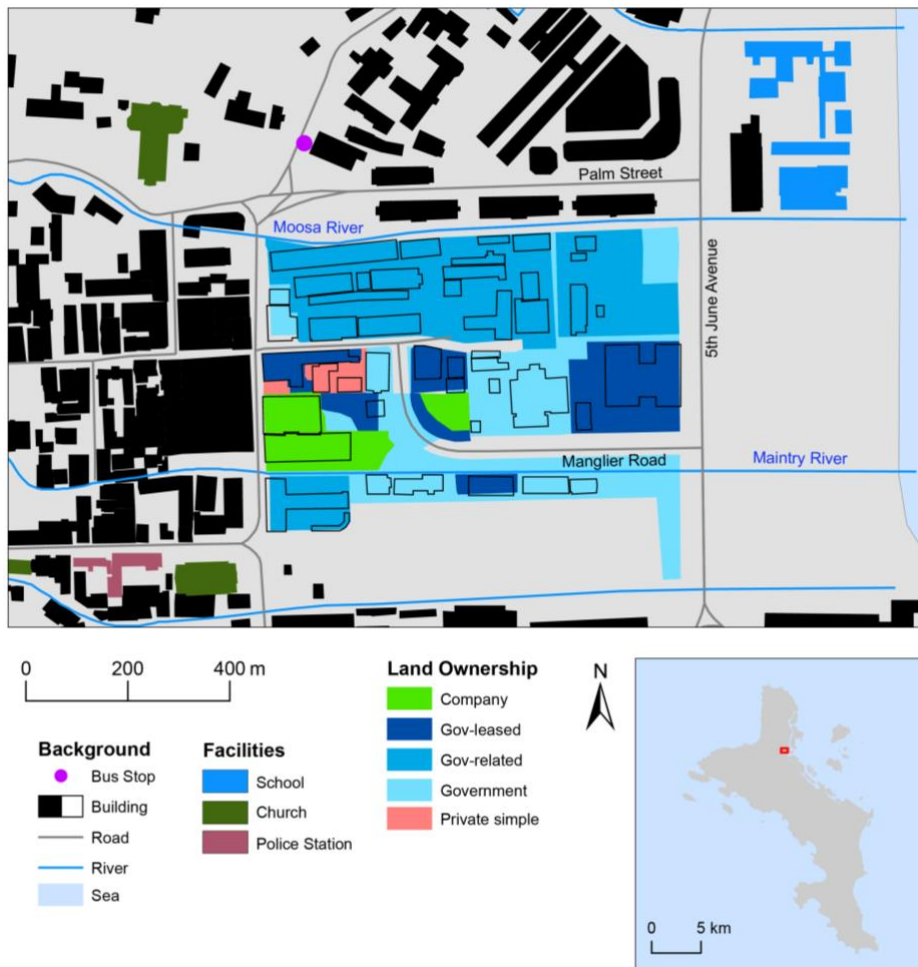


Figure 23 Financial District Overview. Private Simple: Land Has One Owner. (Own diagram, data: ARUP, 2015; Seychelles Land Registry, 2019).

## Overview and situation assessment

### Size

The core district is 43'100 m<sup>2</sup>. (Felix, Low and Biscornet, 2017) For this study, the perimeter has been extended to the south-west, which is very similar in character, resulting in a total of 51'000 m<sup>2</sup>. The Victoria Masterplan suggests including plots to the north and east encompassing the playing fields and the bus station. These are intended for a later stage, especially as development of the bus terminal area is dependent on its prior relocation (Government of Seychelles, 2016b, pp. 217–220), and were thus not included for the detailed study.

### Current use

Some of the area has been recently redeveloped into office space. Notable recent developments in line with the proposed concept are Caravel House, Unity House and the Quadrant Building. The remaining area is dominated by one and two-storey warehouses. Most undeveloped land is barren and used for parking, temporary storage and loading and unloading (Low and Felix, 2017).



### Surroundings and circumstances

The proposed Financial District lies at the heart of Central Victoria and neighbours the pedestrianised Market Street of the Old Town to the west, the recreational Freedom Square to the south, the central bus station to the north and some playing fields towards the sea in the east. This overall setting results in a potential for high pedestrian frequencies and makes the site highly suitable for high-density development that includes various uses. The Victoria Masterplan envisages a replacement of the central bus station away from its current location between 2020-2025 (Government of Seychelles, 2016b, pp. 208, 247) which would reduce the public transport accessibility of the site. However, since the formulation of the Masterplan there has been no further commitment to this relocation project.

### Ownership

As can be seen in Figure 23 the northern half of the site is predominantly owned by the Seychelles Pension Fund (SPF), a parastatal organisation. The southern half is mostly owned by the Government of Seychelles with six plots being on long-term leases. The two privately owned and three company owned plots make up the small remaining portion of the site. Two of the company-owned plots and one leased plot have recently been developed as mixed-use (Felix, Low and Biscornet, 2017). In summary, the ownership situation does not complicate development as most land belongs to either the government or the SPF.

### Planning status

The idea of establishing a Financial District in this area predates the Victoria Masterplan (Low, 2019) and its basic principles were later integrated into said plan. After the Masterplan was compiled a detailed concept for the Financial District was made by the SPA which was revised multiple times. This had resulted in a total four different versions being produced by 2017, two of which can be seen in Figure 24. These vary mainly in terms of typology while the proposed usages and character are largely consistent. However, unlike proposed in the Victoria Masterplan, the later drafts do not include any residential units (Government of Seychelles, 2016b, p. 116; Felix, Low and Biscornet, 2017). The newer drafts take the approved development of a multi-storey car park by the Seychelles Pension Fund into account. This development conflicts with the concept which envisages a dense pedestrian precinct. Planning on the remaining plots of the perimeter is not progressing at the moment. This may be partially owed to the long-term leases that exist on some of the plots (Seychelles Land Registry, 2019). Furthermore, the SPA has no up-to-date schedule or staging plan for the remaining plots.

The current LUP draft for St Louis, where the financial district lies, classifies the eastern half of the area as and "Commercial & Offices" and the other half as "Mixed-Use (Urban)" (Strategic Land Use Planning Unit, 2018d). Thus, the planned developments are already largely compatible with the drafted LUP. However, the proposed number of storeys exceeds the usual limits of these zones which would therefore lend itself well for a Binding Development Plan that can make exceptions to the basic order of the LUP.



Figure 24 Two Proposals of the SPA for the Financial District (Low and Felix, 2017).

**Choice of procedure and organisational setup**

Due to the large land reserves held by the government and the affiliated Seychelles Pension Fund, this project lends itself well to be led by government rather than the private sector. Because the project is one of the furthest progressed of the Victoria Masterplan and is at a strategic location, it can be considered a flagship project for the government to give other landowners an indication of the potentials of inward development.

Although a (non-binding) development concept for the area is already in place, plans have seen frequent revision and have been compromised to include ongoing developments that are not in accordance with the vision such as the car park mentioned above (Low and Felix, 2017). Therefore, the concept should be fixed in a Binding Development Plan. This allows for the necessary staging and scheduling to ensure that future development is in line with the concept. The Binding Development Plan could be produced by the

SPA with external inputs from experts and the public, as needed. An exchange of land that concentrates the parcels of the GoS and the SPF spatially or a co-operation between the two should also be considered to facilitate efficient land use and phasing. As the existing concepts are already quite progressed and there has been no fundamental criticism thereof, performing an informal procedure are no longer relevant.

Nevertheless, the project can act as a catalyst for other projects, especially the adjacent areas designated for phase 2 of the Financial District in the Victoria Masterplan (Government of Seychelles, 2016b). For phase 2, it is be advisable to go through the entire model as described in 5.2.2. The future development of a relocated bus station is a textbook example of a site suited for an informal procedure, as shown in the example of "Ennet den Gleisen" below. How costs for the planning efforts should be distributed depends in part on how ownership, lease and investment will be organised. If the SPF and the government remain the owners of their respective properties, planning costs should be divided between them. The pension fund or other involved investors could also participate in other arising costs relating to the quality of the development, such as the proposed landscaping of the waterways or the design of public space. This, together with what the proprietors and investors receive in return, should be laid down in a written contract to increase planning security. On privately owned plots, the landowners can be incentivised to participate in the Binding Development Plan and the additional quality measures by being offered concessions, such as allowing increased density for development on the plot or being given more land as described in 5.2.3.

### **Alternative approach**

Although the result of planning and design efforts for the site can be considered as having delivered a result, the case study could have profited from applying the Implementation Model. The need for redeveloping this site and a rough conceptualisation of its future use had already been agreed on in the Victoria Masterplan (Low, 2019). It is not entirely clear if alternatives had been considered and assessed while designing the project.

Considering the Victoria Masterplan guidelines as given a workshop procedure (see chapter 1.4.3) with variants could have produced an equal result in shorter time rather than making multiple successive designs. This would also advance the concept far enough for it to be fixed directly into a Binding Development Plan. The concept could then move on to implementation. The role of the accompanying body could be filled by representatives from the SPA and the SPF, stakeholders from the financial sector and interest groups from the local community. If there were no proposal in the Victoria Masterplan, the site including phase 2 would be well suited for a slimmed-down test planning procedure with multiple design teams (see chapter 1.4.3) where the results could be transferred into a development strategy. This is comparable to the procedure in the "Ennet den Gleisen" project, presented below.

### **Comparison to "Ennet den Gleisen" in Schaffhausen**

A good frame of reference for the appropriateness of the Financial District project is the project "Ennet den Gleisen" in the Swiss city of Schaffhausen. The circumstances of this project are very similar to the Financial District with both projects in close proximity to the historic town centre as well as the main transport hub of their respective city (in this case the railway station). Furthermore, the ownership situation (largely in the hands of the municipality) and the use prior to redevelopment (surface parking and bus terminal) are similar (Verein Agglomeration Schaffhausen, 2015, p. 50). The proposed development also shares many of the same traits, e.g. the focus on high-quality public spaces, deliberate densification, engaging ground-level retail space and a mix of uses. However, there is less focus on office

space in the Schaffhausen project. Furthermore, it optimised the use of space by providing underground parking rather than the above-ground solution in Victoria (Verein Agglomeration Schaffhausen, 2015, p. 50). By taking the surrounding area into account when designing the project it is also intended to give a development impetus to the neighbouring Mühletal area (Raumplanungsgruppe Nordostschweiz, 2014), much in the same way that phase 1 of the Financial District should lay the foundation for phase 2 as described above.

Due to the similarities of the site, the processes used could also be adequate for the Financial District. In Schaffhausen, the area underwent a test planning procedure to determine what uses might be best suited for such a site (Verein Agglomeration Schaffhausen, 2015, p. 50). This would certainly have also been appropriate for the Seychelles site if a concrete vision had not already existed. The fact, that with similar boundary conditions similar solutions were put forward, confirms the merit of the Financial District proposal, especially as "Ennet den Gleisen" received a prize for its exemplary nature (Raumplanungsgruppe Nordostschweiz, 2014). However, it is not guaranteed for projects to always be this fitting to the situation without due consideration of alternatives.

In Schaffhausen the test planning was followed by a revision of the land use plan (Verein Agglomeration Schaffhausen, 2015, p. 50). Similarly, in the Seychelles the revised zoning for St Louis is based on the recommendations from the Victoria Masterplan which in turn are a result of the Financial District proposal (Government of Seychelles, 2016b, p. 226). Subsequently, the Schaffhausen city council conducted an "investor competition" and the best project was fixed in a *Quartierplan* (see chapter 2.1.4) (Verein Agglomeration Schaffhausen, 2015, p. 51). The procedure more closely resembles a competition of ideas rather than a workshop procedure, but both can yield similar results. The *Quartierplan* is essentially equivalent to the Binding Development Plan, as is proposed above.

Finally, it must be noted that the project in Schaffhausen achieved a profit (CHF 3.5m) and took a total of 17 years from the initial test planning to realisation. From the point at which the Seychellois site stands at now it would have a further 7 years ahead before completion (Verein Agglomeration Schaffhausen, 2015, p. 51). This underlines that such projects can be successful from a planning and financial perspective but do require long-term dedication by the involved stakeholders.

## Potential solutions

If the district is realised as envisaged in the concept it can be considered a good example of sustainable inward development. It provides the concentration of a mix of uses at a central location in close proximity to a public transport hub and integrates into its surroundings through its provisions for walkability, inclusion of waterways and respecting the adjacent heritage area (compare Government of Seychelles, 2016b, pp. 118–119). However, it remains unclear why the initially planned residential component has been disregarded. Especially as the draft without residential use explicitly states the district as being "liveable" and contributing to "a self-contained town centre where people will live, work and play" (Felix, Low and Biscornet, 2017, p. 3). Considering that Policy LP1 of the Victoria Masterplan highlights the need for residential space within Central Victoria and the Financial District in particular (Government of Seychelles, 2016b, pp. 66–67), not including residential units is a forfeited opportunity which should be reconsidered. Accounting for the number of commuters and shoppers, the new development of the area is likely to create a reduction of the public transport capacity, which is to be avoided. Hence, if the bus station is relocated, an attractive new bus service or other public transport solution must be provided to the area as is intended in the VMP with a loop bus service (Government of Seychelles, 2016b, pp. 102–103).

## **Evaluation**

The model has proved satisfactory as it led to a similar approach as was chosen for the comparable project in the city of Schaffhausen. This emphasises that the designing of multiple alternatives adds value and speeds up the processes compared to the approach consisting of multiple rounds of drafts of a single alternative as was used for the Financial Districts. The importance of formally securing the produced concept as proposed in the model is highlighted by the fact that the ongoing developments in the Financial District have undermined the concept leading to continual redrafting.

### **5.3.4. Lower Plaisance**

The Lower Plaisance area is a small local centre along Plaisance Road on the fringe of Victoria, as seen in Figure 25. In the charettes conducted for Victoria Masterplan it was decided that the strengthening of the local centre at Lower Plaisance is an important issue to be addressed and it has been included in the Masterplan as part of policy P7 that focusses on the provision of community facilities (Government of Seychelles, 2016b, pp. 136, 140).

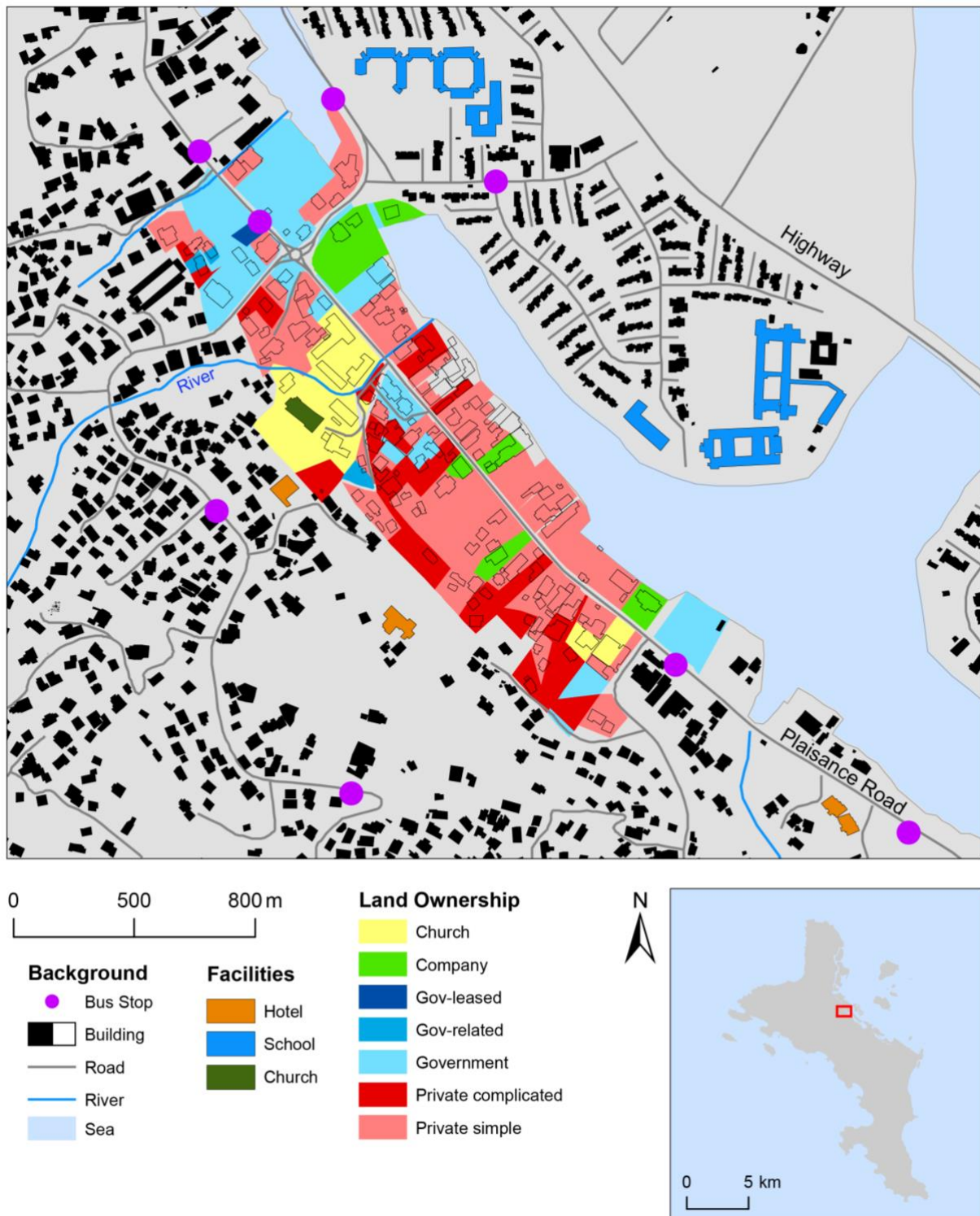


Figure 25 Lower Plaisance Overview. Private Simple: Land Has One Owner. Private Complicated: Ownership Divided Between Multiple Parties. (Own diagram, data: ARUP, 2015; Seychelles Land Registry, 2019).

## Overview and situation assessment

### Size

The study perimeter chosen in the Masterplan is quite extensive at approximately 15.2 hectares in size, being about 800 m long and 200 m wide. When planning in the area it is important to also take the adjacent mangroves into consideration.

### Current use

As seen in Figure 25, the linear settlement concentrates around Plaisance Road which used to be the main road on Mahé's east coast. At a roundabout in the north Plaisance Road intersects with La Misere Road which is one of the main cross-island routes to the west coast. Retail and community facilities are concentrated at the roundabout and along Plaisance Road. The rest of the settlement consists of various types of housing which are diverse in age as well as quality (Government of Seychelles, 2014, p. 542). The newer housing is often 3 or 4 storeys in height while older dwellings are single story (Government of Seychelles, 2016b, p. 140).

### Surroundings and circumstances

The area is divided between the three districts of Plaisance, Les Mamelles and Roche Caiman. This means coordination of the various Land Use Plans, visions and potential spatial strategies of the three districts is required. Lower Plaisance is situated in a plane at the edge of a north-easterly slope that is dominated by detached housing. On the opposite side of the inlet lies the reclaimed Roche Caiman area which hosts a large housing estate and numerous sports facilities. Lower Plaisance is connected to Roche Caiman by road in the north and by footbridge in the south-east. Towards the north-west Lower Plaisance is abutted by the Mont Fleuri area which exhibits a very similar settlement structure.

### Ownership

As can be seen in Figure 25, ownership differs between the northern and southern halves of the area with the dividing line being along the river and past the Church lands. The former includes many government and church owned plots. The southern part is mainly privately owned. A large majority of the privately-owned plots can be characterised as possessing a simple ownership situation with a single registered landowner. Undeveloped land is concentrated on these privately held "simple" plots as well as on government plots. Most undeveloped parcels are small thus favouring infill development which was also proposed in the Masterplan (Government of Seychelles, 2016b, p. 142). There are two noteworthy larger plots in the north owned by the government being 5'000 and 4'000 m<sup>2</sup> in size respectively. The larger one shows very little use and is covered in shrubs. The smaller one hosts a basic playing field.

### Planning status

The need to include Lower Plaisance into the Victoria Masterplan was identified in the masterplan charettes, largely due to a recent surge in development which should be more clearly guided in the future. Based on these charettes a Lower Plaisance concept for the Victoria Masterplan was developed (Tunnell, 2015b, 2015c). This largely consists of infill development on smaller plots, higher density mixed use developments near the roundabout, improvements to community facilities including civic squares and improved pedestrian facilities, in particular a circumferential mangrove walk (Government of Seychelles,

2016b, p. 142). A more detailed concept for the northern part of the perimeter near the roundabout was also developed, as seen in Figure 26.

It is not clear if alternatives were considered when developing the proposal for Lower Plaisance. The Victoria Masterplan suggests designing a separate Lower Plaisance "Masterplan" with local stakeholders to ensure implementation (Government of Seychelles, 2016b, p. 230). Work on such a plan has not yet commenced.

In the land use plan drafts, nearly all of the perimeter is classified as either high density residential ("R70", 0.45 plot coverage and 4 storeys) or Commercial and Residential ("C10") (Government of Seychelles, 2015d; Strategic Land Use Planning Unit, 2018a, 2018b, 2018c). The classifications allow for the envisaged concept, as they were produced in accordance with the Victoria Masterplan. However, it is not clear why some parcels along the main road allow commercial use and others are strictly residential. This appears to be more based in the current use than the intentions of the concept.



Figure 26 Lower Plaisance Node Centre Concept (Tunnell, 2015c).



## Choice of procedure and organisational setup

The different characters of the northern and southern perimeter halves merit separate organisational structures. Both could be envisaged as council led projects while the southern perimeter could also be subject to a more landowner-driven approach as described by Fischer et al. (2016). The northern half is more suited for a government-led project, as large parts of the area are already in government ownership and the strong focus on community facilities in the proposal limits the attractiveness to private investors.

As Lower Plaisance is not a priority project the development of the announced Masterplan, is unlikely to take place in the short-term (Government of Seychelles, 2016b). However, as development continues not enacting any planning measures up to that point might result in a limitation of future development options and bring about undesirable effects. Thus, pausing development until development guidelines have been specified would be advantageous. Within the proposed framework this could only be done by mandating a Binding Development Plan for the perimeter. However, bringing a large number of landowners in the southern area to participate would be hard to achieve. Alternatively, a rethinking of the prioritisation of Lower Plaisance and putting in question whether a "Masterplan" is the appropriate instrument for this site, could bring planning efforts forward more effectively.

For the northern area, a single study may suffice as the next planning step, as ideas are already quite progressed and were developed co-operatively with the public (Tunnell, 2015c). Thus, a workshop procedure with variants is likely the most adequate procedure. It allows for exploring various configurations of the community facilities and the coordination of the various project parts in greater detail. The informal procedure could be organised by the SPA with an independent architecture office as the design team. In this case the results can flow directly into a Binding Development Plan without prior design of a development strategy as intentions should be sufficiently clarified. The Binding Development Plan would be designed by the SPA as the project largely involves public initiative. In addition, a combined development strategy with the southern half of Lower Plaisance is worth considering as it allows for the development of the two halves to be coordinated instead of disjunct.

As the general direction of development has already been defined for the southern half of Lower Plaisance in the Victoria Masterplan, engaging in an informal procedure would bring little benefit in light of the costs. Nevertheless, if landowner initiative can be achieved, the formulation of an urban design contract would be favourable. Ideally, this is to be based on an informal development strategy for all of Lower Plaisance. While landowners agree on what direction they wish development to take in the area it is important that provisions are also made on how to deal with landowners that wish to join at a later stage or do not wish to develop in line with the contract. Following the suggestions from chapter 5.2.3., the financial contribution of these landowners could be recovered through an added value levy (Fischer, Thoma and Salkeld, 2016, pp. 16–17). Development of the contract should be in co-operation with the SPA as adaptations of the Land Use Plans might be needed for the development strategy to take effect. If agreement with the SPA is reached the amendments to the LUP can occur in the next revision cycle. At the core of planning efforts in this area lie an increase in coordination of development which should be possible through the suggested contracts. In addition, using some forms of land reorganisation as described in chapter 5.1.1. should also be considered as it can enable development of hitherto blocked plots. The details of which can also be included in the contract or be part of separate contracts solely between the affected parties

An added difficulty at this site is the division of the land between three administrative districts. It is thus important to produce just one development strategy and one Binding Development Plan in cooperation

with all three district administrators and the regional council to ensure that development is consistent across boundary lines. Nevertheless, the phasing that is required for an area of this size may be done by district. The Binding Development Plan as well as the urban design contracts for Lower Plaisance should also allow for landowners to develop on their own if their project is generally in line with the intentions of the development strategy in order to prevent the development plan from hampering materialisation (Fischer, Thoma and Salkeld, 2016, p. 17).

### **Alternative approach**

Assuming there had been no prior deliberations concerning the site in the Victoria Masterplan one can model the approach more strongly on the Implementation Model. A competition of ideas with subsequent single study (see chapter 1.4.3) would be an expedient approach that would allow to explore alternative trajectories of the site while also deepening the design of the chosen alternative sufficiently to allow formalisation. Formalisation could still follow the same patterns as mentioned above with a Binding Development Plan for the northern half and an urban design contract for the southern part.

### **Potential solutions and comparison to Swiss project**

The strategy for Lower Plaisance devised in the Victoria Masterplan gives a good indication of the potential for future settlement development in the area and hints at an increase in civic space and the improvement of the movement network especially with increased accessibility of the mangroves (Government of Seychelles, 2016b, pp. 142–143). However, some aspects that are at the centre of the further development of Lower Plaisance have not been sufficiently clarified. This includes the exact nature of how and what community facilities shall be improved and how a pedestrian network that crosses private land can be implemented. It is therefore important that these issues be at the focal point of any future planning efforts in the area.

A major unaddressed issue in Lower Plaisance is, however, the managing of traffic volumes and the design of the streetscape. The proposal for Lower Plaisance falls under the Victoria Masterplan strategy of "creating a liveable place", one of the six main strategies of the plan (Government of Seychelles, 2016b, p. 64). The liveability of Lower Plaisance and the success of strengthening it as a local centre is strongly connected to how traffic is to be managed in the area. To this end, a study of options for managing traffic in the future is to be included in the workshop procedure. The southern section of Plaisance could be well suited for traffic calming measures as it runs parallel to the main east coast highway and carries mostly local traffic (Government of Seychelles, 2015e, p. B-37). If a redesign of the streetscape is sought, it is essential that development of the private properties along it is adapted accordingly, for instance by opening up commercial and public facilities towards the road. This might also enable new typologies fitting to this type of setting, such as terraced housing. Then, the southern Lower Plaisance area would also need to be planned in a government-led project. This would probably change the concept sufficiently to merit a change in procedures to a competition of ideas with subsequent single study. What a resulting development strategy in such a setting could look like is shown by the development study "Zurzacherstrasse" in Brugg, Switzerland, (see Figure 27) which suggests different types of road redesign and building typologies along the road, including a schedule for its implementation (Architekten AG, Dietiker and Klaus, 2016).

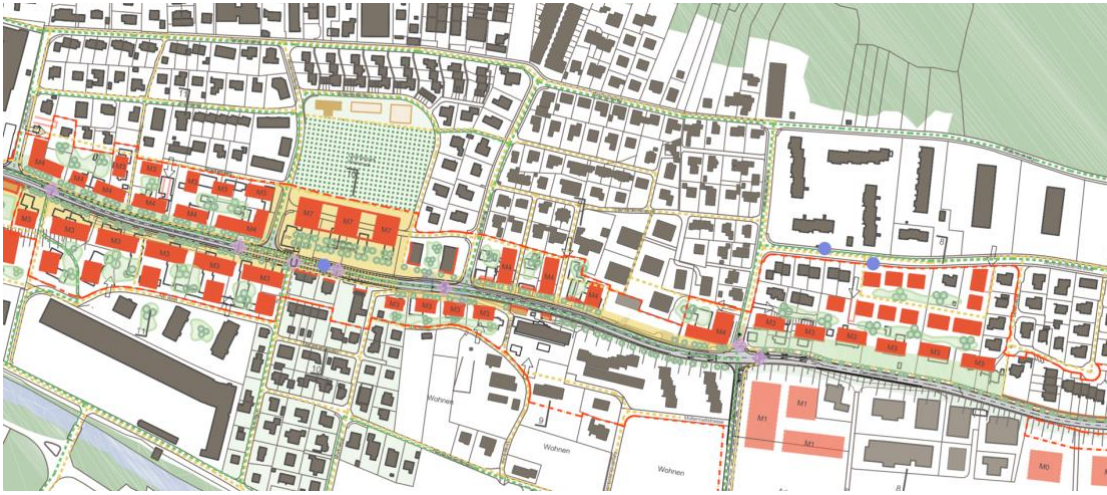


Figure 27 Settlement Plan for Development Study Zurzacherstrasse (Architekte AG, Dietiker and Klaus, 2016, p. 21).

## Evaluation

From assessing the proposal and devising further steps to be taken at Lower Plaisance it has become apparent that not all proposals in the Victoria Masterplan are advanced far enough to be immediately followed by formalisation or even building applications. This highlights the importance of having a repertoire of informal procedures as well as formalisation tools to back them up as is provided by the Implementation Model.

### 5.3.5. Anse Aux Pins Centre

Anse Aux Pins is a district in south east Mahé, 2.5 km from Seychelles International Airport to the north and 6 km from Anse Royale, a regional centre in the south. It is designated to be developed into a regional centre in the Strategic Land Use and Development Plan. This includes providing services, facilities and employment for the wider area (Government of Seychelles, 2016a, p. 42). The centre function is to be shared between the existing village centre (see Figure 28) around the bus station, and Ile Soleil, a land reclamation site in development approximately a kilometre northeast of the existing centre. Anse Aux Pins district had close to 4'000 inhabitants in 2010 (Government of Seychelles, 2014, p. 112) and 1'249 homes in 2014. This is expected to increase by 800 homes by 2040 (Government of Seychelles, 2015b). Therefore, there is not only a need to supply additional housing in Anse Aux Pins but also a need to increase the provision of facilities and services at the centre.

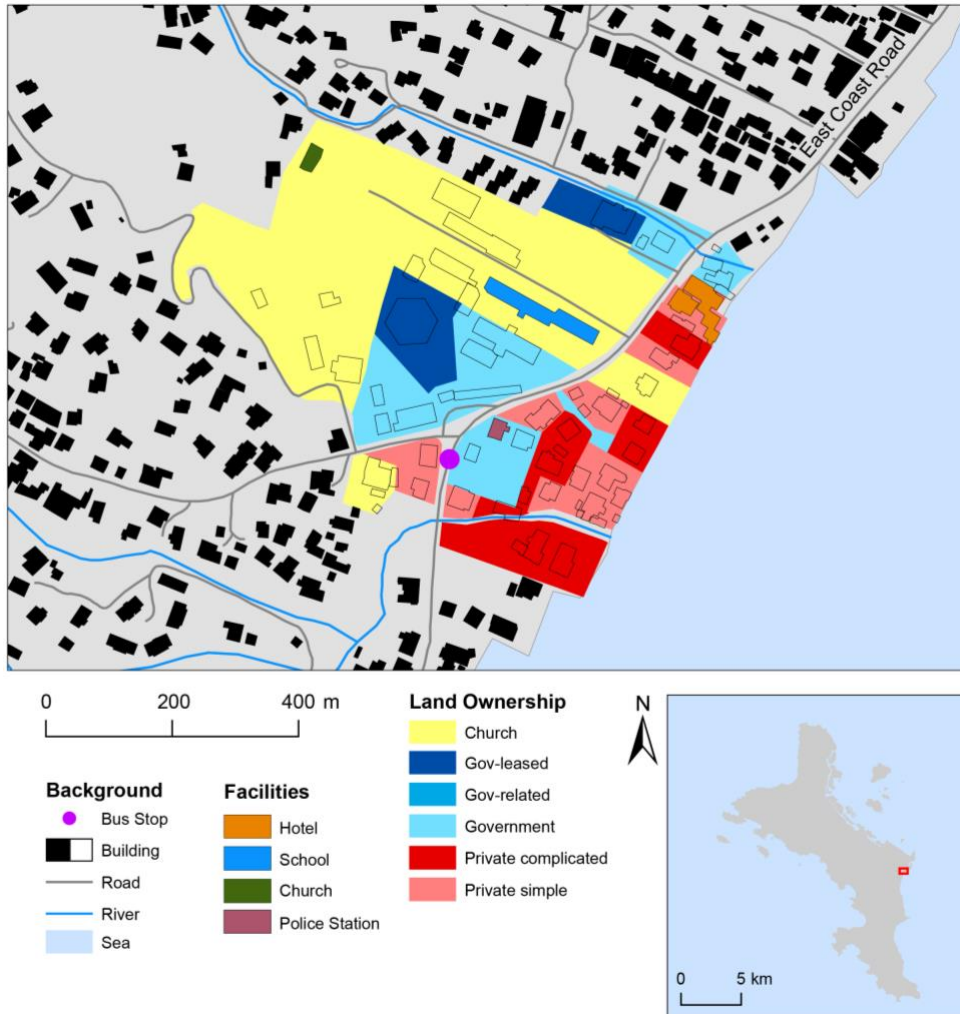


Figure 28 Anse Aux Pins Centre Overview. Private Simple: Land Has One Owner. Private Complicated: Ownership Divided Between Multiple Parties. (Own diagram, data: ARUP, 2015; Seychelles Land Registry, 2019).

## Overview and situation assessment

### Size

The area chosen for evaluation is 79'000 m<sup>2</sup> in size. It is bound by a small forested area to the west, the Ile Soleil junction to the north and a derelict seaside hotel to the south. It encompasses most public buildings and shops of Anse Aux Pins. Although the plans for the centre shown in Figure 30 include a larger area, the focus for the case study was laid in the south. This area has not only been the focus of the SPA's planning efforts (Seychelles Planning Authority, 2017a) but it also has a high need for spatial coordination.

### Current use

The centre of Anse Aux Pins is dominated by public and non-residential uses such as a bus station, health centre, and police station. Although there are only few undeveloped plots in the area and many have a comparatively high plot coverage to other areas of the Seychelles, the buildings are mostly single storey (see Figure 29). The remainder is two-storey and the local school is the only three-storey complex in proximity to the centre. The bus station of regional importance as well as the police station have been

recently redeveloped (Seychelles Planning Authority, 2017a). There is also a small playing field in the northern part of the centre.

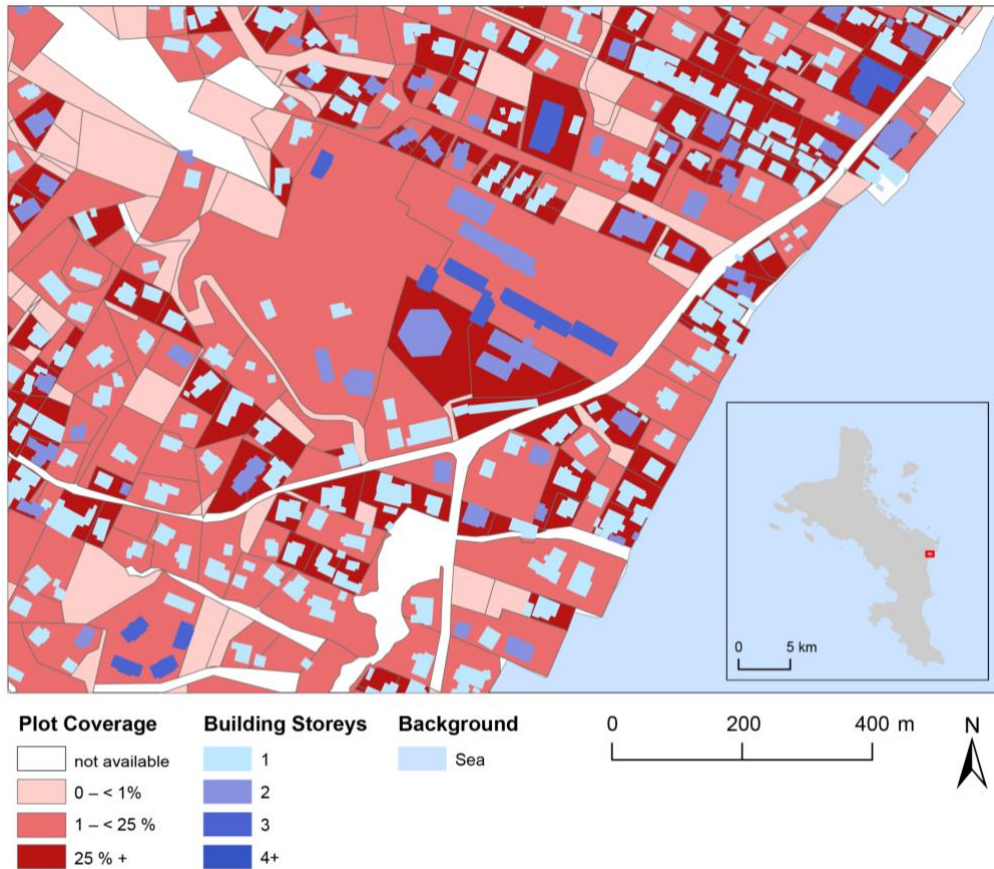


Figure 29 Plot Coverage and Storeys at Anse Aux Pins Centre (Own diagram, data: ARUP, 2015).

### Surroundings and circumstances

Ans Aux Pins centre is concentrated at a bend in the East Coast Road. The road also dissects the centre into two parts. The centre lies at a south-easterly slope just by the sea. The hard-edged waterfront at the centre is not accessible but there is a public beach just to the south. The beach is also the site of the derelict Reef Hotel which might see reopening as a hotel in the future (Laurence, 2019). Its development could impact the local centre and vice-versa, so it is important for planning at either site to consider its relation to the other.

### Ownership

As seen in see Figure 28, Land ownership greatly differs between the two sides of the East Coast Road. The strip between the road and the sea largely consists of small plots that are owned by private landowners. Ten of the plots have a simple ownership situation while seven have more complicated ownership setups (see Figure 28). The exception to the ownership pattern in this area is a government parcel where the police station is situated. Practically all plots in the area are already developed to some extent.

The land-facing side of the East Coast Road is dominated by larger parcels. The two main landowners are the Government of Seychelles and the Roman Catholic Church of Seychelles. Three of the former's plots are leased to private individuals. The Roman Catholic Church owns a total of 38'223 m<sup>2</sup> of land in the

perimeter. As this is nearly half of the land in the study area involving the church as a key stakeholder into the planning procedure is pivotal to the success of future development at Anse Aux Pins.

### Planning status

Although the development of Ile Soleil is part of the SLUDP (Government of Seychelles, 2016a, pp. 280–281), the detailed plans for the centre of Anse Aux Pins itself are not. The vision for Anse Aux Pins in the SLUDP focuses on the interrelation of the existing centre and Ile Soleil. It states that the transport hub should be strengthened, the community facilities revitalised and growth be accommodated in line with local needs (Government of Seychelles, 2016a, p. 442).

Anse Aux Pins is not included in the Victoria Masterplan either. In 2017, there was pressure from the local DA as well as various government departments to engage in some development at the centre. However, at this point revision of the Land Use Plan had not yet taken place and no Development Plans were scheduled yet. As stated by Low (2019), this prompted SPA to bring the LUP revision for Anse Aux Pins forward and make an effort to try integrating the commenced planning on government land into a more co-ordinated development. However, the midway inclusion of the SPA in the process has made a turn-around difficult and some less coordinated development has already taken place, such as the new police station (Low, 2019).

Since then, a Land Use Plan for Anse Aux Pins has been drafted which has included deliberations on the future development of the centre (Seychelles Planning Authority, 2017a). While revising the LUP, a development strategy for the wider centre was developed by the SPA based on public consultation, as can be seen in Figure 30. It is currently intended to produce a Development Plan for the centre once the Land Use Plan has been approved (Seychelles Planning Authority, 2017a).

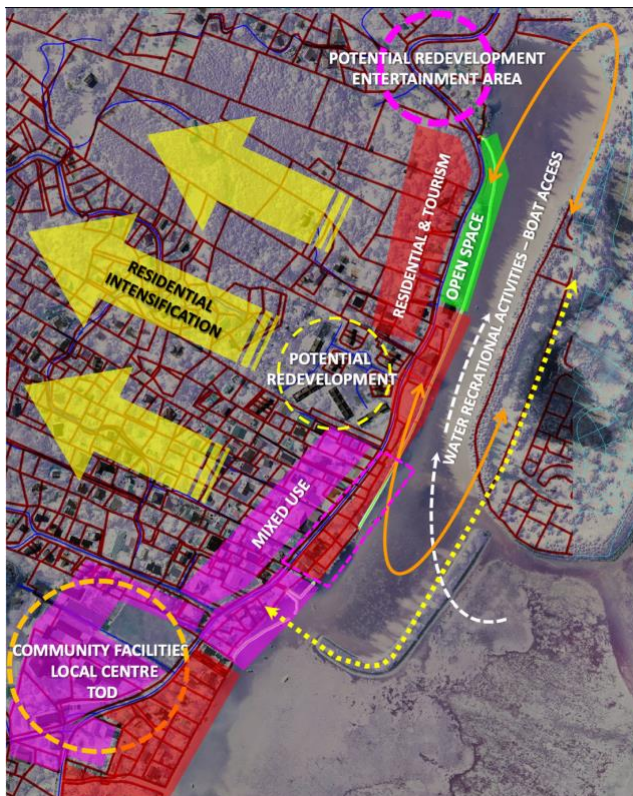


Figure 30 Development Strategy for Anse Aux Pins Centre for LUP revision (Seychelles Planning Authority, 2017a, p. 16).

The area chosen for this case study can be seen in the bottom left of Figure 30 and is planned to be mixed-use with residential as well as office and retail. It shall enable the strengthening of community facilities and allow for higher density development due to its close proximity to a bus station with frequent service (Seychelles Planning Authority, 2017a, p. 15). As these suggestions come from the Land Use Plan preparations, they are in accordance with the LUP draft (see Figure 31).

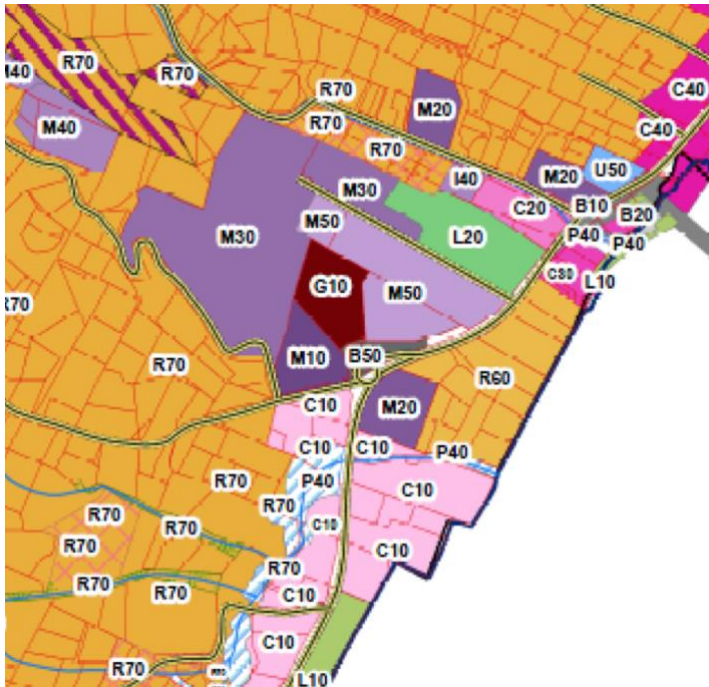


Figure 31 Excerpt of Anse Aux Pins LUP Draft. M: Public Services, R: Residential (R 60: Residential & Tourism), C: Mixed-use, L: Outdoor and Green Space P40: Wetlands. (Seychelles Planning Authority, 2017a, p. 25).

As new Development Plans have little priority over completion of Land Use Plans at the moment (Belle, 2019b), there is currently no schedule or phasing for implementing the abovementioned development strategy for the Anse Aux Pins centre. Despite the wish to coordinate spatial development and public transport provision, the proposed LUP does not strongly reflect this as the residential areas closest to the bus station are merely medium density (Seychelles Planning Authority, 2017a).

### Choice of procedure and organisational setup

Due to the ownership situation an organisational setup that has the government as initiator but also allows for strong engagement of the private landowners would be advantageous. To this end, the SPA should negotiate with the investor at the Reef Hotel site as well as with the Church as largest landowner. This could lead to a co-operation between GoS and an investor as initiators with the latter also contributing to financing the planning costs. The GoS would, however, likely retain direct control over the development of its own parcels as they are intended for continued public uses such as community facilities.

In terms of procedure, the question of where which uses shall be situated must be resolved first, before the existing development strategy for the area can be formalised in a Binding Development Plan. This has been the subject of discord between government departments as they have differing views on relocation of certain uses and what plots are suitable for what development (Low, 2019). A simple, non-effort-intensive informal process could clarify the remaining uncertainties such as workshop procedure with variants. The designs should be made by a private architectural firm rather than government internally. As

the SPA would likely already be represented in the accompanying body and the project management team a potential investor would not be interested if the government also held sway over the designs. The subsequent Binding Development Plan primarily needs to cover the area to the northwest of the East Coast Road. Due to its different character and ownership situation, the area to the southeast of the road could fall under a simpler formalisation regime such as an urban design contract or be subject to planning procedures at a later stage. Private development in this area could be kick-started through the initial government project in the northwest.

### **Alternative approach**

If there had been no spatial strategy present from the early LUP revision a more comprehensive study of the site would have been required. This would have merited a competition with ideas and subsequent single study to capture the possible directions of development and also settle the problem of the sought usage relocations. In a competition of ideas an assessing body could be formed consisting of government representatives, the investor, local landowners as well as independent experts. In anticipation of the LUP review, the results could be temporarily laid down in a development strategy. Formalisation could then be partially realised through the LUP review and a subsequent Binding Development Plan. A strong coordination with plans for the rest of Anse Aux Pins and Ile Soleil are paramount. This could happen through the establishment of a district strategy plan (see chapter 5.2.1) before undertaking the LUP review.

### **Comparison to "Masterplan Zentrum Oberengstringen"**

The centre of Oberengstringen in the canton of Zurich presents a similar site to that of Anse Aux Pins. Located along a regionally important road of a hillside community above a river, it also hosts important facilities of the municipality, in particular its main bus station, a school, council offices, two churches and local shopping facilities. The project at hand covered numerous topics including the traffic situation, design of public space, school house reorganisation and distribution of uses (Gemeinde Oberengstringen, 2014, p. 5). It therefore has much overlap with the Anse Aux Pins development task in the type of issues that needed to be addressed. The inward development process hinged on a prior "future conference" with the public concerning the municipality's future development. The conference identified the need for further deliberations on the development of the village centre. This can be compared to the public consultation that took place at Anse Aux Pins for the LUP review.

In Oberengstringen, after consolidating the specifications and intentions of the project a first decision was made by the council to give the go-ahead for an informal procedure. It was agreed to develop multiple variants, one of which formed the basis for the subsequent Masterplan (Gemeinde Oberengstringen, 2014, p. 17). It is not entirely clear from the documentation if the exploration of possibilities was in the form of a single study with variants or a parallel study. The Masterplan included specifications on construction, staging, further planning procedures and in-depth studies for specific parts of the centre. Finally, the Masterplan was approved by the municipal council (Gemeinde Oberengstringen, 2014, p. 17). The various constituent projects of the Masterplan all require varying levels of further planning in the future. Some are to be formalised in binding instruments and others require further informal planning procedures whereas the municipality envisages three competitions of ideas. Finally, the masterplan's results were also to be incorporated into the revision of the municipal land use plan (Gemeinde Oberengstringen, 2014).

The approach chosen in Oberengstringen, where results were secured in a masterplan before moving on to further specification with other instruments, closely mirrors the alternative approach chosen above.



This supports the argument that in Switzerland and the Seychelles alike, the LUP does not necessarily need to be the first step of the planning process. The large number of additional procedures planned in Oberengstringen and the budget procedures and implementation of CHF 14.25m underline the high importance of this project to the municipality (Gemeinde Oberengstringen, 2014, pp. 39–40). However, considering the budgetary limitation of the SPA as well as the low priority of Anse Aux Pins compared to Central Victoria projects, a smaller scale planning endeavour is certainly more apt even with the many similarities of the projects. Finally, the Oberengstringen project involved strong participation from the public and civil society through the future conference and inclusion in an accompanying body (Gemeinde Oberengstringen, 2014, p. 18). This approach could be of interest to Anse Aux Pins. A possibility would be developing the variants of the workshop procedure or competition of ideas in concert with the public. This incorporation of local knowledge could ease the scarcity of experts and resources and revisit the methods used when developing the SLUDP through charettes.

### **Potential Solutions**

The rearrangement of usages in the centre of Anse Aux Pins opens up the possibility of shifting the centre's focus away from the road to a more compact centre and integrate the local church in the north-west into the centre. This option could also encompass public space that could function as a market place thus strengthening the function as a local centre and the availability of community facilities as was sought in the development strategy (Seychelles Planning Authority, 2017a). An opportunity missed in the planning efforts so far is the connection to the seafront. Opening the area up to the sea through a promenade is only possible if the private landowners are involved in the planning procedure and engage in an urban development contract as described in Choice of Procedure and Organisational Setup.

### **Evaluation**

The Anse Aux Pins case study has shown the importance of including a development strategy into the land use planning process and thus the merits of the procedures currently being applied by the SPA in the ongoing LUP review cycle. Nevertheless, it was also shown that it is equally possible to tackle an inward development project with the Implementation Model before engaging in land use planning if the circumstances demand it. This allows for increased flexibility in the sequencing which had been limited so far at Anse Aux Pins and more generally (Low, 2019). The case study also showed that differing expectations of local and national government on development could be clarified by informal procedures where alternatives are drawn up and subsequently narrowed down and specified.

## 5.4. Evaluation of Implementation Model

All informal procedures and formalisation tools suggested under the present and adapted circumstances for the three case studies are listed in Table 6.

Table 6 Summary of Suggested Procedures and Instruments in the Case Studies

Case Study	Current Setting		Hypothetical	
	<i>Informal procedure</i>	<i>Formalisation</i>	<i>Informal procedure</i>	<i>Formalisation</i>
Financial District	-	Binding Development Plan	Workshop procedure with variants (or test planning)	Binding Development Plan
Lower Plaisance Combined-Level	Development strategy	-	Competition of ideas with single study	-
Lower Plaisance North	Workshop procedure with variants	Binding Development Plan	-	Binding Development Plan
Lower Plaisance South	-	Urban design contract	-	Urban design contract
Anse Aux Pins	Workshop procedure with variants	Binding development plan / urban design contract	Competition of ideas with single study & development strategy	LUP adaption and binding development plan

As seen in Table 6, testing revealed that due to the planning efforts already undertaken through the Victoria Masterplan informal procedures can be omitted in some cases. However, this does not render informal procedures redundant as they were not only useful for the Anse Aux Pins site outside the Victoria Masterplan but also for Lower Plaisance which is included in the masterplan. The test planning procedure – although popular in Swiss planning (Flükiger, 2019) – was only of interest in one of the hypothetical settings for the Financial District. Due to the presence of the SLUDP and the Victoria Masterplan as well as the limited number of large brownfield sites in the Seychelles the test planning procedure is not likely to become a common procedure. It can be concluded that the test planning procedure cannot add sufficient value to the Seychelles' planning framework as rare use is not beneficial to the accumulation of expertise and because despite its costs the procedure cannot be directly followed by a securing of results.

Apart from the test planning procedure, the prototypes of informal processes suggested by Flükiger (2019) that were included in the model proved to be very useful for application in the Seychelles. However, they are strongly focused on the authority's point of view. Hence, they have their limitations if stronger participation by local landowners or an investor is sought as was the case in the Lower Plaisance and Anse Aux Pins case studies. Here a combination with the five organisational models of Fischer et al. (2016) would be of interest to assess how these two theories interact.

The intermediary instrument of the development strategy proved to be an important link between the informal and the formal instruments either when formalisation was to be deferred or when determining the strategy of a wider area before using further procedures for subareas.

Finally, some form of formalisation was required in all case studies and all proposed formalisation methods were used as seen in Table 6. This shows that the chosen formalisation forms are adequate and that having multiple options to choose from is essential, especially as some situations required halting certain development while others involved making sure stalling did not take place. The case studies highlighted

that formalisation tools are most beneficial to implementing the policies of the SLUDP and Victoria Masterplan.

## 6 Synthesis

This chapter summarises the contributions to the research questions and assesses if they could be sufficiently answered. Subsequently, it critically appraises the thesis' contents before summarising the practical implications of the finding for the Seychelles Planning Authority. Finally, the implications of the findings for the Swiss planning framework and current debate are highlighted.

### 6.1. Conclusions on Research Questions

This chapter summarises the main insights gained regarding the three research questions laid out in chapter 1.2.

#### 6.1.1. Research Question 1

- How do the components of the planning system and practice of the Seychelles relate to each other and what is the impact of the intended changes to the framework?

As was seen in chapters 2.3, the planning framework of the Seychelles is currently guided by the Strategic Land Use and Development Plan and the Victoria Masterplan. These two plans have not only influenced planning practice but also influence the other planning instruments themselves. This is especially true for the efforts to formalise the Land Use Plans. A further example is the production of Development Plans to implement Victoria Masterplan projects although the VMP does not dictate the use of a specific instrument. The Development Plans are currently intended to be in agreement with the LUPs and follow them temporally although this sequencing is still subject to debate (see chapter 2.3.5). Allowing for these two instruments to be statutory is also one of the main drivers behind the pending adoption of the Physical Planning Bill. Thus, causing all instruments of the planning framework system to be connected in some form albeit not always explicitly.

When examining the practices surrounding these instruments in greater detail, however, it becomes apparent that some of the intended changes could have unanticipated effects on the framework.

Firstly, the lack of binding character of the instruments, especially the Land Use Plans, has been a long-standing impediment to planning security and undermines the authority of these instruments (Belle, 2019a; Biscornet, 2019). Consequently, addressing this issue is a top priority for the SPA (Biscornet, 2019). This transition to a landowner binding and authority binding form will bring momentum into yet unresolved questions. These questions revolve around the implications of planning decisions on property rights and value and possible landowner compensation (see chapter 2.3.4). If these consequences of formalisation are not addressed, the Land Use Plans will not be able to steer development in any meaningful way. This would also compromise the SPA's ability to fulfil its objective of ensuring orderly and sustainable development (see chapter 2.3.4). Clarification of the effects of binding LUPs on property rights must take place before these LUPs become statutory.

Secondly, the Development Plan is not yet fully defined as an instrument and bringing it into binding form will require further refinement (see chapter 2.3.5 and 4.2). For example, the methods of involvement of private landowners through contributions and concessions as put forward by the SLUDP are still being discussed (Government of Seychelles, 2016a; Low, 2019). Thus, it is currently unclear if the Development Plans will be able to achieve their goals of regulating development and redeveloping district centres (see 4.2). Land Use Plans and Development Plans must be equally binding, and their interrelation clearly

defined, in order for both of them to influence development as intended. Especially the Development Plans need to be changed fundamentally to move from a wishful plan to a formal instrument that clearly regulates development.

In summary, although the constituent parts of the planning framework are integrated at a basic level the ongoing changes, most notably formalisation, will bring about ramifications if their effects are not properly anticipated. Nevertheless, this formalisation is seminal to achieving planning security and the goals of the SPA. Once the PPB is approved and the Land Use Plans and Development Plans become binding, they can form a strong formal foundation of the planning framework in conjunction with the SLUDP and the VMP if the aforementioned issues are taken into consideration.

The SLUDP, VMP and accompanying assessments are most comprehensive in their analyses of the Seychelles planning framework and the resulting plans and policies are equally extensive. In fact, this policy framework provides guidance on most current spatial development challenges of the Seychelles and recommends numerous instruments and practices for complementing the planning framework. However, many of these are yet to be implemented and as seen in chapter 4.3 this is no easy task. The changes to the planning framework mentioned above necessitate a consolidation of the informal procedures and practices of the framework to support the formal parts (see chapter 1.4.4). As this development of informal procedures has not taken place so far it was picked up in the design phase in chapter 5.2. The scholarly opinion that informal procedures are an important part of a comprehensive planning framework (Gilgen, 2012) was confirmed by the testing thereof in the case studies in chapter 5.3. It showed that informal procedures could help implementing the projects of the Victoria Masterplan as well as those envisaged beyond it. Therefore, extended use of informal procedures is necessary if the policies of the SLUDP and VMP are to transition from paper to implementation.

### 6.1.2. Research Question 2

- What are the main challenges to achieving the goals of the SLUDP and VMP concerned with sustainable settlement development and to achieving inward development more generally?

As established in chapter 1.4.1, the aptitude of the Seychelles' planning framework of achieving inward development was taken as the benchmark for its assessment. Firstly, this is justified by the very similar understanding of sustainable development in the SLUDP (see chapter 2.3.3) and the general advantages of inward development such as its cost-effectiveness (see chapter 1.4.2). However, the true merits of the strategy of inward development to the Seychelles become apparent when considering the ongoing impacts of settlement development on land cover and the future trends in housing demand (see chapter 2.2.1). The consequences of not being able to curtail settlement expansion are particularly dire for the Seychelles as the natural environment is one of the country's most important assets on which the tourism sector and in turn the nation's wealth is built on (Government of Seychelles, 2016a, p. 27). At present, a turn from outward settlement expansion to inward development is, therefore, the most important planning task for the Seychelles.

One of the main factors influencing settlement area expansion is the effectiveness of land use planning. As shown in chapter 4.1, the dimensioning of reserves during the preparation of the Land Use Plans is not as precise nor strict as in Switzerland and does not enjoy the same relevance. The reserves are based on the SLUDP recommendations for densification within the Urban Growth Boundaries and then adapted in selected instances (Low, 2019). As shown in chapter 3, however, the reserves identified in the SLUDP clearly exceed the demand for land.

Furthermore, the Land Bank has reserves of unknown extent and does not form an integral part of the reserve calculation for the LUPs, as elucidated in chapter 2.3.3. Land reclamation projects, the promotion of which is also a SLUDP policy (Government of Seychelles, 2016a, p. 50), are not fully accounted for in reserve deliberations either. For example, the Land Use Assessment estimates an oversupply of industrial floorspace by 2040 (Government of Seychelles, 2015d, p. 6.22) and yet new land reclamations for this purpose are also included in the SLUDP. Four of the nine major VMP projects (see Table 11) involve land reclamation or are newly developed reclamation sites. The prominence of land reclamation projects in the VMP show the considerable attention and financial resources allocated hereto. Consequently, this has an impact on the availability of resources that can be devoted to the (re-)development of the existing settlements (see chapter 2.2.3).

In summary, the current land use planning practices are not based on demand dimensioning which leads to oversized reserves. The consequences of this for sustainable settlement development become apparent when taking the significance of the Urban Growth Boundary into account. Based on the definition of the Urban Growth Boundary (see chapter 2.3.4) the reserves within it can be equated to the inner reserves and those outside to the outer reserves of Swiss terminology (Nebel, 2013). Although the allowable density within the UGB is being increased the reserves outside the boundary, i.e. outward reserves, remain extensive (see chapter 3). Coupled with the lack of possibilities for controlling the development either side of the UGB (see chapter 4.1) the current land use planning practice cannot be considered to be in line with the strategy of inward development (see chapter 1.4.1).

Although some degree of reduction of reserves would be possible in the current framework without impeding the satisfaction of demand, as mentioned in chapter 3.4, greater reductions would be readily possible if materialisation rates were to be increased (see chapter 4.1).

As follows from above, avenues to achieve this reduction are to be explored if settlement development is to become sustainable. Hence, the design phase focused on approaches for increasing materialisation and containing settlement development within the UGBs in chapter 5.1. In accordance with the principle of inward development the approach does not comprise of a mere encouragement of construction but also lays strong emphasis on ensuring the quality of development. This is the subject of the two models in chapter 5.2.

### 6.1.3. Research Question 3

- Are there any Swiss planning instruments or practices that could be useful to overcome the Seychelles challenges to inward development and how can they be integrated into the planning framework?

Chapter 5 presented an array of instruments and approaches from Swiss planning that could prove useful in the Seychelles. These were adapted to the Seychelles and some were subsequently tested as to their adequacy.

As seen in chapter 5.1, achieving the necessary greater materialisation of the reserves is in a trade-off with intrusions to individual property rights. In other words, the formal instruments that allow the application of some type of legal pressure on the landowners, and the informal tools that rely solely on the voluntary co-operation of the landowners need to be balanced. In Switzerland, the revision of the RPG in 2014 saw a shift of this balance towards a larger repertoire of formal materialisation instruments as a measure to facilitate inward development (see chapter 2.1.6). In the Seychelles, the existing repertoire of informal

tools including landowner address and consulting services has not been able to ensure sufficient materialisation (see chapters 4.1 and 5.1). Therefore, the introduction of further materialisation instruments that can exert pressure on landowners is necessary. Of these more formal instruments, deadlines with right of purchase contracts emerged as the most readily implementable. The instrument with the highest potential to resolve the dominant obstacles in the Seychelles is likely the *Landumlegung* (see chapter 5.1.1). Although the existing informal materialisation methods are valuable and shall be continued, it is the formal materialisation instruments that could best achieve a meaningful rise in materialisation rates. Having multiple options available increase the chance of having one that performs.

Regarding the reduction of the settlement reserves, the Swiss approach of applying an added value levy (see chapter 2.1.6) would not be applicable under the current conditions. By planning to increase the allowable densities within the UGB without requesting any value in return the leverage of an added value levy is lost for the authorities (see chapter 5.1.2). However, other approaches from Swiss planning practice were identified as promising, e.g. the concentration of reserves as practiced in Sils Maria. The principal conclusion from examining the reduction of the settlement reserves is that as formalisation progresses the pursuable courses of action gradually decrease (chapter 5.1.2). This reinforces the importance of exercising great care when formalising the Land Use Plans as stated in chapter 6.1.1. The sooner a reduction of the settlement area takes place the greater its positive effects are for the environment, the national budget, tourism and mobility.

Both increasing materialisation and reducing the settlement reserves are related to the concept of development taking a different course inside the UGB from outside it. In chapter 5.1, it was shown that there are numerous transferable instruments in Swiss planning for making this border more clear-cut. Hence, enabling the Urban Growth Area to fulfil its function as the part of the settlement area that contains the majority of the growth of a certain time period, in this case 5 years.

In terms of integrating the planning framework for progressing inward development projects best practice guides and procedures from Switzerland were adapted to the Seychelles' needs and constraints. This yielded the Strategic and Implementation Models (see chapter 5.2). Adaptions to the commonly recommended procedures were not substantial and consisted mainly of a conflation and streamlining of the informal approaches and the formal result securing instruments. This was done in view of the limited planning resources as has been similarly proposed in Swiss planning practice (Flükiger, 2019). The main components that differ to contemporary practice in the Seychelles were a stronger focus on starting analysis on the plot level through overviews and the address of landowners, the designing of multiple alternatives in the informal planning process for more robust decision-making, and an expansion of the tools for securing results. The testing revealed that applying this more rigorous framework could yield satisfactory results for the case studies and clarify the direction of development (see chapter 5.3). The Implementation Model proved useful at approaching complex sites which is vital for achieving the intended strengthening of district centres. The Strategic Model showed ways of how the tentative relationship between the LUPs and the Development Plans could be solidified by making them more responsive to each other. The models could also prove useful to reassess the situation and potentially readjust the course of development as implementation of the Victoria Masterplan progresses and conditions change in the future. This emphasises that inward development is a continuous project where results cannot be considered terminal but merely a new starting point for future projects (compare Grams, 2015, p. 58). Finally, the testing of the model revealed the securing results through formal instruments as the most important missing aspect as all three case studies exhibited the need for heightened planning security.

The two parts of chapter 5 are intrinsically linked. The two models cannot be implemented if there are no sufficient tools for ensuring landowner involvement and inducing a division of parcels that is favourable to the project at hand. Conversely, the instruments of chapter 5.1 on their own without the procedures from the models do not ensure that development has the desired quality or is appropriate for the site. In conclusion, in order for the strategy of inward development to be successful and impact development in a meaningful way these two parts must work in unison.

## 6.2. Critical Appraisal of Work

Although the analyses performed could show many of the trends and mechanics of settlement development in the Seychelles further efforts would still be required to attain a more holistic view. For example, the analysis of reserves showed that their extent is strongly dependent on the method used (see chapter 3.4) which can produce opposite conclusions. The calculations focused mainly on housing supply. A more detailed analysis of the demands for commercial and industrial uses would also be necessary though as these uses generally require larger sites in the flat. This would be especially relevant to assess the necessity of future land reclamations, as the deliberations on research question 2 show (chapter 6.1.2).

Furthermore, the intricacies of some of the topics studied could not be captured in their entirety. This is particularly true for the topic of ownership rights and compensation. The details of inheritance law in the Seychelles and the practices surrounding access provision would need to be examined in greater detail in order to obtain the full picture of certain impediments to materialisation as well as of the restriction of development rights. In part, this research gap is the product of a lack of detailed information and quantification on the materialisation hinderances experienced by the landowners. Thus, a deeper understanding could have been obtained if the inquiries had extended beyond the SPA to the actual landowners. As a consequence, an unambiguous answer could not be given as to what instruments would best increase materialisation rates or reconcile the settlement area reduction with ownership rights.

The two developed models did prove useful, however due to their size it may be questioned how expedient they are. At all 3 sites studied, appropriate concepts for development have already been produced without applying complex informal processes thus showing that the Implementation Model might be too elaborate and could still be streamlined further. Nevertheless, the aspect of formalisation in the models proved to be most topical and affirmed the importance of being able to secure results. When revisiting the informal processes, it was possible to apply them independent of the system surrounding them. However, the assumption that they also work well and instantly in a different planning environment cannot be confirmed conclusively. Here, further research is needed if not a real-life application to see where the stumbling blocks lie. Introducing new procedures would come with a steep learning curve where the required expertise would first need to be synthesised. The uncertainties surrounding these types of procedures that are often experienced by small and medium sized Swiss municipalities exemplify this learning curve (Grams, 2015; Flükiger, 2019).

## 6.3. Practical Implications for the Seychelles Planning Authority

This chapter concisely recapitulates the most relevant findings of the thesis that impact the daily practice and long-term practice of the SPA. It gives an outlook on possible future courses of action for the SPA. Details on the points raised are to be found in the respective referenced chapters.

- The notion in the SLUDP and VMP that it is necessary to secure land for growth through opening up land with forest cover or agricultural land to development was rebutted. The answer lies not in



designating more land for development but in better materialising the existing reserves and achieving higher densities within the existing settlement body. Currently, some of the SLUDP policies are not laid out in a way that ensures sustainable development and the desired efficiency in the use of land. However, the strategy of inward development does form part of the SLUDP implicitly and the majority of policies are in line with it. This means, clearer and more explicit commitment to the strategy of inward development would be required to give spatial development a sustainable turn. Commitment to inward development by the authorities is thus the starting point of the Strategic Model (chapter 5.2.1). This is not coincidental, as for projects to be successful financially and from a spatial planning perspective they require long-term dedication and stamina by the involved stakeholders, especially the planning authorities.

- The creation of overviews featured repeatedly in the thesis and it became apparent that the lack of overviews impacts many aspects of the planning framework. A prime example is land cover and its change over time where a shortage of information conceals the magnitude of land use change and prevents the pinpointing of its causes (chapter 2.2.1). Overviews are also an essential prerequisite to implementing any of the approaches in chapter 5. Overviews act as a basis for decision-making not only when approaching specific sites (see chapter 5.1.2) but also when contriving effective planning instruments (see 5.1.1). In a meta-approach the thesis has given examples of such overviews in the three case studies as well as through its own structure. If planning in the Seychelles is to be more coordinated and fruitful then overviews are an important cornerstone for the majority of tasks.
- If the contentious issue of restricting the development of plots (and thus ownership rights) is not resolved in a satisfactory manner the land use plans will not be able to fulfil their purpose of steering development and ensuring sustainable land use. As seen in chapters 4.1 and 5.1.2, a substantial reduction of the sprawl of reserves and tightening of the rules on buffer land and forest land is of the essence and is best performed before the Land Use Plans become statutory. The current approach of being less restrictive on development (see chapter 4.1) may avoid compensation claims but it is not reconcilable with numerous SLUDP policy goals and threatens the livelihood of the Seychelles as a whole (see chapter 6.1.2). More readily being able to reduce reserves must become possible as soon as possible as the sprawl of the settlement area can only be stopped but not reversed. Furthermore, additional formal materialisation tools are required if restricting development to a specified area, e.g. the Urban Growth Area, is to be achieved. This is again related to the creation of overviews as defining the settlement area without knowing the suitability of the plots for development does not yield results that are agreeable with efficient land use.
- The primary conclusion from the Models and the testing (see chapter 5) was, that to bring the numerous started and scheduled projects of the VMP and beyond to a close, there needs to be ways of securing the results formally. The Development Plans do not currently fulfil this function as is intended by the PPB. If formalisation eventually takes place through refined, binding Development Plans or rather on a contractual basis, i.e. through urban design contracts, is not pivotal. However, some form of binding instrument on the plot level other than the LUP cannot be abstained from if inward development projects are to be brought to fruition. The most expedient approach would be for the Development Plans to regulate development in a more technical way and codifying what is allowable accompanied by developer concessions.

## 6.4. Implications for Swiss Planning System and Practice

This chapter states what insights on the Swiss planning system and practice could be gained from the attempt of applying its instruments and principles to a different planning environment. The chapter also notes what implications this may have on contemporary planning issues in Switzerland.

Attempting to construct an integrated framework for inward development required the formulation of two models each with numerous steps, instruments and procedures. This highlights the complexity of the task of inward development but also suggests that many of the contemporary Swiss approaches may be too complicated for being applied in practice considering the constraints in resources and expertise that smaller municipalities in Switzerland commonly exhibit. This begs the question if the processes laid out in the cantonal guides are too complex to be applied at the municipal level. The limited scope of action of the municipalities leads on to the fact that spatial planning in Switzerland does not sufficiently coordinate development across municipal boundaries (Grams, 2015). The Seychelles' approach to land use planning is very different to Switzerland in this respect. In the Land Use Planning Committee, the district representatives do not form a majority and the LUPs are produced by region. This more regionalised approach with an expert team of planners has the potential of alleviating both the issue of cross-boundary co-operation as well as the scarcity of resources and expertise experienced in Swiss planning.

As the concentration of effort is based on the challenges in the Seychelles and these have parallels to those in Switzerland (see chapters 4.4 and 4.5) the two chosen foci of the thesis are also of relevance to Swiss planning. For instance, the introduction of the UGB has parallels to the division of building and non-building land, one of the key dictums of spatial planning in Switzerland (Gilgen, 2012; Swiss Federal Council, 2019). Notwithstanding, its details remain a topical issue and are currently the subject matter of the pending second leg of the RPG revision (ARE, 2018). The topicality of development outside the main settlement areas in the Seychelles should thus act as an indication of how important the debate on regulating construction outside the building zones should be for Switzerland.

The study of the Seychelles' planning framework showed how important sufficient materialisation instruments are for achieving sustainable settlement development. This affirms the expansion of the repertoire of instruments that followed the first RPG revision in 2014 (see chapter 2.1.6). As in the Seychelles, the right instances for applying the appropriate tool needs to be chosen (see chapter 5.1.1) which is an important task for Swiss municipalities and requires the according overviews. This reiterates the value of possessing comprehensive overviews at the plot level. Yet, in Switzerland these overviews do still not exhibit the required extent and depth (Nebel, 2013, p. 44). Further reduction of this backlog is vital to spatial planning efforts at the municipal level.

Finally, the frequently debated question of the relationship between land use plans and special use plans in Switzerland and their suitability for fostering inward development (see chapter 2.1.4) remains unanswered. In the Seychelles, the LUP is being established as a similar basic order to that of the Swiss Nutzungsplan. Although Development Plans cannot currently override the specifications of the LUP the basic relationship is very similar to that in Switzerland. Thus, no alternative configurations could be analysed. The Swiss system, as well as the approach chosen in the thesis, rely on adding on informal procedures to the framework to make it suited for inward development. As elaborated above, this adds further layers of complexity to achieving the desired settlement development resulting in potentially unwieldy system. If a more fundamental rethinking of this system is necessary and how it could look should therefore be the topic of future research.

## References

- Akademie für Landesplanung und Raumforschung (2019) *Informelle Planung*. Available at: <https://www.arl-net.de/lexica/de/informelle-planung-0?lang=pl> (Accessed: 20 July 2019).
- Albert, F. and Boniface, B. (2019) 'Interview with Fanette Albert and Bernadette Boniface'.
- Amt für Raumentwicklung Thurgau (ARE TG) (2017) *Arbeitshilfe Innenentwicklung Kanton Thurgau*.
- Arbeitsgemeinschaft Alpenländer (2000) *Mobilisierung von Bauland in der Arge Alp*. Innsbruck.
- Architekten AG, Dietiker, R. and Klaus, B. (2016) 'Entwicklungsstudie Zurzacherstrasse'. Brugg.
- ARUP (2015) *Seychelles Strategic Plan: Geodata*.
- Belle, B. (2019a) 'Interview I with Bernhard Belle, Urban Planer'.
- Belle, B. (2019b) 'Interview II with Bernhard Belle, Urban Planer'.
- Biscornet, T. (2019) 'Interview with Terry Biscornet, Vice-CEO of SPA'.
- Bundesamt für Raumentwicklung (ARE) (2014) *Trends der Siedlungsflächenentwicklung in der Schweiz. Auswertungen aus raumplanerischer Sicht auf Basis der Arealstatistik Schweiz 2004 / 09 des Bundesamts für Statistik*. Bern.
- Bundesamt für Raumentwicklung ARE (2018) 'Faktenblatt: Zweite Etappe der Teilrevision des Raumplanungsgesetzes (RPG 2)'.
- Bundesamt für Statistik (2016) *Szenarien zur Bevölkerungsentwicklung der Kantone der Schweiz 2015-2045*. Neuchâtel. Available at: <https://www.bfs.admin.ch/bfs/de/home/statistiken/bevoelkerung/zukuenftige-entwicklung.assetdetail.40822.html>.
- Bundesamt für Statistik (2018) *Amtliches Gemeindeverzeichnis der Schweiz*.
- Bundesamt für Statistik (2019) *Kantonsporträts: Schaffhausen*. Available at: <https://www.bfs.admin.ch/bfs/de/home/statistiken/regionalstatistik/regionale-portraets-kennzahlen/kantone/schaffhausen.html> (Accessed: 20 April 2019).
- Chow, P. (2014) 'Seychelles Planning Authority needs to be consistent and lawful in its decisions', *Nature Seychelles*. Available at: <http://www.natureseychelles.org/knowledge-centre/news-and-stories/591-seychelles-planning-authority-needs-to-be-consistent-and-lawful-in-its-decisions>.
- Coeur Du Lion, F. (2019) 'Interview with Francis Coeur De Lion, Head of GIS Centre'.
- Debono, J. (2012) '€500,000 study confirms land reclamation is too costly', *MaltaToday*, 2 September. Available at: <https://www.maltatoday.com.mt/news/national/20690/500-000-study-confirms-land-reclamation-is-too-costly-20120901#.XV7RVy17FQI>.
- Ecoplan, B+S and Hunziker Betatech (2017) *Infrastrukturkosten unterschiedlicher Siedlungstypen*. Oder:

*Ist verdichtet und zentral bauen billiger?* Bern.

EspaceSuisse (2019) *Wissen und Werkzeuge der Innenentwicklung: Baulandmobilisierung*. Available at: <https://www.densipedia.ch/wissen-werkzeuge/wie-entwickeln/baulandmobilisierung> (Accessed: 20 July 2019).

Felix, R., Low, J. and Biscornet, T. (2017) *Financial Business District Concept Plan, Cabinet Memorandum*.

Fischer, K., Thoma, M. and Salkeld, R. (2016) 'Organisationsmodelle der Innenentwicklung'.

Flükiger, S. (2019) *Informelle Planungsverfahren in kleinen und mittleren Gemeinden - Ansätze und Empfehlungen aus der Planungspraxis*. Brugg.

Food and Agricultural Organization of the United Nations (2015) *Seychelles Data Portal: Resource Statistics*. Available at: <http://seychelles.opendataforafrica.org/FAORSL2014Aug/resource-statistics-land-december-2015> (Accessed: 20 April 2019).

Francois, J. (2019) 'Interview with Joseph Francois, CEO of SPA'.

Gemeinde Oberengstringen (2014) *Masterplan Zentrum Oberengstringen Konzeptbericht*.

Gilgen, K. (2012) *Kommunale Raumplanung in der Schweiz*. 3rd edn. Zürich: vdf Hochschulverlag an der ETH Zürich.

Government of Seychelles (1993) *Constitution of the Republic of Seychelles*.

Government of Seychelles (2014) *Seychelles Strategic Plan: Existing Conditions Report*. Victoria.

Government of Seychelles (2015a) *Seychelles Strategic Plan: Appendices*. Victoria.

Government of Seychelles (2015b) *Seychelles Strategic Plan: Demographic and Land Use Projections*. Victoria.

Government of Seychelles (2015c) *Seychelles Strategic Plan: Housing Needs Assessment*.

Government of Seychelles (2015d) *Seychelles Strategic Plan: Land Use Assessment*. Victoria.

Government of Seychelles (2015e) *Victoria Masterplan Appendix A and B*. Victoria.

Government of Seychelles (2016a) *Seychelles Strategic Land Use and Development Plan*. Victoria.

Government of Seychelles (2016b) *Victoria Masterplan*. Victoria.

Government of Seychelles (2018) 'Government Communiqué on Regional Councils'.

Government of Seychelles (2019) *Physical Planning Bill (Draft)*.

Grams, A. (2015) *Spielräume für Dichte: Problemorientierter Verfahrensansatz für Verdichtung als Element der Innenentwicklung dargestellt am Beispiel kleiner und mittlerer Gemeinden im Schweizer Mittelland*. Institut für Raum- und Landschaftsentwicklung IRL, ETH Zürich.

Grosser Rat des Kantons Schaffhausen (1997) *Gesetz über die Raumplanung und das öffentliche Baurecht im Kanton Schaffhausen (Baugesetz)*. Schaffhausen.

## References

Kanton Schaffhausen (2017) *Mikrozensus Mobilität und Verkehr 2015: Unterwegs in Schaffhausen*.

Kantonsrat Schaffhausen (2018) *Mehrwertausgleichsgesetz (MAG)*. Schaffhausen.

Ketterer, L. (2006) *Communal planning of ecotourism in Seychelles : local participation in ecotourism development in Anse Royale*. University of Zurich.

Knüsel, P. (2018) 'Sils im Engadin, Rückzonung mit Nutzungskonzentration', *Inforum, Magazin für Raumentwicklung*.

Kohli, R. (2016) *Szenarien zur Entwicklung der Haushalte 2015–2045*. Neuchâtel.

LaBlache, P. (2019) 'Interview with Patrick LaBlache, Member of PA Board'.

Laurence, D. (2019) 'New owners of Seychelles' former Reef Hotel to invest \$34 million in its redevelopment', *Seychelles News Agency*, 13 July. Available at: <http://www.seychellesnewsagency.com/articles/11309/New+owners+of+Seychelles+former+Reef+Hotel+to+invest++million+in+its+redevelopment>.

Law of Seychelles (1972) *Town and Country Planning Act*.

Lendi, M. (2010) 'Probleme als Schubkraft für die Raumplanung'. ETH Zürich, Departement Geistes-, Sozial- und Staatswissenschaften.

Low, J. (2016) *Anse Lazio Public Consultation Report*. Victoria.

Low, J. (2019) 'Interview with Julie Low, Urban Planner'.

Low, J. and Felix, R. (2017) *Financial Business District Concept Plan*.

Mangeng, M. (2017) 'Instrumente und Strategien zur Baulandmobilisierung'.

Ministry of Habitat Infrastructure and Land Transport (MHILT) (2018) 'Sale of State Land and Land Bank Policy'. Victoria.

Ministry of Land Use and Housing (MLUH) (2014) 'Anse Royale: Proposals for Commercial Development'.

National Bureau of Statistics (2017) *Seychelles in Figures - 2017 Edition*. Victoria.

Nebel, R. (2013) *Siedlungsflächenmanagement Schweiz: Problemorientierte Flächenübersichten als zentrale Grundlage für eine Siedlungsentwicklung nach innen*. ETH Zürich.

Nebel, R. and Hollenstein, K. (2018) 'Siedlungsgebiete und Bauzonen effizienter nutzen', *Denaris*. Verband Schweizerischer Vermögensverwalter (VSV), 2018(02), pp. 6–9.

Payet, R. (2003) 'Effectiveness of the Environmental Impact Assessment Process in Managing Tourism Development in the Seychelles', in Chaytor, B. and Gray, K. R. (eds) *International Environmental Law and Policy in Africa*. Dordrecht: Springer Science+Business Media, pp. 327–349.

Planungs- und Naturschutzamt (2015) 'Richtplan Kanton Schaffhausen'. Schaffhausen.

Planungs- und Naturschutzamt (2018) *Arbeitshilfe Nutzungsplanung: Modul Quartierplan*. Schaffhausen.

- Professur für Raumentwicklung (2013) *Abschlussbericht Raum+ Schaffhausen*, ETH Zürich.
- Professur für Raumentwicklung (2017) *Abschlussbericht Nachführung Raum+ Schaffhausen*.
- Raumplanungsgruppe Nordostschweiz (2014) *Siegerprojekt Raumplanungspreis RPG NO 2014*.
- Schaffhauser Kantonalbank (2017) *Der Kanton Schaffhausen in Zahlen*. Schaffhausen. Available at: [https://www.shkb.ch/sites/default/files/kanton\\_schaffhausen\\_in\\_zahlen.pdf](https://www.shkb.ch/sites/default/files/kanton_schaffhausen_in_zahlen.pdf).
- Scholl, B. (1995) 'Aktionsplanung. Zur Behandlung komplexer Schwerpunktaufgaben in der Raumplanung'. Zürich: ORL-Bericht 98.
- Schrenk, V. et al. (2009) *Bausteine erfolgreicher Innenentwicklung - Empfehlungen aus der kommunalen Praxis*. Umweltministerium Baden-Württemberg.
- Schweizerische Kantonsplanerkonferenz (2016) *Kantonaler Richtplan: Das Herz der Schweizerischen Raumplanung*. Bern.
- Schweizerischer Bundesrat et al. (2012) 'Raumkonzept Schweiz. Überarbeitete Fassung'. Bern, p. 108.
- Servina, A. (2019) *Functions of the Planning Authority and Board*.
- Seychelles History Museum (2019) 'Historic Imagery of Victoria Presentation'. Victoria.
- Seychelles Land Registry (2019) 'Land Ownership Titles'. Victoria: Ministry of Habitat Infrastructure and Land Transport.
- Seychelles Planning Authority (2013) 'Proposed Beau Vallon Foreshore Redevelopment Endorsed by Cabinet'.
- Seychelles Planning Authority (2015) 'Land Use Planning (LUP) Guidelines for Seychelles (Internal Use Only)'.
- Seychelles Planning Authority (2017a) 'Anse Aux Pins Land Use Plan Presentation'. Victoria.
- Seychelles Planning Authority (2017b) 'Proposed Land Use Plan and Development Concept for Zone 18-South, Providence Industrial Estate'.
- Seychelles Planning Authority (2017c) 'Terms of Reference for Technical Committee for Land Use Planning'.
- Seychelles Planning Authority (2017d) 'Zone 18 South: Proposed Land Use Plan and Development Concept'.
- Seychelles Planning Authority (2018) 'Procedures Presentation'.
- Seychelles Planning Authority (2019a) 'Rosebelle Complex Presentation'. Victoria.
- Seychelles Planning Authority (2019b) 'Update on Legislations, Regulations Policies and Guidelines from Planning Authority'.
- Strategic Land Use Planning Unit (2018a) 'Les Mamelles Land Use Map Draft 1'.

## References

- Strategic Land Use Planning Unit (2018b) 'Plaisance Land Use Map Draft 1'.
- Strategic Land Use Planning Unit (2018c) 'Roche Caiman Land Use Map Draft 1'.
- Strategic Land Use Planning Unit (2018d) 'Saint Louis Land Use Map Draft 1'.
- Supreme Court of Seychelles (2016) *Talma vs MLUH, Civil Side: MC65/2014*.
- Swiss Federal Council (1999) *Federal Constitution of the Swiss Confederation*.
- Swiss Federal Council (2019) *Federal Act on Spatial Planning*.
- Talma, E. (2019) 'Interview with Eric Talma, Architect at Infrastructure Department'.
- The World Bank (2016) *The World Bank in Seychelles: Overview*. Available at: <https://www.worldbank.org/en/country/seychelles/overview> (Accessed: 5 April 2019).
- Tunnell, C. (2015a) *Seychelles Strategic Plan Charette 2 Day 1 Digest*.
- Tunnell, C. (2015b) *Seychelles Strategic Plan Charette 3 Day 2 Digest*.
- Tunnell, C. (2015c) *Seychelles Strategic Plan Charette 3 Day 3 Digest*.
- Verein Agglomeration Schaffhausen (2015) *Arbeitshilfe: Aktivierung von Innenentwicklungspotentialen*. Schaffhausen.
- VLP-ASPAN (2017) 'Innenentwicklung. Zum Beispiel. Sammelband 2016-2017', *Impuls Innenentwicklung*.
- Volkswirtschaftsdepartement Kanton Schaffhausen (2018) *Einwohnerzahlen Interkantonaler Vergleich 2.1.2*.
- Walter, R. (1981) 'Das RPG aus der Sicht eines praktizierenden Kulturingenieurs. : Die Bedeutung des Gesetzes bei der Arbeit in Region und Gemeinde', *Vermessung, Photogrammetrie, Kulturtechnik : VPK*, 79(2).

## Appendix

### A Calculations

#### A.1 Population, Floor Area Consumption and Space User Calculations

Table 7 Population, Floor Area Consumption and Space User Calculations

##### Seychelles Population Predictions

Year	Population Seychelles	Source
1970	55'000	1)
2015	93'400	2)
2030 low	111'700	calculation below
2030 high	127'475	3)
Growth rate calculation		
formula	$55'000 * x^{45} = 93'400$	
x	1.012	
growth rate	1.2%	
Extrapolation 2030		
formula	$93'400 * 1.012^{15} =$	
Population	111'700	

##### Per Capita Floor Space Consumption Seychelles

	sqm	Source
Gross Floor Area min	70	4)
Gross Floor Area max	100	4)
Household Size 2010	3.6	4)
Household Size 2040	3.2	4)
per capita consumption of GFA		
min	19.44	GFA min/HHS 2010
max	31.25	GFA max/HHS 2040

##### Space User Calculation

2015	Population	Source
Population Seychelles min	93'400	2)
Population Seychelles max	103'400	3)
Employees Seychelles	55'120	3)
Spaces Users min	148'520	Population min + employees
Spaces Users max	158'520	Population max + employees
<u>sqm</u>		
Reserves in Seychelles	39'713'000	Appendix D
Reserves per Space User min	250.5	Reserves/Space Users max
Reserves per Space User max	267.4	Reserves/Space Users min

- 1) Government of Seychelles (2014)
- 2) National Bureau of Statistics (2017)
- 3) Government of Seychelles (2016a, p. 20)
- 4) Government of Seychelles (2015a)



## A.2 Housing Potential Calculations

Table 8 Housing Potential Calculations

### Anse Royale Reserve Calculations

#### 2012 LUP Draft

Land Use Category	Abbreviation	Area (sqm)	Development Density	Storeys	GFA in sqm	AFA in sqm	Swiss Calculation Method			Seychelles Calculation Method	
							Population Potential min	Population Potential max	Number of Units	Population Potential 2040	
Low density Residential	R2	141'806	0.25	2	63'813	51'050	1'021	2'625	354.5	1'134	
Low density Residential & Agriculture	R3	11'224	0.25	2	5'051	4'040	81	208	28.1	90	
Low density Residential & Tourism	R4	1'063'867	0.25	2	478'740	382'992	7'660	19'697	2'659.7	8'511	
Medium density Residential	R5	1'285'425	0.3	2.5	867'662	694'129	13'883	35'698	3'213.6	10'283	
Medium density Residential & Agriculture	R6	240'973	0.3	2.5	162'656	130'125	2'603	6'692	602.4	1'928	
Medium density Residential & Tourism	R7	312'115	0.3	2.5	210'678	168'542	3'371	8'668	780.3	2'497	
High density Residential	R8	2'006'259	0.45	3	2'437'605	1'950'084	39'002	100'290	20'062.6	64'200	
Housing Estates	R9	45'697	0.45	5	92'537	74'029	1'481	3'807	457.0	1'462	
Commercial & Residential	C3	18'644	0.6	5	50'338	40'270	403	1'036	93.2	298	
Total Residential Land		5'126'009			4'369'079	3'495'263	69'503	178'721	28'251.3	90'404	
Source	1)	1)	2)	2)	4)	6)	7)	7)	9)	10)	

#### 2017 LUP Draft

same methodology as above

Land Use Category	Abbreviation	Area (sqm)	Development Density	Storeys	GFA in sqm	AFA in sqm	Swiss Calculation Method			Seychelles Calculation Method	
							Population Potential min	Population Potential max	Number of Units	Population Potential 2040	
High density Residential	R70	2'783'333	0.45	4	4'509'000	3'607'200	72'144	185'513	27'833.3	89'067	
Medium density Residential	R40	1'103'575	0.35	3	1'042'879	834'303	16'686	42'907	2'758.9	8'829	
Medium density Residential & Agriculture	R50	8'227	0.35	3	7'775	6'220	124	320	20.6	66	
Medium density Residential & Tourism	R60	492'645	0.35	3	465'550	372'440	7'449	19'154	1'231.6	3'941	
Total Residential Land		4'387'781			6'025'203	4'820'162	96'403	247'894	31'844.5	101'902	
Source		1)	12)	12)	4)	6)	7)	7)	9)	10)	

	2012	2017	Source
Access Area Deduction	0.9	0.9	3)
Assignable Floor Area Conversion Factor	0.8	0.8	3)
Mixed-Use Deduction	0.5	0.5	5)
per capita floor space consumption min (sqm)	19.44	19.44	Appendix A
per capita floor space consumption max (sqm)	50	50	3)
Materialisation Rate	20%	20%	2)
Pop Potential min considering materialisation	13'901	19'281	CH-Method
Pop Potential max considering materialisation	35'744	49'579	CH-Method
Reported Population Anse Royale 2014	4'614	4'614	2)
Predicted Population Anse Royale 2014	7'618	7'618	2)
Share of Population Potential housed 2014	2.6–6.6%	1.9–4.8%	8)
Share of Population Potential housed 2040	4.3–11.0%	3.1–7.9%	8)
Area per unit for detached [sqm]	400	400	2)
Area per unit for apartments [sqm]	100	100	2)
Household size Seychelles 2040	3.2	3.2	11)
Pop Potential considering materialisation	18'081	20'380	Sey-Method
Anse Royale LUP Area [sqm]	7'094'239	7'084'313	1), surveying & GIS-related discrepancies
Anse Royale LUP Area [sqkm]	7.09	7.08	1)
Share of residential land of LUP area	72.3%	61.9%	
Other developable land [sqm]	329'078	585'548	total land - residential land - non-developable land
Non-developable land [sqm]	1'639'152	2'110'984	Protected Areas + Forestry + Agriculture in LUP
Total developable land [sqm]	5'455'087	4'973'329	Residential land + other developable land
Total developable land (share)	76.9%	70.2%	

Potential of Parcels 400 – 1'000 sqm	
These Calculations are based on the 2012 Land Use Plan drafts for all districts and includes all plots 400 < 1'000 sqm in size that have a plot coverage < 1% and that have residential designations R0 through to R10 or C3.	
<b>Eligible Plots</b>	
total area of plots [sqm]	3'058'943
total area of plots [ha]	305.89
total number of plots	4'365
materialisation rate	55%
Number of plots materialised	2'401
Area materialised [ha]	Amount * materialisation rate 168.24

GFA = Gross floor area  
AFA = Assignable floor area

- 1) ARUP (2015)
- 2) Government of Seychelles (2015d)
- 3) Professur für Raumentwicklung (2017)
- 4) Area \* Development Density \* Storeys \* Access Area Deduction
- 5) Conservative estimate, based on Professur für Raumentwicklung (2017)
- 6) GFA in m<sup>2</sup> \* Assignable Floor Space Conversion Factor

- 7) (per capita floor area consumption \* AFA in m<sup>2</sup>) / mixed use deduction
- 8) Actual population / Potential inhabitants considering materialisation
- 9) Area / Area per unit
- 10) Number of units \* household size 2040
- 11) Government of Seychelles (2015a)
- 12) Seychelles Planning Authority (2015)

### A.3 Land Use Categories

Table 9 Land Use Categories in 2012 Land Use Plan Drafts

Land Use Category	number of zones	area [ha]	Share of area	Settlement Area
Agriculture	229	619.8	3.0%	No
Physical Infrastructure	240	315.8	1.5%	Yes
Commercial	700	188.8	0.9%	Yes
Reserved Land	6	4.4	0.0%	No
Diplomatic	11	35.0	0.2%	Yes
Forestry	149	6'356.5	31.0%	No
Industrial	117	151.3	0.7%	Yes
Administration	99	46.8	0.2%	Yes
Protected Areas	982	5'537.0	27.0%	No
Residential	2'123	6'327.0	30.8%	Yes
Social Infrastructure	271	261.0	1.3%	Yes
Hotels	111	589.7	2.9%	Yes
Tourist Sites	6	6.0	0.0%	No
Public Utilities	72	89.8	0.4%	Yes
Total LUP Area	5'116	20'528.8	100.0%	
<u>Source</u>	1)	1)	1)	2)

Summary from above*	area [ha]	Share of area	Settlement Area
Forest and Buffer	6'366.8	30.96%	No
Protected Areas	5'537.0	26.97%	No
Agriculture	619.8	3.02%	No
Residential	6'327.0	30.82%	Yes
Other Development	1'678.2	8.17%	Yes

\*excludes Tourist Sites + Reserved Land

Executive Summary	number of zones	area [ha]	% of zones	% of area
Settlement Area	3'744	8'005.2	73.2%	39.0%
Outside Settlement Area	1'372	12'523.6	26.8%	61.0%

1) ARUP (2015)

2) Government of Seychelles (2014), (Low, 2019)

## A.4 Plot Coverage of Reserves

Table 10 Reserves in the Seychelles based on Plot Coverage

### Materialisation of Reserves

The plot coverage was calculated from the buildings and parcels in the ARUP Geodata. See 1)

Only parcels within the settlement area in the 2012 LUP Drafts were chosen, compare Appendix C Land Use Categories

	All parcels	Parcels <200 sqm	Parcels 200 – 2'000 sqm	Parcels > 2'000 sqm
Number of parcels	45'645	11'535	27'840	6'270
Average plot coverage	13.6%	10.7%	16.4%	6.3%
Median Parcel coverage	5.7%	0.05%	13.5%	1.7%
Average parcel size [sqm]	1'720	51	806	8'849
Area of parcels [ha]	7'852.4	59.3	2'244.5	5'548.5
Share of parcels	100%	25.3%	61.0%	13.7%
Share of area	100%	0.8%	28.6%	70.7%
number of parcels < 1 % coverage	19'431	6'961	<b>9'569</b>	<b>2'901</b>
number of parcels 1 – 25 % coverage	16'028	2'512	10'470	3'046
number of parcels > 25 % coverage	10'186	2'062	7'801	323
area of parcels < 1 % coverage [ha]	4'003.8	32.5	<b>790.3</b>	<b>3'181.0</b>
area of parcels 1 – 25 % coverage [ha]	3'195.8	9.0	982.8	2'204.0
area of parcels > 25 % coverage [ha]	652.8	17.8	471.4	163.5
share of parcels < 1 % coverage	42.6%	60.3%	34.4%	25.1%
share of parcels 1 – 25 % coverage	35.1%	21.8%	37.6%	72.1%
share of parcels > 25 % coverage	22.3%	17.9%	28.0%	2.8%

Gesamtsiedlungsreserven Raum+ Schaffhausen				
Parcel size	Sum of Area [ha]	Share of Area	Number of plots	Share of plots
200 – 2'000 sqm	69	20%	756	66%
> 2'000 sqm	271	80%	392	34%
Source:	2)	2)	2)	2)

Seychelles Parcels < 1 % Plot Coverage				
Parcel size	Sum of Area [ha]	Share of Area	Number of plots	Share of plots
200 – 2'000 sqm	790.3	20%	9569	77%
> 2'000 sqm	3'181.0	80%	2901	23%
>= 200 sqm	3'971.3		12'470.0	
Source:		from numbers above		

1) ARUP (2015)

2) Professur für Raumentwicklung (2017, p. 18)

## B Mahé Housing Framework Plan

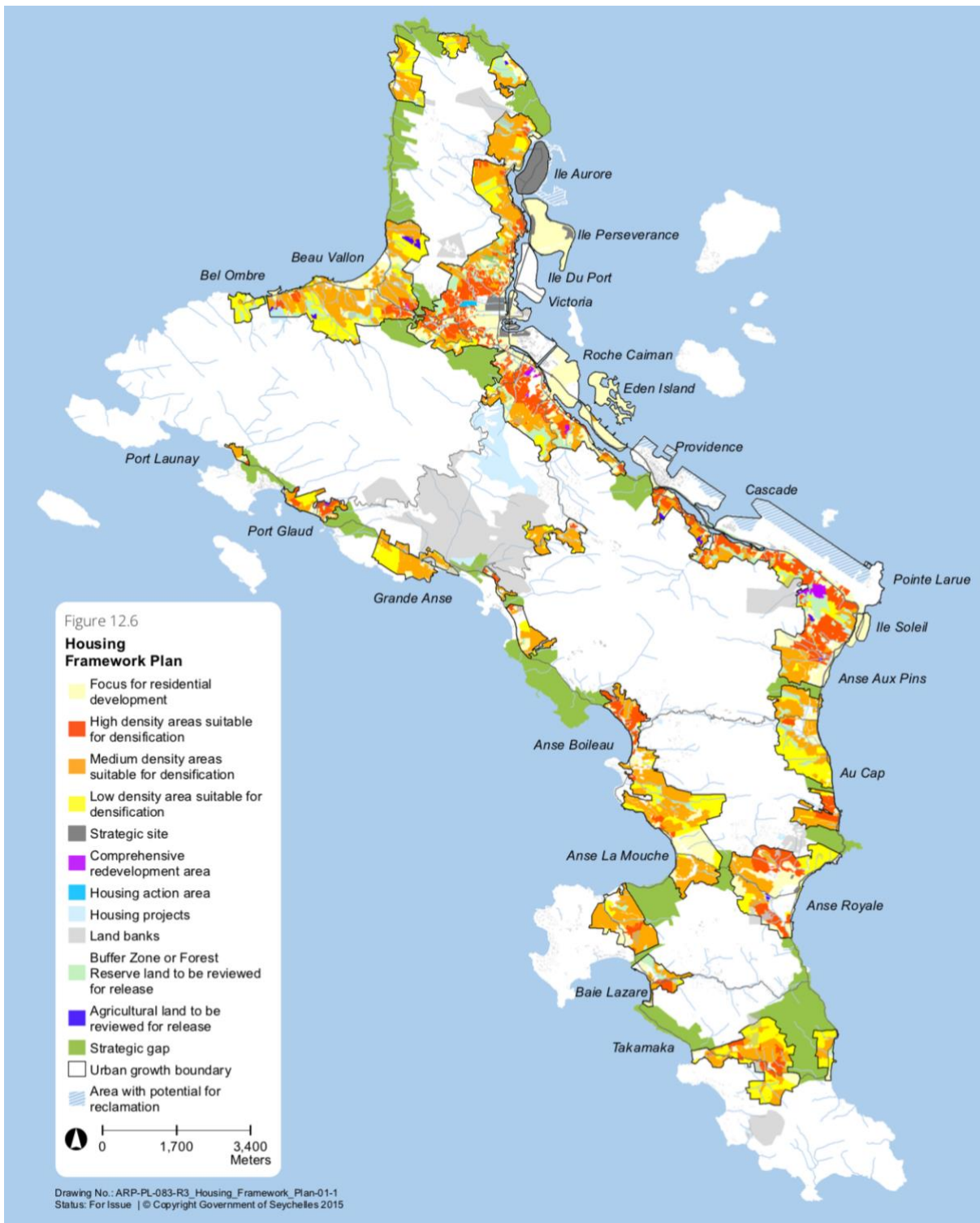


Figure 32 Mahé Housing Framework Plan (Government of Seychelles, 2016a, p. 227).

### C Inward Development Framework Models

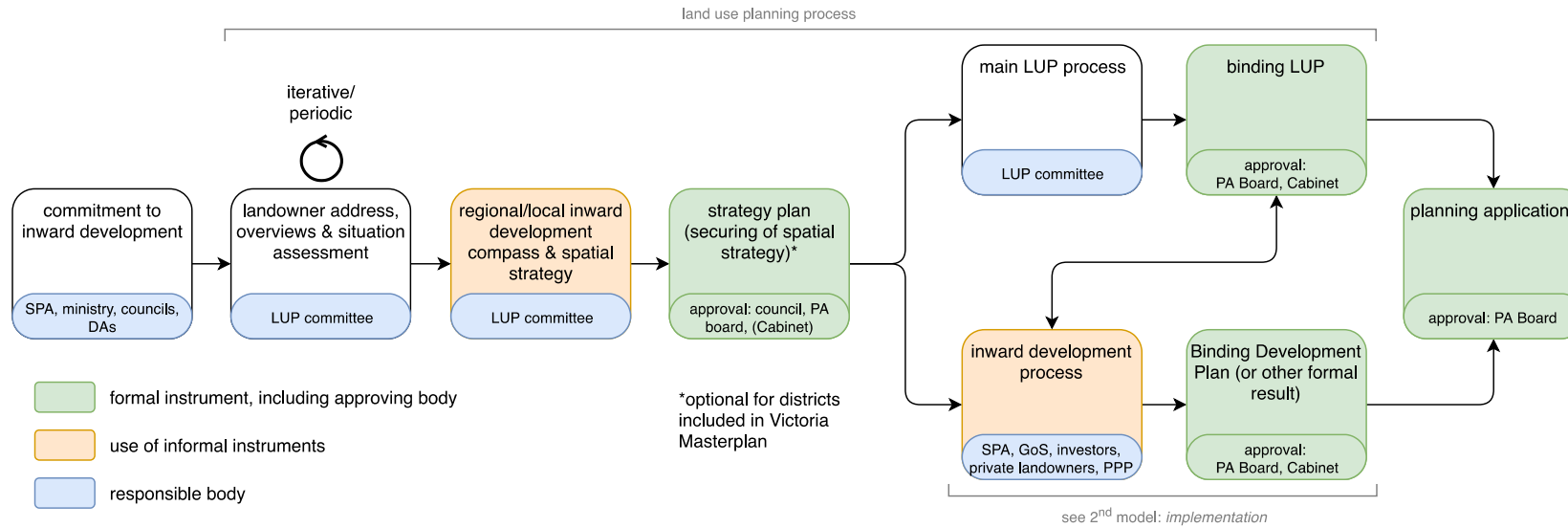


Figure 33 Strategic Model. (Own diagram, based on Grams, 2015; Verein Agglomeration Schaffhausen, 2015; ARE TG, 2017, p. 8).

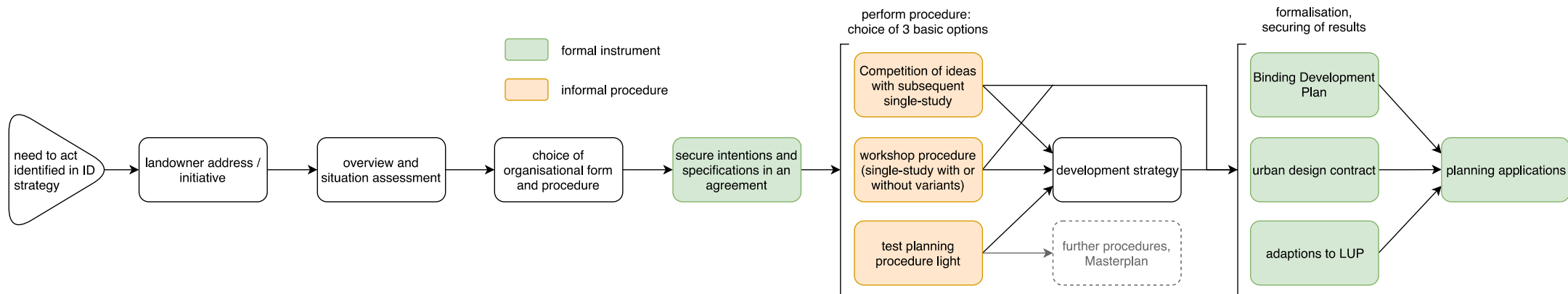


Figure 34 Implementation Model (Own diagram, based on Fischer, Thoma and Salkeld, 2016, pp. 16–17; Mangeng, 2017; Flükiger, 2019).

## D Selection of Case Studies

Table 11 Inward Development Projects Evaluated for Case Studies

Name	Policy Source	Location	Main issue / trigger	Planning status	Land ownership	Suitable for testing
Hangard Street	VMP <sup>1</sup>	Central Victoria	Identified infill potential	Concluded, awaiting landowner initiative	Small, private plots	Lacks complexity
Ile Aurore	VMP <sup>1</sup>	near Anse Etoile	undeveloped land reclamation site	Concept in discussion	Government owned	government owned greenfield sites <sup>8</sup>
Financial District	VMP <sup>1</sup>	Central Victoria	Underused brownfield site	Concept concluded, partially implemented	Predominantly government-related	Yes
Ile Perseverance	VMP <sup>1</sup>	Near English River	land reclamation site in development	Under construction	Government owned	Government-owned <sup>8</sup>
Victoria Bay/ Waterfront	VMP <sup>1</sup>	Central Victoria	revitalise waterfront	Awaiting concept approval	Government and private companies	Yes
Old Fishing Port	VMP <sup>1</sup>	Central Victoria	port usage conflict	None beyond Victoria Masterplan	Government and private companies	Low priority, too long-term
Commercial Port	VMP <sup>1</sup>	Greater Victoria	future land reclamations	None beyond Victoria Masterplan	Private companies	Low priority
Ile Du Port	VMP <sup>1</sup>	Near English River	land reclamation site in development	Varied. Masterplan under revision	Government owned	Government owned <sup>8</sup>
Lower Plaisance	VMP <sup>1</sup>	Plaisance/ Les Mamelles	Infill, revitalisation of centre	None beyond Victoria Masterplan	mainly private plots, some government	Yes
Ile Soleil	SLUDP <sup>2</sup>	Anse Aux Pins	land reclamation site for local centre	In development, all plots allocated	Government owned, partially sold to private	Government owned greenfield sites <sup>8</sup>
Anse Royale Commercial Development	SPA <sup>3</sup>	Anse Royale	increase commercial activity	2 proposals. In development.	Government owned	Lack of documentation
Zone 18 South	SPA <sup>4</sup>	Providence	Commercial site for SME on greenfield	Concept made, implementation started	Government on a lease	Lacks complexity
Anse Aux Pins Centre	SPA <sup>5</sup>	Anse Aux Pins	rethink and redevelop centre	Concept pending	miscellaneous	Yes
Beau Vallon Foreshore Development	SPA <sup>6</sup>	Beau Vallon	Increase touristic value	Phase 1 completed, phase 2 on hold	Companies (hotels), government	Lack complexity
Anse Lazio	SPA <sup>7</sup>	Praslin	Balance tourism and nature conservation	final negotiations with stakeholders for LUP	Private plots, various sizes	Low priority

<sup>1</sup> Government of Seychelles (2016b), Low (2019)

<sup>2</sup> Government of Seychelles (2016a)

<sup>3</sup> Ministry of Land Use and Housing (2014)

<sup>4</sup> Seychelles Planning Authority (2017b, 2017d)

<sup>5</sup> Seychelles Planning Authority (2017a)

<sup>6</sup> Seychelles Planning Authority (2013), Talma (2019)

<sup>7</sup> Low (2016, 2019)

<sup>8</sup> These sites could all profit from application of the model. However, as land reclamation sites they are all in the ownership of the GoS and therefore the aspect of private involvement cannot be tested.

## E Interviews

### E.1 Interview with Bernhard Belle: 28<sup>th</sup> March 2019

Interview with Bernhard Belle, Urban Planner at the Seychelles Planning Authority, 28<sup>th</sup> March 2019. H: Hawkes. B: Belle.

**H: Can you tell me something about the historic development of land use planning in the Seychelles?**

B: The first version was the Plan d'Aménagement du Territoire from 1998. They were made with help from Réunion and just consisted of a map. The current Land Use Plans we have are from 2012. They were divided into the 25 districts of Seychelles. Two of them, both on Praslin, were actually approved and became statutory. Approved means they were endorsed by the Cabinet of Ministers and then approved in a National Assembly vote. The approval process was all written down in the "LUP Guidelines 2012". We are reviewing the guidelines at the moment and also reviewing all the Land Use Plans. As I said, only two were approved. That's because the first two plans were guinea pigs. After they were approved a lot of problems began to surface. For the other plans SPA didn't seek approval from Cabinet because of the problems with the first 2. Eventually the court made a ruling in 2016 and the two existing plans from Praslin were quashed. So, at the moment we have no legally approved Land Use Plans. Though, we are still using the draft we have as internal guidelines to assess applications here at SPA.

**H: What problems did you experience with the old LUPs? What are you changing?**

B: At the moment we are updating the versions from 2012. But they have a lot of issues. For example, all the land classified as *forest reserves* didn't allow for construction. But much of it is freehold land, so privately-owned properties. Freehold and no construction cannot really be reconciled, as you have a constitutional right to build on your property. This land was wrongly classified in a way. Currently, we are also

looking at the regulations associated with the various land use categories a lot.

**H: You mentioned, new guidelines for the Land Use Plans. Could you elaborate on this?**

B: We are aiming to taking the first new Land Use Plans to Cabinet this year and also changing the guidelines. One of the big changes is on the process we go to on how we produce the Land Use Plans. The process was one of the reasons why the old plans got quashed by the Supreme Court. Previously, it was one person who did all the land use plans on his own. Now, we have established the *Land Use Plan Committee*. They make the Land Use Plans and are under the wing of the Planning Authority Board. We have imported some of the ideas from the Australian planning system, so we are going to have schemes. That's scheme maps and scheme texts. The texts will be specific to the district but the coding system for the uses will be national.

**H: What are the compulsory purchase laws on Seychelles?**

B: There is a very clear, established and long process you need to work through. In general, compulsory purchase is not easy to do anymore. For example, if you own a freehold and it is in an area of high biodiversity the government might want to protect it. Then the Land Use Plan works together with other regulations and acts to protect the area. The Land Use Plan alone cannot protect from development, you need some kind of additional designation. The National Parks are a good example. They fall under the Nature Conservancy Act, which is quite old, from the 1960s, I think. If you're in a situation where you cannot use your land you might be entitled to compensation, so money or land exchange. Most of the park land is therefore in government ownership because the landowners in the park all sold their land to the government. You cannot buy park land anymore.

**H: What role does the new Physical Planning Bill play in land use planning?**

B: The 1972 Town and Country Planning Act gave us the ability to make development plans. But it does not mention Land Use Plans. The new law will specifically refer to Land Use Plans and the Land Use Planning Committee. In the regulations to the Bill we can determine all the guidelines for the new Land Use Planning and make them statutory. Once the Bill and the Land Use Plans are in force all building applications must comply with zoning provisions.

**H: How have applications been assessed so far?**

B: We still use the Land Use Plans and the guidelines as an informal internal guiding tool. We also had what is called *discretionary use*. This means the authority can overrule the Land Use Plans and allow a development that does not strictly correspond to it if everyone agrees that there are no negative consequences of not strictly complying with the Land Use Plan. What discretionary uses are allowed where is defined in the LUP guidelines. In the new guidelines we will no longer have discretionary use; we have changed this to conditional use and will be using a land use matrix. The discretionary use was missing a lot of cases and special situations. The matrix will solve all this because there will be a long and comprehensive list of what uses are compatible with the zoning. It should really help us approve building applications because it is clear what is allowed and what not and we do no longer need to assess on a case to case basis. If a new use is discussed that is not yet in the matrix because it did not exist in Seychelles so far it will be assessed by the technical committee for land use planning. We will make the matrix publicly accessible and hope that people will buy the plots that allow the use they want. Because at the moment people just own some plot and then try to get planning permission for a use that isn't suitable for the area or plot.

**H: The existing Land Use Plans you have, do not seem to reflect a future or desired state but seem to strongly reflect the status quo. Is this so?**

B: The plans from 2012 actually were more or less only status quo. The new plans we are doing

now are certainly more oriented to the future. They should be in line with the goals from the Strategic Land Use and Development Plan and the Victoria Masterplan. The Land Use Plans get approved for a 10-year period. Every 5 years we also do a light review and correct for any unforeseen changes. For example, if there was a natural disaster that requires changes to the plans.

**H: What will the new approval process look like for the Land Use Plans?**

B: The entire National Assembly needs to vote on the plans. The local Member of National Assembly is also heavily consulted when the LUP committee are making the plan as is the local DA [District Administrator] of the district. The DA works at the Community Development Department at the Ministry for Local Government and are appointed. The Planning authority runs the consultation process with the inhabitants and the landowners. There are members of various other departments involved in the process. They are described in detail in the *Terms of Reference for the LUP committee*". Previously, we first consulted the government agencies and then the public, now there will be meetings with the public at the beginning. It's a shift from a top-down to a bottom-up approach.

**H: Do you have a clear division between land that can be developed and land that has to stay development-free?**

B: I don't think the distinction is quite as clear-cut. We have the protected areas; they are strictly no-development zones. With agricultural land there are two types: There is government owned agricultural land. There are restrictions on this land. It is usually on a lease and you can only erect demountable structures and they need to be related to agricultural use. Then there is private agricultural land. There the development is limited by the development on adjacent land. There is no longer a strict agricultural land designation but it's now agriculture combined with residential. The landowner can decide if he or she wants to concentrate on residential or on agriculture.



**H: The 2012 Land Use Planning Guidelines state that the DA, MNA and the Planning Authority determine the direction of development or the strategy for the district in a 2-hour meeting. Is that true?**

B: That was in the old guideline, but it certainly takes longer than 2 hours. In principal the process will still be the same but now we have the Strategic Land Use and Development Plan as a tool which gives us a lot of guidance on how the district shall develop and how we should zone. It defines the role each district has in the national context. If a district is designated as a regional centre, then we consider this when making the Land Use Plan. At every land use committee meeting of the district the DA and MNA come too and make contributions. The committee is the driving force behind making the plans. We had planned for the review to take 3 months. But as it stands it is taking far longer, especially because collecting all the necessary data takes so much time. Assessing the environmental assets of the forests and other areas is taking very long as they are not yet well documented when it comes to biodiversity.

**H: Currently you have defined the density of development in the guidelines through the number of storeys and the area of the plot that can be covered by sealed surfaces. That means you cannot compensate a smaller footprint by adding storeys. Does this influence the applications being made?**

B: In general, the higher densities tend to be on the planes along the shores and the lower densities are on the steeper inland hills. In Victoria we are seeing people trying to reach the maximum on their plots at key sites. In most places, especially in the more rural areas, people are generally not using their plots to the limit.

**H: The guidelines also have minimum plot sizes for the various types of residential zones. What is the idea behind this?**

B: It is a way of controlling density. If the plots are larger, the buildings are further apart which means lower densities. This avoids having too

many sealed surfaces. You see, it's not the classification that determines the size of the plots but the other way around. Larger plots are zoned with lower densities.

**H: In the guidelines you also allow a usage bonus for plots that are connected up to the sewage system. Has this policy been effective?**

B: Not really. Many places still only have septic tanks. PUC [Public Utility Cooperation] build the sewage treatment plants and the sewage network. But the investment costs are very high. What we try is to build larger treatment plants when large developments happen, especially resorts, for example the Ephillia Resort. Then the extra capacity can be used to connect other landowners up to the sewage system. The usage bonus should encourage people to connect but often landowners don't have the money to pay for the connection. A problem is also that the land market does not seem to be reacting in the way that it should. For example, the usage bonus for a commercial building that is connected to sewage is very high. But many landowners buy land somewhere else that is not connected and want to realise commercial there. Often these are plots that are zoned for something else, but some landowners think they can get approval anyway. Maybe some people are also not aware enough about our rules.

**H: What kind of help do you offer people who wish to develop their property?**

B: SPA gives out pre-planning advice. People submit an outline application to us that gives a rough idea what the developer wants to do and then we give feedback on it. Outline applications are voluntary, though, and many developers come to SPA seeking approval for finished plans. Then we often need to negotiate the plans with them because they don't conform with the regulations. However, there has been an increased interest in recent years in planning advice on outline applications.

**H: Is there any cooperation between adjacent landowners? Do people lay their land together to develop?**

B: It is very rare for this to happen. People do not normally co-operate when it comes to land.

For example, there are some plots close to the national hospital with a very difficult division of the parcels. We wanted to organise a round table to change the subdivisions and encourage development but the negotiations fail. Now the landowners have developed their plots anyway and this has resulted in neighbourhood disputes because the houses are built too close to each other. Although, we do have rules on the minimum distance between buildings. We try to keep a minimum 2 metre distance. And if it falls below 2 metres you cannot make any future subdivisions on the plot. There are also exceptions, for instance if there's no windows on that side the buildings can be closer together. But it's very rare for houses to actually be connected, like terraced housing. The terraced or semi-detached housing you see on Seychelles is mostly social housing provided by the government and rarely private market. If there's agreement between neighbours on commercial development, you can also build closer together or even up to the boundary line. Without agreement we try to enforce a 3m distance for commercial. Most of these rules are in the TCPA [Town and Country Planning Act, 1972].

**H: Do you have an instrument that allows for parcels to be re-organised in an efficient and organised way? What happens if a new area is developed?**

B: Some re-division of boundaries between parcels occurs when buildings encroach onto another plot. For re-organisation we do not have one procedure. Technically amalgamation and subdivision are two procedures. You can do them with one application to the SPA but we need to file one procedure each. This is normally the case when one landowner owns multiple plots and wants to redistribute how they are divided. If there are multiple landowners, redistribution is more difficult because we have no real provisions. In areas that are not yet developed the local government provides road access if the development is greater than 4 plots. Access rights are negotiated, the district pays for the road and it becomes a public road.

In the proclamation procedure the Land Transport Department extracts the land for the road from the properties and the road receives its own parcel number. Not everyone in the area will need to give up the same amount of land for the road but people just accept this. For the land lost to the road the landowners normally negotiate some deal with the department like building a supporting wall. The rule with the four plots only applies if it is separate landowners. If someone has a large plot and does multiple subdivisions that does not qualify. They are responsible for providing access and financing themselves.

## **E.2 Interview with Fanette Albert and Bernadette Boniface: 3<sup>rd</sup> April 2019**

Interview with Fanette Albert, Principal Secretary of the Lands Department at MHILT, Former Vice CEO at SPA, and Bernadette Boniface, Director of Land Acquisitions and Sales in the Land Management Division, 3<sup>rd</sup> April 2019. H: Hawkes. A: Albert. B: Boniface.

**H: From the documents available to me it was not clear which aspects of the Land Bank are regulated by legislation and which are regulated by policy?**

A: The main regulations that govern how we allocate land are policies. It is sometimes thought that policies are not legally binding but policies are documents that allow government to deliver its mandate. The policy helps guide us in decision-making. The Land Bank Policy was recently reviewed very recently, in 2018, to make the land allocation more transparent and fair with the scarce resources that we have in terms of government land. In terms of legislation what we have is the State Land and Rivers Reserve Act which is also in the process of being reviewed. The policies are formulated based on the act. It is important to understand that the term Land Bank in Seychelles is not used the same way as it might be in some other countries. In Seychelles Land Bank refers to residential plots allocated to first time owners. Other uses such as commercial, industrial, etc. are allocated under leasehold and have no connection to the Land Bank Scheme. With the new change of policy from 2018 the first 35 years after allocation of land under the Land Bank are also leasehold and the development covenant is 5 years. B: So, if the applicant does not develop the plot within 5 years government can retract the lease. The 35-year period is for paying off the mortgage from the bank. So, this is a tri-party agreement between the GoS, the applicant and the bank.

**H: What type of residential dwellings can be realised on Land Bank land?**

A: Judging from the past we cannot dictate the type of housing developed. Some people not only submit a house for their family but also apartments to cater for other people who want to rent as residential. This mainly applies to people who have taken a loan for construction and the apartment allows them to repay the loan. Whatever building is being constructed needs to be for residential purpose and needs to be within the norms of the Planning Authority. But there's no restriction on the type of house, so some are also semi-detached.

B: The objective is obviously for people to build a first home to reside in. But if your land allows you to build an extra apartment, we are not that restrictive at the Land Bank. Restrictions are subject to planning approval as they would be for any other plot. The government agenda is that as many Seychellois as possible can have a home that is theirs.

**H: Concerning the land of the Land Bank Scheme what can you tell me about its location, its current usage, its properties in general?**

B: To be able to determine what the current use is, so what's happening on the plots right now you'd have to go for a site visit.

A: Most of the sites are on hillsides although there are a few that are in flatter areas. They are mostly located on the east, south and north coasts of Mahé with none in Victoria and very few in Praslin and La Digue.

**H: Therefore, the plots are not necessarily located where demand for land is highest? How is land allocated to the scheme?**

B: The plots are where the government owns land as the Land Bank land is released from the land reserves of the government. Allocation of land also depends on current demand and the cost-effectiveness of building on the land.

A: So, government needs to decide based on these factors if it wants to allocate its land to social housing or single ownership, i.e. Land Bank. So, we consider the amount of applications for social housing and the number of applications for the Land Bank. If you were to visit Anse Royale there is a piece of land that government

has acquired. There we'd need to look at the potential of the land and see if it's more viable to have Land Bank or to have social housing. This depends on the two demands that need to be balanced. You also need to account for what government can achieve best. If it's a nice area with a few we'd opt for the building of condominiums or allocating land under Land Bank so we can get more yield out of the sale. For social housing you tend to consider areas where topography and wastewater facilities can accommodate blocks of flats as government is now increasingly opting for Sewage Treatment Plants. When government is allocating plots its goal is that all the plots are served by access: wastewater, electricity and water.

**H: How is social housing organised in the Seychelles?**

A: When government builds houses, they rent it at a subsidised rate compared to the local market. As part of the constitution government has a responsibility to facilitate its people in finding housing. Social housing is constructed by the government of government land.

B: There is tenancy of social housing and there is house purchase. The house purchase of social housing is aimed at lower income groups than the Land Bank. Social housing is generally organised in housing estates.

**H: The SLUDP estimates that ¼ of all land in the Seychelles is government owned. Is that correct? Does the government buy and sell land?**

A: I'm not sure but I know they were doing a land inventory. We are still doing an internal inventory in regard to ownership of land by the government. So, we are not 100% sure. But the total is quite substantial. ¼ is possible. Most government land is in the National Park but there are also some private properties in the park. The government purchase land but there is also exchange of land where people negotiate with GoS. The policy on this is being reviewed currently. We'd then assess the land that is offered to us and see if it is suitable for Land Bank, for instance. Sometimes it's in the National Park then we can't do anything. But other than

this we'd assess and see what use it best, so social housing, Land Bank, etc. The wish of the government is to have all properties in the National Park transferred to government. But for you to arrive at this result you have to go and negotiate with numerous parties. The government is trying to make a policy because these large properties are going to cost a lot. So, the policy should find a mechanism that would satisfy everybody. The issue has not yet been resolved so there are still private properties in the park.

**H: As a landowner, how does your property being in the National Park affect what you may do with the property?**

A: In the National Park you cannot develop at all.

B: It's environmentally barred. Maybe in the future, certain things will be allowed.

A: The government was trying to introduce forest management where someone who'd want to develop could use certain eco-design approaches. So, you can restrict the footprint, type of design but you could still develop in line with minimal destruction to the environment.

B: The department of environment is currently working on a policy paper that will also take on board the suggestions from planning to present to cabinet with regard to those properties in the National Parks. However, previously the Department of Environment did not want to allow any such construction. People owning property would approach the Department of Environment rather than the Planning Authority on this issue. People were demanding payment for not being able to develop. To resolve this a policy paper is in the making but it's work in progress.

**H: Does this mean there is generally a right to develop private property?**

B: Well, everywhere you may have a property but there are restrictions in certain areas like the National Parks that do not allow development. So, if you have purchased a property in the no-development zone then you're affected by this. If people cannot develop, they want to receive something in return, so they sometimes ask

government to purchase the land from them. If you cannot develop your land it has less value to the landowner.

**H: What parcel sizes do Land Bank plots have? Are they predetermined or can people choose?**

A: The sizes are allocated. Most are on an average of 600–800 m<sup>2</sup>. The minimum is 400 m<sup>2</sup>. The plots are assigned by lot drawing. If the land is ready everyone who's been selected under the scheme comes together and there is a lot drawing.

**H: How successful has the Land Bank scheme been in numbers? How many plots are allocated a year and how many have been developed?**

A: Since 1993 we have sold over 3'900 plots of land under the scheme. Not all of them have been developed but we cannot keep track of development on the sold plots. This is why we introduced the revised policy last year where we ensure that development takes place before the plot is transferred into freehold. Previously, transfer to freehold happened immediately and this led to speculation where people would sell the land for profit. Under the new policy we are yet to allocate the first plots. Our first allocations under the new policy will be starting this June. Then we hope that people will be able to develop within the 5-year period and the Land Bank can better serve its purpose.

**H: How is the Land Bank embedded into the planning framework? For instance, other strategic goals from the SLUDP?**

A: Yes, I think so, because one of the recommendations that came up from the SLUDP was where to make best use of existing areas to maximise the use of built areas because of the scarcity of land. The report looked at the potential of developing government land and at the restrictions given by the National Parks. They then came up with areas that could be further developed and one of the recommendations was to build more vertically. This was also supported by the president. We have since seen submissions from the infrastructure department maximising the land by proposing blocks of flat that are more than 2 or 3 storeys, they are going up to 4 floors. For the Land Bank the

consequence of the assessment was that we went from allotting plots that were more than 1'000 m<sup>2</sup> in size to allotting smaller plots. You would now have 2 or 3 plots where we previously had 1 but this strongly depends on the topography. So, Land Bank was looked at as a part of the ARUP assessment of how government could encourage development in the future.

B: Yes, the recommendations from the report has led to a reduction of the plot sizes in the Land Bank. Planning is also encouraging more vertical extension now than before.

A: Yes, if I recall there are people coming now with designs for housing on pillars, even in flat land. They'd cater for using the bottom part of the house for rooms in the future. There is a lot of development on pillars nowadays.

### **E.3 Interview with Terry Biscornet: 4<sup>th</sup> April 2019**

Interview with Terry Biscornet, Consultant to SPA, meanwhile Vice CEO of SPA and Board Member, 4<sup>th</sup> April 2019. H: Hawkes. B: Biscornet

#### **H: How is the drafting of the Physical Planning Bill progressing?**

B: The CEO and I had a cabinet meeting yesterday on the Bill and barring some minor changes by the attorney general it will be gazetted before going to the National Assembly for discussion within the next 2 or 3 weeks.

#### **H: There have been efforts to draft this Bill for a long time. Did the project experience delays?**

B: The drafting of the Physical Planning Bill (PPB) has been a long story. We reviewed the Town and Country Planning Act some years back with a consultant from the Caribbean where they have similar legislation. That project was funded by the Commonwealth. The legislation drafted through consultation was not accepted by the attorney general's office, however, because the work should have been carried out by a different department. Subsequently, we struggled to get a consultant in to review the act again. However, then UNDP was in Seychelles doing an environmental project we managed to get the PPB lumped in with that project. With some local consultants who were paid by the UNDP a review of the act was drafted after consultations with all the stakeholders. When the results were presented to cabinet, cabinet was not in favour of some the provisions, requesting for a re-drafting. After having done this with the Attorney General's office and the Ministry, this is where we are now.

#### **H: The bill says there are Land Use Plans and Development Plans. What are Development Plans?**

B: The Land Use Plan will look at planning in a schematic, more macro way. The Development Plan is on a more micro, detailed level. The Land Use Plans covers the zoning while the Development Plan would specify things such as

the size and design of the roads, location of a supermarket, heights and types of buildings etc. Development Plans are for specific areas. They are mainly going to cover the all the district centres. So, it can apply to new developments as well as areas that need to be redeveloped. If the government sees the need to redevelop an area it could come in and develop with the Developing Plan.

#### **H: What function does the Development Plan fulfil?**

B: It is where we will be able to determine the economic level of development. It is where an individual exactly what kind of development he or she can do in an area; where the local authorities will be to inform the developers on what they can do in an area, the Planning Authority can also now exactly inform the developers.

#### **H: Who will produce these plans?**

B: The Seychelles Planning Authority. Of course, presently with the manpower available to us it won't be possible to make all the Development Plans we should. We'd need a full team of architects, planners which we don't have. With our present manpower we can only undertake the review of the Land Use Plans. The Land Use Plans are developed by the Planning Authority (PA). The Planning Authority will have a committee. This committee will have the majority of stakeholders that is involved in development but the plan itself is developed by the Land Use section of the PA.

#### **H: Who then approves the Development Plans?**

B: They go through a process, just like the land use plans go through the same process. We'd have a draft Development Plan which would be discussed with all the stakeholders and then be put into public consultation and then be brought to cabinet for cabinet approval. Once we have cabinet approval, it is gazetted by the minister. It doesn't need to go to the National Assembly, however, as the Land Use Plans do. Then it becomes a statutory instrument. Once it is gazetted it becomes binding to authorities and landowners. This is why we need to consult in the public consultation. After that it cannot be

contested. In the past, the Land Use Plan went through the entire process of consultations etc. and we gazetted the Land Use Plan (LUP) for Praslin. But there was a property owner who claimed he wasn't aware of the plan and the consultations that had taken place and he went to court. The court looked at the entire case and concluded that there probably hadn't been enough consultations, so the court threw out the whole Land Use Plan. It said it was invalid. But in fact, we did a lot of consultations. You should see what happens if we do consultations here in Seychelles: people don't turn up. We go on television and radio to speak about it. This is a big question mark or issue with regards to consultations.

**H: How to these consultations work? How are they organised?**

B: So, we go into the district. Let's say we're doing the LUP for Mont Buxton. We go to the Mont Buxton Community Centre and we will tell people there will be a meeting to discuss this LUP. We will put an announcement on radio, newspaper and television adverts. On the day only two or three people will only show up, however. We'd have discussions on the plans on all the channels we can. We have also recently started on social media and our webpage to inform people. When we did the white paper stage for the act (PPB) the CEO and me went into the district to consult but we never got more than 5 people attending and only 1 person commented on the draft on the webpage. Then once you've finalised the drafts this is where the problems start. Then people say they hadn't heard about the consultation. A typical example is the SLUDP and the VMP. This was very well consulted with stakeholders. I went to a meeting recently and was surprised to find that people in high positions said they didn't know about it. The Mayor of Victoria didn't even know about it.

**H: Is there a public display with the consultation as well?**

B: Yes. We gazette something for the first time as a draft and tell people a plan is being displayed at numerous places. But then also no one shows up. Then when they are later told that their projects

are not in accordance with the Land Use Plan, they say they didn't know about the LUP. This is a big issue we've been trying to address. Reaction is always after the fact.

**H: What is the reasoning for making the LUPs on the district level?**

B: We have seen that it is best done that way, especially for the consultation process. The district authorities should know the composition of their district. They are the ones that should mobilise the people to be involved in the process. In the long past we did a LUP for Anse Royale and had a very dedicated DA and MNA. They mobilised the people more strongly. We hope to get people more engaged with the process if it takes place at a more local level.

**H: How are the spatial interests coordinated across district boundaries? Do you look beyond the district when making a LUP?**

B: When we review the LUPs there are also regional interactions. Like presently for the Victoria LUPs. We'd bring the MNAs and DAs for all the districts in the region together and close the gap between the districts through this interaction. In Victoria the LUPs also incorporate elements from the VMP. Topics at the regional meetings may vary by district but may be agriculture, traffic problems, pedestrian circulation, rural issues or in Anse Royale the interaction between the university and agriculture and commercial and how this goes over the boundaries to Baie Lazare and Anse La Mouche.

**H: There was a 50 m contour line policy for Praslin and La Digue that the SLUDP recommended to discontinue. What can you tell me about this?**

B: We have discontinued that. We tried to protect the higher lying areas of La Digue and Praslin from becoming like Mahé with buildings up on the hillsides. In Praslin we used to have a lot of fires in the higher lands which caused a lot of degradation which required replanting. Therefore, we also limited development above the 50 m contour mark. The policy was in force for about 12 or 15 years. Just last year we lifted this policy. After a lot of pressure and

discussions. We only lifted it after we did an evaluation for the LUP and requested the environment department of reviewing the biodiversity value of some areas. Some areas are still demarcated as protected do to this biodiversity. Previously we accepted no applications on those 2 islands above the 50 m contour line. The policy was successful in a way and we were never challenged. These days we would probably be challenged as it was only a policy and not law, not a statutory thing. But it helped, the policy was quite effective.

**H: The draft for the PPB said various things on the way appeals are handled. Could you elaborate on this?**

B: Appeals under the present law are dealt with by the minister. The act says that the minister can consult and what we have done at present is establish an Appeals Advisory Committee with three members. They will look at the appeals, do a site visit and investigate and produce a report. This report is submitted to the minister and he or she makes a decision. Under the new PPB we will establish an Appeals Board, also comprising of three people. These will have to be someone with legal expertise, someone with planning expertise and someone from the environment department, as you may be aware, we cannot approve applications without environmental approval. So, appeals will be independent of the minister. Of course, before an appeal people negotiate their plans with the SP. Once we have an approved land use plans and development plans there is less need for negotiation for some things. So, you can do *this* according to *this*. Having these approved plans will make life easier. E.g. for developers looking to invest in the Seychelles. It's more straightforward. So currently because there are no statutory land use plans people are very keen to negotiate what they can develop.

**H: Could you tell me a bit more about the state organisation? The MNA being a national politician but also a local representative with local tasks is quite different from how these things work in Switzerland.**

B: Let's start from the bottom. ON the district level we have the DA – the district administrator. He's a civil servant and is appointed by the ministry and works with the minister for local government. Then we have the members of national assembly – MNA. They are elected every 5 years in parliamentary elections to the National Assembly. The role of the District Administration is to look at the needs of the districts, the different developments within in the districts, cutting the grass, mending the potholes, addressing the issues of the district like other countries have municipalities. The MNAs are more political. They bring up important district issues in parliament. Then we have the ministers. They are appointed by the president. They have to be approved by parliament though. We have a presidential system, like for instance in the US.

**H: So, under the new planning act it will still be the PA that handles planning applications and the minister will no longer be involved?**

B: The role of the minister will only be those of policy. So, the minister directs the PA on policy issues. They are not involved in planning applications but are involved in the approval of the Land Use Plans and Development Plans.

**H: How strongly is the strategic dimension considered when making LUPs? So specifically, how strongly is the SLUDP consulted?**

B: The SLUDP is used as a base. In the strategic plan it's telling you what direction you have to go with your LUP, what you have to look at. Let's take an example. The strategic plan tells us to densify to meet the growth up to 2040. In order to do so we need to change the regulations in the LUP. E.g. the use would move from medium density to high density. The SLUDP is already telling us how we need to look at the LUP. When we discuss the LUP in the district and the direction it should take the SLUDP acts the base. The strategic plan is already quite specific on where these densifications should be taking place. Then in the strategic plan we have the Urban Growth Boundaries, these are the areas within the district centres that need to be densified. One thing that's important when doing this is taking into account the sewage treatment



and suck away system. We have also considered that the minimum plot size that can cater for that kind of system is 400 m<sup>2</sup>. So, when we say densify, we're going below 400 m<sup>2</sup>. In these cases, we would need to implement centralised sewage treatment plants. This is where the issues with densification arise as we still cannot provide centralised sewage treatment plants in many districts. Presently we only have 2 centralised such plants, actually 3. We need to provide further ones, especially on Ile Aurore and at Anse Royale, at Anse Aux Pins and probably at Baie Lazare. So, for these Urban Growth Areas we need proper sanitation to develop in these areas.

**H: You have a good example of how to densify an area in the SLUDP for Hangard Street. How was this produced?**

B: The Hangard Street and Serret Road case study is what the consultants from ARUP presented to us when we requested a concrete example of how intensification and infill work and how we can achieve it in practice. So now we have an example of what these kinds of developments could look like.

**H: How is the willingness of the private landowners to develop considered when making the Land Use Plans?**

B: Let's take an example. As I said earlier, we were challenged in court. So, what we have done is that we would now consult the landowners individually and request from them what their development intentions for their land is and then have a common meeting with all the landowners of the area for the LUP. The issue is that there was only little consensus. In this area, called Anse Lazio, one of the most beautiful areas in Praslin, this process ended in a stalemate. Development should be sustainable but the LUP is currently on hold. The other thing you need to consider is that we have a unique system here in Seychelles regarding inheritance. When land is passed on from generation to generation people become heirs. Sometimes these heirs have disputes and as a result land cannot be developed.

**H: What is the effect of land use planning designations on the value of that land?**

B: The land use planning affects the land prices. For instance, if you build a sewage treatment plant next to my property then you devalue my property, so neighbouring plots' usages affect the value of the land. On the other hand, if you can build more densely you achieve higher profits for your land but you also devalue the value of neighbouring plots because they might not want dense development close by. However, there have been no challenges to the land use planning in regard to property devaluation so it's not a great issue.

**H: In the drafts for the LUPs there are Buffer Zones but it is unclear what these do. Could you elaborate on those?**

B: When the Land Use Plan was conceived and was financed by UNEP [United Nations Environment Programme] the consultant's goal was to lay a focus on the environment. The LUP drafts we have, did not focus on a strategic approach but were mainly based on the existing situation. All the areas that hadn't been developed, especially those where there are rivers, became the buffer zones. Other buffer zones are buffers around other protected areas. We also have a lot of forest zones or forest reserves in the land use plans. These have not been developed. Forests have various designations in the LUP, mainly those that are protected under the Forest Reserve Act and those that are not protected but were simply not yet developed at the time the 2012 LUPs were made. The *P* zones in the LUP are mostly statutorily protected but some are not and can also be negotiated. If we look at the SLUDP, this tries to show where forest areas are developable and may allow spillover. Not all forest areas are no-development zones. The buffer zones are no-development zones at present, but we are reviewing these designations at the moment.

## **E.4 Interview with Francis Coeur de Lion: 9<sup>th</sup> April 2019**

Interview with Francis Coeur de Lion, Head of the GIS Centre at MHILT, 9<sup>th</sup> April 2019. H: Hawkes. C: Coeur de Lion.

**H: What is the dataset containing the parcels and landownership information based on? How accurate is it?**

C: The geometry of the parcels is based on the cadastral survey, so it's quite accurate and updated. The Department for Information and Communication Technology (DICT) is hosting the database, like all government databases but servicing is being done inhouse by the Survey Section and our Consultant Mr. Michael Wagner. The ownership information, however, stems from a connected web service of the land registry so this data is not stored in the database with the parcels. You need to query the information from the land registry and the database then extracts a layer with the information using a plugin in QGIS software. The land registry is not yet fully digitised. Having a physical copy is required by law, so the information is first processed by hand. The land registry has not been as devoted to digitising as we'd wish at GIS so much of the information is still missing or erroneous.

**H: Is there at least a complete overview over what land is state land? Might some of the uncategorised land be state land as well? The ARUP reports mention ¼ of land on Seychelles being state owned, do you think this is reliable?**

C: There is still some unsurveyed land in Seychelles which is called "special type". This is mostly government land as the priority to survey government is not as high as for the privately-owned parcels. These parcels are generally big and complex. Many of the parcels in question are in difficult terrain that are hard to survey but we're slowly doing it. There is also of unsurveyed land and Praslin and La Digue, which are both privately and government owned. However, there is no overall inventory of state land. So, the ¼ you mentioned is probably not correct. I think, the PS [Principal Secretary] of the Lands

Department, Mrs. Albert, asked for a spreadsheet from the land registry to have a better oversight of where the state land is actually located. Further verifications will be conducted so that in the end we have a credible list of all Government owned land.

**H: Do you have any datasets that show landcover? If not, are there efforts to create one?**

C: We do not have any information on land cover. We have used an orthophoto in the past and some other GIS layers have been used to identify certain features. Michael Wagner and Bruno Santerre also started a World Bank funded project on vegetation cover. But, our focus is more on having data on land use rather than land cover. The current land use data is an amalgamation of the 2012 Land Use Plans.

**H: Is there any data on land use change or landcover change?**

C: There was land use plans back in 1992 but they were never implemented. Then there's the 2012 and 2017 versions of the land use plans. But we haven't compared them with each other, so we don't know how land use has changed.

**H: Has GIS proved useful for decision-making of the planning authority?**

C: Yes and no. Every Friday for all new applications the various GIS-layers are consulted and the planners look at the parcels, the sewer system, the DTM and so on. So, it's used for assessing the situation for applications. It's not used much for more complex analysis or on a large scale like all of Mahé.

**H: You mentioned Mr Wagner before who's is an external consultant. Only for GIS or other things as well?**

C: He's an external consultant for GIS databases but there's also a geospatial working group of which he's a member too. This group is a smaller committee and was financed by the World Bank, as part of a national project with regards to disaster and risks. He consults on some other things too but it's mainly geospatial things. When we did the first land use plans in 2012 there was another external consultant here from UNDP

[United Nations Development Programme]. He came to Seychelles specifically for that project. We also received World Bank assistance after being hit by a cyclone to increase disaster management and resilience. There was a lot of assistance on flooding in terms of actions and policies. We are also receiving assistance from the World Bank to create a National Spatial Data policy and the National Spatial Data Infrastructure (NSDI). The NSDI enables all partner to share data, to network etc. So, we have one national framework.

**H: Are there any external consultations for planning, i.e. who are not working at a government authority?**

C: No, there aren't as far as I know.

## **E.5 Interview with Joseph Francois: 18th April 2019**

Interview with Joseph Francois, CEO of Seychelles Planning Authority and Board Member, 18th April 2018. H: Hawkes. F: Francois.

### **H: Could you elaborate on the purpose and contents of the Development Plans?**

F: Development Plans are developing concepts on how an area should look in the future; on how it will be developed. They are made for specific urban areas where there should be some interconnectivity between utilities and facilities. The plan is to ensure efficient and coordinated development. The projects are endorsed by the landowners of the plots. Often, we need to negotiate with the landowners to get them on board. Normally a committee is formed for the plan and the planning authority produces the concepts. In the end the concept is approved by Cabinet. They approve the development plan as well as the implementation plan. Building applications are always separate but should follow the Development Plan. Delivery is then by one developer with some of the plans having multiple phases. So far it has mostly been the government or government-related companies that acted as developers but other investors are also welcome. Investors can also supply smaller landowners with the necessary funds. The initial idea for the development plan can come out of the ministry or also be a private initiative.

### **H: What is the link between Development Plans and the Land Use Plans? Are Development Plan areas marked in the LUP?**

F: There is no immediate link. There is no compulsory area or similar for Development Plans. The Development Plans need to be in agreement with the Land Use Plans. You see, if someone comes to SPA with a development proposal, we make sure it is in line with the Land Use Plan, the goals and proposal of the Strategic Land Use and Development Plan and the Victoria Masterplan.

### **H: Do you reorganise the parcels for the development plans?**

F: No, we mainly look at how the land is divided in the area and then develop a proposal that reaches the goals and works well with the existing parcel situation.

### **H: Do you have any instruments that could ensure landowners to develop their property? For example, under the Land Bank scheme people allotted a plot must develop it within a certain time frame or they lose the rights to it. Do you have any other such provisions?**

F: No, there aren't any others, the deadline in the Land Bank is the only such mechanism.

### **H: What do you think are the main obstacles to materialisation?**

F: A major obstacle is the topography. The substrate is often not favourable to development. A second challenge is presented by accommodating the sewage system. If the ground is too rocky you cannot install a septic tank due to the limited infiltration. Finances are also an important issue but we have many systems in place to enable financing. There is a housing mortgage system in place or alternatively landowners can apply at their bank for a loan. If you are indebted or don't have sufficient income you will not receive a loan. For such cases there is a government scheme for assistance. In general, there are many people who own land but do not seek to develop it. Most of these have issues either with access provision or there are legal issues, such as a dispute among heirs. There are also a few that want to keep the land available for later generations or have left the Seychelles for the moment but want to keep it in case they return. People don't generally buy land and keep it idle. Most idle land has been inherited. So, land speculation is not very common, mainly because people are dependent on the cashflow. To reduce speculation there is also a policy, the Land Alienation Policy, that under 5% of land should be owned by non-Seychellois. However, this is not strictly enforced.

### **H: The ARUP reports mention the rise in construction costs as a big obstacle to development. What is the reason behind this and are there any plans to mitigate it?**

F: Most goods and materials need to be imported to Seychelles from overseas which makes them more expensive. Within Seychelles the costs vary as well, for example, transport to Praslin from Victoria will increase the price further. There is no legal framework to regulate prices so they can fluctuate at times. But there is no specific problem with the price of construction materials. The main reason for rising prices is inflation but this has been a general economic issue and not just related to construction or housing.

**H: How is the Planning Authority positioned within government hierarchy and how is it organised internally?**

F: SPA is a government department within MHILT [Ministry of Habitat, Infrastructure and Land Transport] at the moment. There are plans to convert the Planning Authority to a body corporate which should be possible once the Physical Planning Bill is passed. The Planning Authority combines two main lines of operation. There is the policy element which is the responsibility of the minister [of MHILT]. Then there is the approval element which is the responsibility of the Planning Authority Board. Planning applications normally go to a technical committee before they are presented to the board, these are the sub-technical committee, the minor works committee and the utility systems committee.

**H: How is the budget of the Planning Authority constituted? Is there a budget for land acquisitions?**

F: the budgets of government departments are prepared with the Ministry of Finance. So, the Planning Authority is a budget-dependent entity. We set up a yearly budget and seek approval from the Ministry of Finance. Land acquisitions are part of a special budget of MHILT. Transaction communication is held with the Planning Authority and we can make suggestions. In the end, all land purchase decisions lie with the ministry.

**H: The Strategic Land Use and Development Plan affects many things that are the responsibility of other departments. How are these interests coordinated?**

F: Before we had the Strategic Land Use and Development Plan there used to be a lot of input from other ministry to the Planning Authority on things we need to consider. Now with the plan it is more the other way around. The main strategies the government has to guide planning are the Strategic Land Use and Development Plan and the Victoria Masterplan. We also confer with all relevant organisations to see if there are any relevant changes as planning progresses.

**H: What was the motivation behind making these two plans?**

F: The Strategic Land Use and Development Plan was initiated by the Council of Ministers. Initially, it started with a traffic plan. The government wanted to address the traffic issues and congestion in Victoria. But they soon realised that traffic is related to housing and many other topics, so the decision was made to make a more comprehensive plan. It's important to understand that the two plans are just for guidance; they need to operationalise through the Land Use Plans. Beyond our plans there is also a National Development Plan. This is not just related to planning but incorporates plans for all of government. This plan has a 10-year time frame. For financial purposes it is divided up into medium-term strategic plans for which the Ministry of Finance makes the budgets. This is the source of our annual budget at the Planning Authority.

**H: Besides the operative tasks concerned with planning applications, what is the current focus on the strategic side?**

F: Most of the strategic work is currently focused on revising the Land Use Plans. If projects from the Victoria Masterplan need to be enriched in detail, we also make the detailed concepts or Development Plans for those. If there is high demand to buy or develop some land at the Lands Department then we might also consider a Development Plan for that land. The concept would be done in-house.

**H: The Land Use Planning Guidelines mention the Member of National Assembly being supported by the "District Consultative Committee" which is "strategic". What is this**

**and what role does it play in the planning process?**

F: For the Land Use Plans there is the LUP Committee. Everyone from government with an interest in land-related issues sits on the committee. It's for all districts and from all the relevant government departments. The difference between the districts is which MNA [Member of National Assembly] and which DA [District Administrator] take part. Then there is also strong participation from the public. The districts also have sub-districts with representatives, and these are also consulted when reviewing the Land Use Plans. These representatives are normally well-known figures in the district that are aware of the local issues. The District Consultative Committee equates to the Land Use Planning Committee plus the respective MNA and DA. They can also cooperate with any other organisation or group they deem important for reviewing the Land Use Plan. For example, the district's fisherman association. Afterwards, the committee makes recommendations to the Planning Authority on how the areas should be classified. They lend a certain sense of direction to the plan, that's their strategic contribution. Mission and vision of the district are formulated and validated at a public meeting with the inhabitants. There are two public meetings in the LUP process. The first one is to gather information and more local knowledge about the district. The final one is where we need to convince the people to endorse the plan.

**H: More generally, what are the tasks of a DA and an MNA? It seems an MNA has district-related as well as national tasks to deal with?**

F: Until recently we had no Regional Councils in Seychelles. This means, until last year the DA was part of the government at Local Government Department and the MNA is an elected representative. They made the relevant decisions for the councils when it came to implementing government policy. Now we have the regional councils. They are interim bodies for a year and the first step towards district councils. The law actually calls for district councils, so the current councils are not in line with the law. They

are undemocratic in a sense because their members weren't elected but appointed. If the Regional Councils prove successful, the law might change from districts in favour of the regions. It is still a matter of debate. Council elections are planned. The task of the councils is to oversee development within their districts. They do the budgeting and oversee projects. Then implementation of these projects lies with the DA. The DA's often approach the councils about local issues in an effort to receive funding. Then the council needs to decide which district receive what funding. Technically, they should also be making spatial planning decisions but they lack the expertise. This is also why the Land Use Plans for a region are done at the same time at the moment, in order for the Regional Councils to also be consulted.

**H: Are the government ministers also MNAs?**

F: No. The ministers are appointed by the president. Seychelles has a presidential system, not a parliamentary one.

**H: Can land also be owned by local government, i.e. districts?**

F: No, state land always means ownership on a national level. All state land is managed by the Lands Department.

**H: What types of property tax do you have?**

F: There are very few property taxes on owning land in Seychelles. If you purchase a property you need to pay stamp duty at the registration department. That's about 5% of the land value. If you're not a Seychellois, you also pay sanction duty. That's another 11%. The sanction duty can be alleviated in some cases, for instance for commercial development. There is no property tax etc., so no tax on profits from selling land either.

## **E.6 Interview with Bernhard Belle: 19th April 2019**

Interview with Bernhard Belle, Urban Planner at the Planning Authority, 19th April 2019. H: Hawkes. B: Belle.

**H: In the Victoria Masterplan an array of funding mechanisms is proposed to deliver the projects indicated in the plan. One of these is the “creation of a National Infrastructure Fund to provide up-front capital for major infrastructure schemes” (Government of Seychelles, 2016b, p. 216). Has such a fund been instated?**

B: No. A *steering committee* for the Victoria Masterplan should have been created as was specified in the plan itself. There it's called the “Greater Victoria Development Unit and Cabinet Committee”. Instead, a *development committee* has been created but this is more generally concerned with all government projects rather than just those in the Victoria Masterplan. The development committee checks the viability and prioritisation of projects for implementation and makes recommendations if they should receive government funds. It consists of member from different parts of society: government sector, the private sector, etc. Similar to the Planning Authority Board.

When it comes to providing funds for the projects SSI are also an important player. That's Societe Seychelloise D'Investissement. All parastatals of Seychelles fall under the umbrella of SSI and they ensure that the government funds are invested in a way that doesn't generate losses. For example, they fund the development of the Victoria Waterfront.

**H: Concerning the concept for the development for Hangard Street and Serret Road, have any further steps been taken on this project since its formulation in the Victoria Masterplan?**

B: The findings from the Masterplan for this area have been considered while drafting the Land Use Plan of the corresponding district and the parcels have been zoned accordingly. SPA had a meeting with the local district authorities and advised the DA to engage with the landowners

about the development of their brownfield sites. The DA was tasked with asking the landowners about their development intentions and if they were confronted with difficulties. If so, they were offered planning consultation by SPA. So far, none of the landowners in the area have come forth to SPA. I think that the landowner address was not conducted in a systematic way, so SPA has no concise overview of the intentions of the landowners. Many landowners are indecisive about the future development of their plots. Some are caught up in disputes amongst heirs and cannot agree on the future of the land. Landowners of smaller parcels who have so far not shown any interest in development at all are probably not sufficiently aware of the ideas laid out in the Masterplan. The key stakeholders with larger brownfield sites are more aware of the Masterplan and the intentions of the Planning Authority. All in all, financing and inheritance problems are the main reasons why development of many sites is not happening.

As I said, it is quite common for the DA to be in contact with the landowners. However, they cannot give planning advice to the landowners directly and need to refer to SPA instead.

**H: How does the SPA intend to ensure the implementation of the Hangard Street proposal?**

B: I think this is actually the easiest part. When planning permissions come in, they have to be in lines with the Masterplan. If they are not, they will not receive planning approval. It is possible that the landowners might go to court over this in the future but it has not happened so far. I think that SPA is likely to win such a case anyway.

**H: The situation analysis of the Hangard Street area is very detailed and a good of example of how to assess the potential of an area. Have there been any similar assessments? Doing so is listed as an upcoming step in the masterplan.**

B: The assessment done by ARUP on the Hangard Street plots is the only such assessment we have. We have tried to identify areas that are suitable for redevelopment in other areas of Seychelles while reviewing the LUPs. But none of these areas had as great a potential as Hangard Street

does. The assessments weren't quite as detailed as the ones in the ARUP report, so we do not have any documentation on them. One area on La Digue, however, we found to be in need for redevelopment. It consists of a number of private plots and 2 government owned plots. There are pockets of newer buildings in the area but all in all it still has potential for redevelopment. The government plots are occupied with buildings belonging to various government departments. We contacted the agencies and ministries in question about their future intentions for these plots. We did receive feedback, but the ministries did not have any specific proposals planned for these plots. Therefore, we issued them a recommendation on how to make good use of their plots in future. We have not yet addressed the private landowners in that area. Within SPA we have agreed to focus on government owned properties first. These are easier to contend with and we hope that the private landowners will see the examples set by the government and will then approach us with the wish to develop their plots. We are not actively providing any incentives for the landowners to redevelop their plots at the moment. There are several issues in the area that make development difficult, for example there is an issue with access provision. The assessment on La Digue was in 2018 but nothing much has happened since. Once the LUP for La Digue has been approved we would make a Development Plan for an area like that. For Hangard Street we won't need a Development Plan because nearly everything is already laid out in the Victoria Masterplan in sufficient detail.

**H: What is the greatest obstacle to preparing overviews and identifying areas for intensification as it was mentioned in the Strategic Land Use and Development Plan?**

B: Definitely the resources. I feel from the work we did with ARUP we have the necessary expertise. The problem is just the lack of resources, so staff.

**H: How has the progress been on making the Land Use Plans and the Development Plans? How do you make the prepare plans?**

B: Well, you see, this is related to what I just said: There are only two urban planners in Seychelles, Julie and myself. And the top priority at the moment is finishing the Land Use Plans but it's a lot of work. This means there is not enough time to make the Development Plans at the same time. I think it's important, however, to do the Development Plans in parallel and not rush the process so much. The Development Plans are thought to cover nearly all built-up areas in Seychelles. We used to have an architect who would also work on the Development Plans but we don't have one employed in-house at the moment. On occasion we have tasked a freelance architect from the private sector with making the plans for us. Normally, it's Julie and I that bring together all the information for the Development Plans. Then they go through a few rounds of consultation and amendment by the rest of the planning authority and the ministry.

**H: The Victoria Masterplan mentions the development of the Financial District as being in phase 1 of implementation which is now. What has been the progress so far on this project?**

B: So far, no steps have been taken. As I mentioned before there is steering committee that has an overview of what project to tackle when. So currently, the government and politicians decide what projects go ahead, which does not always correspond to the priorities that were laid out in the Masterplan. Therefore, at SPA, we also try to advocate for certain projects in order for them to be sent to the development committee for consideration. The development committee weighs all projects it receives as to their priority, so for example a new hospital annex vs the Victoria Waterfront. I think, the main reason that the financial district hasn't kicked off yet is that there are numerous other projects going on at the moment that receive all the intention of the decision-makers. Many of those are stalling, however, so you could start on the financial district or other projects in the meantime. But because there's no one coordinating the projects this isn't happening. For example, the Victoria Waterfront project is on hold at the moment and all the departments are focused on that. In a way the development



committee could have more of an overview over the projects but they do not take action. They just wait until projects come to their desks. A steering committee could prioritise projects and have a more far-sighted angle as is required in planning.

**H: What is the issue with the Waterfront project?**

B: We made a Development Plan and it was brought forward to the development committee to discuss the funding mechanism. The committee has asked for environmental and social impact assessments to be conducted in order to make a final decision. So far, no social impact assessment has been done so the project has not been approved. Actually, we should be organising the impact assessment but we're just rather busy with all the other project, especially the Land Use Plans. Once in a while the impact assessments come up again when the CEO or the ministry dream of them. But the waterfront is just one of many projects on their plate and it's nobody's top priority. There is just not enough time to tackle the bigger projects that are laid out in the plan. It's actually our [SPA] responsibility to implement the masterplan. But no one is really designated to do so. So, we try to consult the Masterplan as much as we can when assessing applications and project that come in. I guess, it's more of a passive approach at the moment.

## **E.7 Interview with Patrick LaBlache: 29th April 2019**

Interview with Patrick LaBlache, Consultant to the Minister of MHILT and Board Member, 29th April 2019. H: Hawkes. L: LaBlache.

**H: I'd like to ask you a few questions about the implementation of the Land Use Plans that will be able under the new Physical Planning Bill and what implications there might be.**

L: You know the existing Town and Country Act, TCPA, actually already provides for Land Use Plans as SPA wants to implement them. The new Physical Planning Bill does not change much about this, the legal base has been there all along with TCPA. The Physical Planning Bill addresses some issues like fines. But the main reason that implementation is stagnating lies within the ministry. The issues with the old Bill and the new Bill are the same ones. It's the consultation process that's important. The new act doesn't change anything about this, it just puts it in an improved format. But this is all set in a very new political climate. The culture of democracy is still developing in this country and the democratic processes are evolving very rapidly at the moment. The courts have also become much more open as a consequence. There's been efforts to make SPA more autonomous from the ministry but it still has not fully happened because the government does not like to ease its control.

**H: Irrespective of the new or old Planning Act, what do you think about the designation of no-development? The Constitution of Seychelles in Article 26 states that one "can buy, sell, own and peacefully enjoy their property". How must peacefully enjoy be understood?**

L: For one there are the protected areas, they fall under the National Park and Conservation Act. People have been bought out in the past to create the national parks. There have been no cases of compensation for money or land. Back then only acquisition was possible, now the state could theoretically also compensate the

landowner in money but in general the policy of government is *buy*.

And then there is the remaining land that currently is considered "no-development" land by SPA. I'm under the impression that the current no-development designation used is unconstitutional. So far there haven't been any cases where SPA was brought to court over their interpretation of the property rights, so it's an unresolved issue at the moment. Article 26 in the constitution allows for exceptions subject to legislation. "No-development" somewhat hinders a landowner from enjoying his land freely. But agricultural use could be understood as enjoying freely. It's a thin line.

**H: From other interviews it has become apparent that there is a sort of "right to build" if you own land in Seychelles. But there do not seem to be any laws or documentation that supports this. How do you explain this discrepancy?**

L: As I said it's a very thin line, but you can say that there is no official right to build. But there is a right to use your property in some way given through the *Right to Property* in the constitution. So, you can only restrict property rights to a certain extent before compensation is likely due.

**H: But there must still be some restrictions that are possible without counting as an infringement?**

L: Well one can hope that the court would decide that there is a limit to the way you can enjoy your property. For instance, if you want to build 30 storeys high and no other buildings in that area are this high the court would rule that a restriction is permissible as your use of property is not in line with how other people are using their properties. Especially, if your development might have a negative impact on the properties around you, this is certainly grounds for restricting property rights.

**H: How is property taxed in the Seychelles? Do you have any provisions for taxing gains?**

L: There are no property taxes. Succession duties have been abolished because most of the poorer inhabitants were not able to pay the inheritance

tax. Capital gains tax does not exist either except for personal homes. Capital gains tax is tax burden. All in all, Seychelles is too small to introduce these bureaucratic taxes. Finally, we do have stamp duty which is only on transfer or lease of immovable property at the moment.

**H: What are the rules on providing access, e.g. by building a road? Who pays for this? What are the mechanisms?**

L: Basic access is provided at local government level. It's a community project, roads are only constructed if someone lives an area and needs to be provided with basic provisions. Some houses only have footpath access.

In the old days the government would purchase a strip of land and build the road on it through forced acquisition. These days local government would negotiate an easement to construct the road with the landowners. If this fails, the national government would acquire the land as local government cannot purchase property. So, as a last resort if there's no agreement on easement then the government can enact compulsory purchase on the strip of land. The person who does the appraisal of the land looks at injurious affection so if the road materially affects the remainder of the plot. If the road dissects the plot, then the government would need to purchase the entire plot as the remaining parts are no longer of any use for development. For basic access you as a landowner do not need to pay. So, in a way some are lucky and do not need to contribute any land and still receive access.

Sometimes there are also private initiatives to build roads. Then these landowners decided amongst themselves who pays what and they pay for the access themselves. The government doesn't build roads to areas where nobody lives because access is a community project, it benefits those that live in an area. If someone wants to develop a new area, then normally a subdivision application goes to the SPA but the SPA won't allow the subdivision of the plots before the landowners have provided a road. These days houses in such areas need to be

reachable by road for emergencies services, like ambulances and fire engines.

**H: What is the current practice pertaining to compulsory purchase?** L: Compulsory purchase used to be very easy and common in the 2nd Republic. Now it's quite difficult. Now being the 3rd Republic, since 1996. Previously the government could acquire plots in the national interest. But a lot of things were considered national interest back then. These days it needs to be a public purpose which is properly and narrowly defined. The corresponding act is the "Acquisition of Land in the Public Interest Act" of 1996.

**H: At the meeting concerning Ile Aurore it seemed that access provision was also a major factor making further development of the land difficult. What's the progress?**

L: Ile Aurore needs to be profiled for drainage purposes next. Then all utilities need to be provided. The government has to pay for all utility provision on Ile Aurore itself. Unless it finds a benefactor of course. It has been difficult to receive funding for these utilities. PUC has a mandate to construct a sewage plant but it's a national project and very costly. Ile Aurore was created with a 25-year vision for completion. The project started in 1999 so it's still on track for being finished within the envisaged timeframe. There have been considerations on providing more dense development than initially planned. You see, it hasn't been easy to convince the Seychellois to live in blocks of flats like the ones being constructed on Perseverance. They aren't as popular as in Europe as there's a much stronger culture of life taking place outdoors. The culture of terraced houses and blocks of housing needed to be established first but there have certainly been changes to denser developments in recent years. But still these projects take time. Seychelles only has the manpower to construct about 500 homes a year.

**H: Planning decisions can greatly increase the value of a property, e.g. allowing for denser development. In certain jurisdictions, e.g. in Switzerland, some of this added value should bring some returns to the state either in form of**

**a levy or through demanding concessions from developers. Would such concessions or levies be possible in Seychelles?**

L: Large projects are always government led in Seychelles. We don't have large private projects. This is mainly because landowners just develop their own plot for themselves. Smaller developments don't really allow for these kinds of concessions. I think in larger developments developers would come forward themselves with such proposals because he has an interest in placing an attractive product on the market.

Landowners very rarely co-operate in Seychelles because they don't trust each other. Although, the lay of the land, the topography, doesn't allow co-operation anyway in many areas.

## **E.8 Interview with Julie Low: 8<sup>th</sup> May 2019**

Interview with Julie Low, Urban Planner at SPA  
8<sup>th</sup> May 2019. H: Hawkes. L: Low. F: Francois.

### **H: Could you recap what the steps of the Land Use Planning Process are?**

L: The land use planning process encompasses a site visit to the district in the early stages. Various departments are present at the site visit, for instance Lands who assess if there is potential for new Land Bank areas. Afterwards the Land Use Planning Committee updates the 2012 versions of the land use plan and make a draft version of the new one based on the visions and policies in the Strategic Land Use and Development Plan. If the district falls within the Victoria Masterplan area, we also consider that. Letters are written to affected stakeholders, residents and landowners due to type of classification, for example if classified as Forest Land. Advertising is done via newspaper, TV and radio to invite other residents, business owners and landowners of the district to attend the public meeting. With affected landowners we conduct a one on one meeting first then tell them to attend the public consultation. At the meeting the changes are discussed, and all inputs of the landowners are noted. After the meeting the land use plan draft is up for public consultation at the DAs office and online for another two months so anyone can comment. After the period has elapsed the committee amends the provisional Land Use Plan while considering the comments received by the public. After this there is a final public display and if there are not objections the land use plan goes to cabinet for approval. In the end it goes to the National Assembly for approval and then it is gazetted.

The process hasn't always been easy though because some of the members on the LUP committee from the other departments aren't always very diligent or committed to the project. They often send substitutes to the meetings that are not informed or do not have the power to make decisions. That's why we've asked for a budget for the committee. With the budget we

can pay allowances to the members of the committee and we hope this will encourage them to attend the meetings and address them with the required diligence. The main issue has actually been the supply of information by the other departments. They often lack human resources to provide all the information we need for reviewing the land use plans. An example would be information on water catchments, for example a GIS layer, that could help decide where it is permissible to build. Some of the information just doesn't reach us and some still needs to be produced.

So far, the land use plans that are most advanced are La Digue, Anse Royale, Anse Aux Pins and Praslin. We already had the public consultation and display. The missing part is the information from the other departments I just mentioned. Once we've processed that we can present the LUP to cabinet for approval. But I feel that we are trying to do too many Land Use Plans at the same time and aren't assessing the situation thoroughly enough.

At the moment we are also writing the scheme texts to accompany the Land Use Plans. We've started to make a template, but each land use plan will have its own individual text.

### **H: How does the LUP process work in the Victoria region? Is it any different from what you described before?**

L: Greater Victoria has 8 districts. Originally, we wanted to review each district one by one. But now the districts have been grouped and public consultations have been pooled together into just three meetings. The Mayor of Victoria should also be involved but hasn't been much so far; he's quite new to the job. In essence, the process in Victoria is the same as elsewhere just that we're doing some of the steps for multiple districts together.

### **H: When comparing the 2012 LUPs with the new drafts it is apparent that many buffer zones have been changes to residential. What's the reasoning behind this?**

L: Many of the designations in the old LUP didn't make any sense. I think to understand this you need to know how those land use plans were

made. All 25 land use plans of 2012 were done by a German consultant on his own and was mainly done by driving round the island in a car. To about ¾ the LUP were just based on the existing land use at that time and did not consider future development much. In a way they have been useful in the review process because they give us an indication of the currently present uses. Back then there weren't any projections or visions for the future to base the LUP on. Now with the Masterplan and the Strategic Land Use Plan we have more guidance. We've also done more consultation this time round than last time, although the public already was consulted the last time we did the LUP. For the new LUP in Anse Royale for example we sent out 200 letters to private landowners who were particularly affected. We only received 2 replies.

**H: The different types of no-development zones are rather complex. What is permissible where?**

L: We have recently decided to change the *forest reserve* designation to Forest Land. Previously, forest reserves didn't allow any development. With the new Forest Land, you are allowed to develop under conditions specified by the Department for Environment. So, exclusion criteria for allowing development are environmental criteria, like biodiversity. Depending on the scale of the project it needs to undergo environmental impact assessment. Forest Land is considered developable but only under conditions.

The National Parks are a different matter. National Parks are administered by the SNPA [Seychelles National Park Authority]. They only allow light and small structures.

Then there are the buffer zones. They are for safeguarding rivers or rainwater catchment areas. PUC [Public Utility Cooperation] is mandated with identifying and maintaining these areas. Some buffer zones are also in areas of unstable terrain. Construction is not allowed in buffer zones. If a buffer zone is on private land you can get some construction approved with assessment by the environmental department. Residential development is not possible unless

recommended by the Department of Environment.

We are still producing the schemes, or matrices, as to what development is permissible in what zones.

If someone owns Forest Land or buffer land that cannot be built on at all they are entitled to compensation or to an exchange of land under TCPA [Town and Country Planning Act 1972]. The easing of restrictions on Forest Land should mean less cases of compensation.

**H: You were involved in a project to achieve some landowner co-operation in Market Street. Do you have any details on this?**

L: Previously there used to be a committee amongst the landowners in market street but it doesn't exist anymore. During the preparation of the Masterplan ARUP led some informal talks with the proprietors in Market Street to do a retail survey. But they didn't make any agreements. In Benezet Street, just off Market Street, we have been in touch with the Chinese Association who own one of the plots and wanted to construct a new pagoda. They wanted to build a restaurant and wall it off towards the street. This would not correspond to the Victoria Masterplan, where we want to open up Benezet Street more to activities and have an active front. I suggested to the landowner that instead of building a wall they could make the front of the property into more of a public space that is open to the street. The idea was to have a retractable fence that could be closed in the case of private events or similar. The landowners were very positive about the idea. To implement the idea the road would need to be resurfaced at the same time as the restaurant and fence are built. But then the question was who would pay for the road works. The issue was the partnership with government. There was not agreement which government department would need to cover the costs, because Land Transport argues it is not a road but a square and others think it's a road. We have managed to reach agreement now but because of the delay we need to restart the talks with the landowner again. Nothing has been formally written down so far. In the meantime,

we have also engaged with the landowner of the building next to the one of Chinese Society that's on the end of Benezet facing Market Street. The architect designing the current redevelopment of the plot was in favour of opening up the site more but the landowner was not; he wanted to fence off his property. A common issue with such projects is the costs; it needs to be clear who is responsible for the upkeep or maintenance of the space.

These are similar issues as with the sewage system. PUC have been constructing central sewer lines in many places along the roads. If someone owns a property next to such a sewer line, they should connect up to it. If they don't PUC could fine them. However, PUC aren't enforcing this because many people just can't afford the costs of the connection. Also, if your plot is not directly adjacent to the line because it's not on the road you need to ask for permission from your neighbour to run the connection through their property. If they don't agree then you can't connect.

**H: What is the purpose of a Development Plan? What does it contain? What is the progress on the Victoria Waterfront project?**

L: Development Plans are areas of focus, so to speak a detailed area plan. For example, if you have a demarcated an area to become a local centre then the Development Plan gives specific guidelines and other provisions; including design, use parking requirements and so on. Development Plans make special provisions for a certain area and local centres are a very common example. The Development Plan provides guidelines for any future development on the premises it includes. But there has been a lot of confusion amongst stakeholders and in the ministry about the terminology. The Roche Caiman Housing Estate Guidelines for instance are more of a general guideline than a real Development Plan. The Beau Vallon Foreshore Redevelopment, Financial Business District Concept Plan and the Victoria Waterfront project can be considered Development Plans. The Waterfront is also its own masterplan; it's both. The Waterfront concept has been finalised but the social and environmental impact assessment

is still pending. Possibly the concept will be amended depending on the inputs from the assessments. The development committee requested the impact assessment to be able to decide if the project is eligible for government funding. SSI [Societe Seychelloise D'Investissement] are responsible for implementing the development. They already delivered the detailed designs for phase 1. The architect that made them is a government employee from PPID [Project Planning and Implementation Department], the department of PS Choppy. They are in charge of government construction projects. Unfortunately, the current designs for phase 1 that were presented to the board do not really respect all the guidelines from the Development Plan. They are more heavily based on parking and have less open green space than what was agreed on in the Development Plan. This means the design doesn't integrate well with the rest of the planned Waterfront development. SSI argued that they wouldn't be able to find buyers and tenants if there wasn't enough parking. This kind of pedestrian focused development is new to Seychelles and so the developers are not convinced of it yet. The board hasn't reached a decision on the designs yet. At the moment we are waiting for the impact assessments and the report from the development committee. This will probably take a while though because we haven't advertised the mandate for the assessment yet. I am not quite sure what the actual mandate of the development committee is and what they can decide. You'll need to ask Joseph.

*Response from Joseph Francois concerning the mandate of the development committee.*

F: The development committee gives recommendations to the president as to whether a project should be endorsed for funding. The committee itself cannot actually make the decision if a project receives the go-ahead. They are purely a vetting committee. In the case of the Victoria Waterfront the development committee will report to the president who then discusses the matter with the minister of MHILT. The minister then proceeds with the funding

application for the project to the Ministry of Finance. The Board of the Planning Authority is responsible for giving planning approval for the concrete planning applications but so far, they haven't assessed the designs for the Waterfront yet. The funding, however, comes from the ministry, not the board.

**H: From what you said earlier it seems that the contents of the Development Plans is not understood as legally binding?**

L: No, they do not appear to be binding at the moment. But we have only just started with the first development plans and they have mostly been for government-related project or projects on government land so far.

**H: How are the Development Plans put together? Who makes the designs?**

L: The basic ideas for those in Victoria came from the Victoria Masterplan. With the waterfront the initial concept was a bit different from the final one now. Normally the plans go through numerous stages of design and adaptations and amendments. Mainly it's the urban planners, Bernhard and me, together with an architect, normally one in-house, who make the designs. Then they get altered in collaboration with the board, the minister and other government departments. The Development Plans either get initiated by us [SPA] or by PPID. I don't think there were any cases of private involvement through a joint venture with a private company so far.

**H: Sometimes in the Masterplan it seems unclear how the step from identifying the need act to a fully-fledged project was made. For instance, with the financial district it is not very obvious how the ideas were developed.**

L: That's because for the Financial District there was actually already a concept before the Victoria Masterplan. Financial District was an MLUH [now MHILT] project already before the ARUP consultation. Some of the development has already taken place in the area, like Unity House, that was developed by the Seychelles Pension Fund. The land either belongs to the pension fund or is being leased by it. The changes

to the concept made in the Masterplan are only very minimal.

**H: How do the Development Plans relate to the Land Use Plans?**

L: The Development Plans need to be in accordance with the Land Use Plan. We always consult and adhere to the Land Use Plan when making a Development Plan. Sometimes, however, the DAs [district administrator] are very keen to push a development in their district. Then we at SPA only start to get involved in the Development Plan in a mid-stage rather than from the start. In these cases, the proposals might need to be adjusted if they don't agree with the Land Use Plan. But this only works in the districts where we have already reviewed the Land Use Plans. If we receive a request for a Development Plan in one of the other districts we need to base our decisions on something else. So, we go on a site visit and define the land use for the area of the Development Plan. These decisions then get transferred to the Land Use Plan when we get around to reviewing it. One example is the Bel Ombre Fisherman Development where we've finalised the Development Plan but have not yet reviewed the LUP. But at the moment we want to do all the Land Use Plans first and then the Development Plans afterwards. Coordination with the plans of district administrations has been difficult at times because they want to start on development plans themselves before the Land Use Plans are in place or without a holistic assessment of the situation. A good example of this is Anse Aux Pins and Ile Soleil where there are some very well-situated government plots that could help form a community centre. But, development has been rather uncoordinated so far with the various government departments focusing mainly on their own plots and projects. Because of this we have brought forward the Anse Aux Pins Land Use Plan so we can address the issues sooner.

**H: In the Anse Aux Pins Land Use Plan Draft, Urban Growth Boundaries (UGB) were defined. Could you elaborate what their intention is and how they were determined?**



L: For each district we have Urban Growth Boundaries. While reviewing the LUP we set these boundaries. Areas previously classified as medium density residential we reclassify as high density residential. Areas of low density residential are turned into medium density residential. Areas of housing estates are converted to high density residential with guidelines. So, the Urban Growth Boundary sets the boundary where these changes will happen, so where we review the land use. The assessment done by ARUP included calculations based on ratios of the number of houses per plot and the size of the parcels. This then determined the UGB. But while reviewing the land use plan for a district, such as Anse Royale, we applied the reclassification methods as described above but we often find some cases that cannot be changed. For instance, medium density residential and tourism cannot be changed into high density residential because some of the policies of the tourism law where you are not allowed to have tourism in high density areas. The tourism department has revised this rule, however, in certain cases. So, in summary, the Urban Growth Areas are the areas where intensification takes place. Between the UGBs we have Strategic Gaps. You will see those in the SLUDP in the Mahé Framework. These strategic gaps are for maintaining the character for each district. The Strategic Gaps are mostly located in between to centres of two districts that are Urban Growth Areas. The Strategic Gaps are mostly on the outskirts of the districts where land is mostly undeveloped marked by forests and trees.

**H: Are the UGBs and Strategic Gaps included in the LUPs?**

L: We use them as an overlay when producing the plans. We use many overlays in land use planning, mostly from the Mahé Framework. However, the Strategic Gaps and UGBs are not per se marked in the Land Use Plans. So, in the LUP some of the areas marked as Gaps can show up as residential. When we present the LUP at public consultation we make sure to explain the UGB and make the landowners understand if their plot falls within the UGB or outside it. This

is important for the landowners because most of the changes to the LUP we've done are within the UGB. It changes the land use designation of people's plot to an increased density.

**H: It also mentioned Development Contribution Areas. What are those?**

L: Development Contribution Areas are when you have a parcel within a development area and ask what the contribution of the private landowner is to the development area? An example could be the Chinese Pagoda in Market Street. So, if this area falls into a Development Plan the question is what the contribution of the landowner is towards the Development Plan. These contributions could be in terms of financing or maintaining any development or public amenities or public spaces. It's a contribution towards the community. It can also be development, for example, if private land is classified as a mixed-use area the contribution could be in terms of the gross floor area needed or the type of activities, they should provide in the building that benefit the community, e.g. a butcher shop. These Development Contribution Areas are a new idea that are up for discussion. The idea is that not only the government should chip in for community development but also the private landowners. We have not yet decided what the benefits of the landowners will be though.

**H: The same document also mentions Local Planning Policies. What are those?**

L: There might be the need to develop specific planning policy in a district. There are existing guidelines at the moment, for example like for the housing estates or residential design guidelines. Not all housing estates have the same guidelines. In the future there will be Local Planning Schemes or Policies for districts as well to enact certain restrictions. This allows to convert guidelines into policies. This is important because sometimes there is confusion as to what the powers of a guidelines are and what the powers of a policy are. Policies are more binding than guidelines. For example, we could better protect the Heritage of Victoria if the Urban Design Guidelines for Victoria was a policy. Local

Planning Policies and Residential Design Codes could be important to provide sufficient community facilities and design a functional neighbourhood. At the moment we don't have a local strategy for every district either, but it would be something to consider in the future. So, we might as well ensure that we get the district planning schemes including the scheme text and scheme map approved so we have a base to work on.

**H: The Financial District Concept Plan includes multiple differing concepts for the development of the Financial District. Were these developed in parallel or in succession?**

L: They were developed at different stages in time. Some of the previous versions had issues so we were given directives to prepare a new one. They were mostly prepared in house at the SPA. One was prepared by an external Architect Firm. At that time the land still mostly belonged to the Seychelles Pension Fund so they engaged an external office for the designs. In principle the designs are still in accordance with the proposal from the Victoria Masterplan. There might still amendments to be made. The land is currently still being leased by the Seychelles Pension Fund (a parastatal organisation) to various lessees, mostly for warehousing. Before the project can kick off the leases need to expire first. One plot has been demarcated for a private investor after having been subject to an exchange of land as the investors previous plot was too small for the proposal made for it. This exchange of land kicked off the Financial District Concept Plan as the new plot is within the district and therefore the guidelines had to be in place to start planning the plot. The multi-storey car park was on the verge of being approved when we were designing the concept for the district, so it still got approved although concerns were voiced.

**H: Has the concepts for the Financial District been approved?**

L: Yes. It is not sure when development will start, however, due to these leases on the land but these are long-term leases over a 60- or 90-year period. The private landowner is not subject to these leases so he can start development

according to the guidelines as soon as he wishes. The Pension Fund could also sublease some of the parcels for initial development. So, parts of the project could kick off soon, but others are likely to take a while still.

**H: Concerning the public consultation report from Anse Lazio. It stated a committee will be formed to discuss the land use planning issues in 2017. Has this taken place?**

L: This committee is actually the same committee as we are using to review the land use plans of all districts, so the Land Use Plan Committee. The committee now has its own budget to give the members an allowance to attend the committee meetings. The progress on the Anse Lazio meetings with the stakeholders was very good and very productive. The landowners understood our objectives and were content with the Land Use Plan. However, there was an issue of a lack of cooperation amongst some of the landowners including restricting their neighbours from developing. The SPA tried to facilitate to reach agreement on development. As of today, there is still one landowner on whom some things are depending including a road diversion. So, we are waiting for one developer to give us approval. The Anse Lazio Land Use Plan is still pending for these reasons but all in all the agreement among the landowners is higher than it had been for the consultation meetings. It was easier to get the landowners of Anse Lazio together to discuss the LUP than it would be elsewhere as it's only a small area around a bay. For consultation in large districts we can't have private committee meetings with all landowners like at Anse Lazio, so we have the public meetings. However, the approach of having a committee to discuss the issue with stakeholders could be very useful in the future when making Development Plan. A main source for disagreement with the plans seems to be the lack of information among the public. When we clarify our intentions and the purpose of the LUPs, approval for the Land Use Plans generally increases. The one on one meetings with the landowners gave them a sense of ownership of the plan so when we drafted them, they were far happier with the results. This approach of commencing with one on one

address of landowners before having public consultations was very helpful and could be used again in the future especially if the plans have a large impact on a property. In larger meetings some participations might have reservations about revealing their opinion to their neighbours. If we start with one on one the SPA can gather all the ideas and act as a facilitator.

However, when we presented the resulting plan for Anse Lazio we didn't have much turnout beyond the directly affected landowners at the bay, so not much of the general public.

## **E.9 Interview with Eric Talma: 10<sup>th</sup> June 2019**

Interview with Eric Talma, Project Architect at Infrastructure Department "PPID", 10<sup>th</sup> June 2019. H: Hawkes. T: Talma

**H: This is regarding the Beau Vallon Foreshore Development, a Development Plan. What is the current state of planning on this project?**

T: We are going to take some measures such as raise the level of the structures because they are uneven due to the roots of the trees. We are also planning for installing a permanent stage for the regatta rather than the current demountable version. If food is to be sold in the future, we are going to have standardized kiosks that are rented out on a licence. The plans you showed me are obsolete. We are not going to have these police stations that were planned. There's no design at the moment. We cannot develop a proposal unless we have the necessary information from a survey from the ministry of environment. The survey is on the greenery in the area, position, height, girth of the trees so they can be accounted for in the designs rather than being cut down. It's about minimising the human impact on the natural environment. We cannot cut too many trees because of the heat. The canopy acts as a shelter. All infrastructures that are part of this project are actually "ecological" or wooden. There won't be any concrete.

**H: Why has this original design become obsolete?**

T: The original plan was just made to show the general idea, more like a concept rather than an actual plan. The concept will pretty much remain the same, just the position of the structures will be different. Once we have the survey we can start designing. We'd provide a proposal that has to be approved by cabinet and all the ministries involved. This will be done with inputs from the Seychelles Planning Authority as well. But at as I said, at the moment we're still waiting for the survey which will take a while.

## Acknowledgements

To conclude, I would like to extend my thanks to those that contributed to the constitution of this thesis. This includes Markus Nollert who gladly accepted to supervise this thesis despite the increased co-operative efforts with other departments involved. This thanks also extends to Pius Krütli and Manuela Ronchetti as co-supervisors who gave valuable inputs and guidance along the way on numerous occasions. I wish to thank Pius in particular for enabling the cooperation with the Seychelles Planning Authority and the field work in the Seychelles.

Furthermore, I wish to thank the staff of MHILT for accommodating me at their workplace and for accepting to participate in the invaluable interviews conducted. In particular, this extends to the staff of the SPA who were not only most pleasant to work with but also engaged me in local recreational activities and the cultural life of the Seychelles. I sincerely hope that the presented work can contribute to assisting the Planning Authority through some of its current and upcoming challenges and to form the starting point of a continued co-operation between the SPA and ETH Zurich.

Finally, I wish to thank Jessica Weibel for proofreading as well as my parents for their moral support.