



Master Thesis

# **Mountain-based Ecotourism in Seychelles**

A Conceptual Study of the Potential for  
Diversifying the Country's Tourism Sector

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## Abstract

This Master thesis explores the potential of ecolodges and ecotourism development in Seychelles, particularly in the mountains of Mahé Island. This study is conducted in partnership with the Seychelles Tourism Department in order to explore potential development paths towards sustainability as a strategy to diversify the country's tourism offerings.

The research follows an exploratory qualitative research design structure and is based on an adapted version of an existing literature framework constructed on best practices from industry-leading ecolodges worldwide. In doing so, it is sought to build upon established knowledge while tailoring it to the unique Seychellois context.

The study aims to convey ideas in an emerging field of study by developing a virtual ecolodge cluster and presenting the theoretical feasibility of a virtual pilot project and the environmental and socio-economic benefits associated to it. It recognizes the importance of sustainable development in small island nations like Seychelles, which face unique challenges related to resource conservation and economic growth.

Additionally, the study presents potential theoretical development paths towards sustainability by comparing the findings of the virtual pilot project, the literature, the Seychelles Sustainable Tourism Label (SSTL) - which is the current way to assess the sustainability for the tourism accommodation industry in the country - and the Seychelles ecotourism strategy for 2040. This analysis aims to provide ideas on approaches that Seychelles can adopt to transition to a more sustainable tourism industry through ecotourism and sustainable ecolodges development.

The key findings of the thesis underscore the potential positive environmental and socio-economic impacts of ecolodges and ecotourism development in Seychelles. It highlights the importance of responsible tourism practices in preserving the pristine natural environment of the islands and creating economic opportunities for local communities.

The study presents high-end ecolodges targeting the high-end tourism market as an adapted strategy, considering the challenges and objectives of the country regarding tourism, to facilitate the transition from common mass tourism to improved sustainable practices.

However, a lack of reliable and accurate data limits the findings of this thesis. It is hence recommended to conduct further academic and practical research to procure more precise data, particularly concerning the social and financial aspects, as well as a market analysis to highlight the tourists' preferences and willingness to pay and an extended Environmental Impact Assessment (EIA) for the virtual pilot project. Nonetheless, it offers insights into the potential benefits and challenges of ecolodge development, providing a starting point for further research and encouraging Seychelles to diversify its tourism offerings in pursuit of sustainability and economic growth.

# Declaration of Originality



Eidgenössische Technische Hochschule Zürich  
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# 1. Introduction

## 1.1 Background and Rationale

In 2021, the tourism industry's direct contribution to global GDP was approximately 5.8 trillion U.S. dollars and before the COVID-19 crisis it was up to 9.6 trillion in 2019 (Statista Research Department 2023a). The share of total GDP worldwide generated by tourism and travel accounted for around 10% between 2000 and 2019 (Statista Research Department 2023b). Given the industry's remarkable contribution to global GDP, countries around the world have a keen interest in promoting policies that foster the growth and development of tourism.

The prevailing tourism model is common mass tourism (CMT), which is characterized by high volume and density, short-term profit orientation, seasonal nature, and lack of predefined ceilings (Weaver 1993). However, CMT has severe negative impacts on the environment and is not sustainable in the long run. It generates significant waste and overcrowding, leading to environmental degradation. Furthermore, CMT practices focus on short-term economic gains at the expense of environmental concerns, hindering sustainable development. Neglecting social concerns while prioritizing financial gain is another challenge in achieving sustainable development in CMT (Weaver 1993; Fennell and de Grosbois 2020). In opposition, there is a growing trend towards alternative forms of tourism (AT) and corporate social responsibility (CSR) initiatives (Stronza et al. 2019). They aim to provide an alternative to conventional mass tourism and address the negative impacts of tourism on the environment and local communities. AT and CSR prioritize social and environmental responsibility alongside economic goals, and encourage companies to take a long-term perspective on sustainability, often referred to as the “triple-bottom-line” approach for these economic, environmental and social considerations (Fennell and de Grosbois 2020, p485). The emergence of these initiatives signals a shift towards more responsible and sustainable tourism practices, which prioritizes the well-being of both people and the planet. One of the applications of these concepts is the development of ecotourism.

Despite not having a unique definition, ecotourism is described by the World Conservation Union (IUCN) as: *“Environmentally responsible travel and visitation to natural areas, in order to enjoy and appreciate nature (and any accompanying cultural features, both past and present) that promote conservation, have a low visitor impact and provide for beneficially active socio-economic involvement of local peoples”* (Drumm and Moore 2004, p15). On the other side, the United Nations World Tourism Organization (UNWTO) characterises ecotourism from a more business-oriented perspective as follows: a nature-based form of tourism with the goal to observe and appreciate the nature and the traditional cultures, with educational and interpretation features, usually small service provider partners and local businesses; a will to minimise the negative impacts upon the natural and socio-cultural environment; a generation of profit and opportunities for local communities, and an increase of awareness towards the conservation of natural and cultural assets for locals and tourists (‘Ecotourism and Protected Areas | UNWTO’ 2023). Small-scale ecotourism practices have long existed but only as a minor activity often adopted by local family business with a limited visibility.



The emergence of alternative tourism options and the diversification of the offer and the revenue streams has been slow and limited in scope. Deliberate ecotourism projects are not current at the moment and are mainly in the form of isolated private initiatives, or national parks and protected areas (Weaver 1993; Stronza et al. 2019). On the opposite, studies have been conducted on ecotourism for Small Island Developing States (SIDS) with the examples of Antigua and Barbuda (Walker and Lawrence 2022), Trinidad (Wuddivira et al. 2023), and Cousine Island in Seychelles (Samways et al. 2010). Ecotourism practices have not been adopted at a whole island scale for the moment (Fotiou et al. 2002).

Isolated small islands are a very specific case for tourism and ecotourism development. Their remoteness is at the same time their main attraction as it is favourable to pristine and paradisiac landscape and thus their biggest asset, but also a weakness as the capabilities are limited and the spatial constraints are especially high (d’Hautesserre 2016). In addition, tourism is a big share of GDP for such islands and creates a high dependency on that sector. Although the SARS-CoV-2 pandemic has caused a decrease in the number of tourists, resulting in a decline in the contribution of the tourism sector to the overall GDP, it is worth noting that tourism has consistently been a significant contributor to GDP. For example, tourism in Seychelles contributed for around 41% to the domestic GDP in 2019, 29% in 2020 and is expected to reach more than 45% in 2026 (Degenhard 2022). Adopting practices sustainable in the long term to continue to attract tourists is for these reasons particularly important for small islands that rely heavily on the tourism industry.

As in most places around the world currently, ecotourism or alternative tourism is a niche in the Seychelles. As stated before, tourism is a vital sector for the economy of the country and thus can have life-changing consequences on its whole population depending on the policy applied by the government. At the moment, in contrast with most of the accommodations available that are self-catering establishment and guesthouses owned by Seychellois, *“most hotels and resorts are owned by foreign transnational hotel chains with a propensity to import personnel, technologies, food and drink”* (Giampiccoli et al. 2021, p444). In fact, around 70% of the potential revenue of the Seychelles’ accommodation business are coming from foreign-owned and large high-end hotels with premium pricing (McEwen 2010). Top-end tourism has especially high entry barriers and needs a lot of capital to enter the market, excluding a big part of the local population. Continuing with mainly luxury hotels and self-catering accommodations or diversify the offer and the source of income for the country through alternative practices like ecotourism is the choice the Seychelles are facing with important consequences on the country’s brand, the internal competition, the average yields, the environmental protection, and finally the well-being of its citizens depending on it (World Bank 2013).

To increase domestic welfare, the Seychelles strategy encompasses a threefold approach: increasing the value of the Seychelles’ tourism industry while reducing the impacts on the environment, working on product enhancement and diversification for tourism and on a national scale, focusing on the local workforce to include the population in the country’s development (Seychelles Tourism Department 2023c).

In 2019, the peak number of visitors has been registered at around 383'000 (National Bureau of Statistics Seychelles 2023). The Seychelles aim to stick to this number of yearly tourists while increasing the revenue per visitor (Seychelles Tourism Department 2023d). The reason for this choice is that the Seychelles' islands are, an extremely space-limited area with high-priority ecological concerns, remote from international markets, a small-scale economy, and are vulnerable to external disturbances as climate change and sea level rising. Because of the will to increase the revenues without having more tourists, incentivising the spendings through an enlarged and enhanced offer is crucial, as a pure increase of the prices does not seem reasonable. On the other side, the ecological concerns are more threatening than ever and must also be addressed in the current and future strategic plans (Sustainable Travel International, 2023). To achieve this goal, more sustainable solutions are essential. One of the options mentioned by the government of Seychelles (GoS) for further development in the Strategic Plan for 2040 is to develop ecotourism more on the archipelago and more precisely in the mountainous area of the main island Mahé (GoS 2015). The goal is to make the Seychelles an ecotourism and cultural heritage destination (GoS 2015). Currently, there are no policy nor concrete project planned or implemented, it is still at the strategy stage (Seychelles Tourism Department 2023c). To explore this potential path of development, the present Master's thesis aims to study the challenges and the potential environmental and socio-economic benefits of the implementation of ecotourism on the mountainous region of Mahé. The objective is to complement previous studies conducted on sustainable tourism in Seychelles (e.g., Frey and Kruetli 2000; Günther 2004; Samways et al. 2010; Giampiccoli et al. 2021).

## 1.2 Research Question, Scope, and Objectives of the study

### 1.2.1 Research Question

For these reasons, the research question guiding this thesis is the following: "What are the ecological and socio-economic impacts of mountain-based ecotourism and ecolodges development in Seychelles? A conceptual study of the potential for diversifying the country's tourism industry." To answer to the research question, the scope and the objectives of the study are the following.

### 1.2.2 Scope of the Study

The chosen approach to analyse ecotourism in the context of Seychelles, is to focus mainly on ecolodges development. The activities that revolve around the ecolodges are also considered but the primary objective is to concentrate on the accommodation as it is one of the most business-focused infrastructure of ecotourism (Drumm et al. 2015). In addition to the financial relevance of ecolodges analysis in ecotourism, they do not only serve purely as places of accommodation but also as hubs for sustainable practices and immersive nature experiences (Drumm and Moore 2004). The centralization of these different components makes accommodation a pivotal element for studying ecotourism.

Another decision taken, is to primarily concentrate on the environmental and economic aspects of the triple-bottom-line. The social component is evoked and taken into account but there is no in-depth analysis of the perception of the local community or of the social impact of an ecolodge on its surroundings. The rationale behind this decision is that the goal of the thesis is to focus on the very basics of building an ecolodge and present ideas about ecolodges implementation as there are currently no constructed ecolodges in Seychelles nor planned ones (Seychelles Tourism Department 2023b). Nevertheless, the social aspect and the inclusion of the local community in the project are essential components of any ecotourism project and should be the objective of a further study or assessment in the future (4.2 Limitations and Further Research).

Finally, the study focuses exclusively on ecolodges in the mountains of Mahé. Alternative geographical areas on different islands could potentially be explored for ecotourism development. However, in alignment with the arguments outlined in the section presenting the outputs of the external factors (3.1.2 Outputs of the External Factors), the decision was taken to focus primarily on the mountainous regions of the main island due to the larger available space. The aim is to provide a range of replicable concepts that can foster increased awareness and promote sustainable practices within Seychelles' tourism industry. Although the study is mainly about a single project, it is aimed to generate general ideas applicable to other cases both in Seychelles and globally.

### 1.2.3 Objectives

The study aims to achieve several key objectives. Firstly, it involves the adaptation of an existing best practices framework for ecolodges to suit the unique context of Seychelles. Following this, the study presents various ecolodge concepts tailored to the Seychellois environment to give a non-exhaustive panel of possibilities for ecotourism in the country. It also involves the development of a virtual pilot ecolodge project, utilizing the adapted framework. Subsequently, the study delves into an analysis that compares the outcomes and impacts of this pilot project with the current sustainability practices in Seychelles. Lastly, the study aims to discuss development paths towards ecotourism and sustainable tourism for tourism diversification at the country's scale and worldwide.

## 2. Methodology

### 2.1 Exploratory Qualitative Research Design

The selection of an exploratory qualitative research design for this study is grounded in the need to adapt an established framework from the literature to Seychelles' particular case. With limited prior research on ecotourism in Seychelles, this approach allows for a flexible and versatile exploration of this nascent area. Qualitative research, employing semi-structured interviews, is well-suited for this context. It enables an in-depth exploration of how the adapted framework aligns with local practices, possibilities, and perspectives. This approach is particularly valuable in bridging the gap between existing literature and Seychelles' specific ecotourism challenges and opportunities.

### 2.2 Semi-structured Interviews

To build the pilot project stakeholders were consulted in semi-structured interviews. They consist of a preparation phase to establish a list of questions adapted to the particular profile of the interviewee. Firstly, an information and consent form is signed by the participant (Appendix A.1). The interview itself includes a phase of introduction and context of the study to familiarize the participant with the globality of the research. After that, the interviews are conducted using a semi-structured approach, which allows for a balance between pre-determined questions and the flexibility to explore additional topics or follow-up on interesting insights raised by the participants. It starts with broader, open-ended questions to encourage participants to share their perspectives and experiences. The interviews follow the ethics clearance approved by the ETH Zurich Ethics Commission. The discussions are recorded using detailed written notes taken by the person conducting the interview. Finally, the insights and data are analysed in the light of the other interviews conducted and findings from the literature following a flexible qualitative content analysis by theme without coding (Mayring 2014).

In total 8 interviews involving people from the Seychelles Tourism Department, the Ministry of Finance, the Seychelles Investment Board (SIB), the North Island Resort, and the Seychelles cable car project were conducted between the 10.02.23 and the 07.07.23. The table containing the information from the interviewees and the interviews can be found in the appendices (Appendix A.6 – Table 30). The topics discussed with the interviewed stakeholders are the following. First, several members from the Seychelles Tourism Department were engaged in interviews to gain a better understanding on the current practices of tourism in Seychelles, the objectives of the department and of the government for the future, and the sustainability practices in place as well as the targets for the tourism industry. To complete the general overview of the situation in Seychelles and its future goals, an interview was conducted at the Ministry of Finance. The conversation explored the financial situation of Seychelles and the economic objectives for the next years. In addition, interviews focusing more precisely on shaping the pilot project were conducted. The SIB provided information about project management in Seychelles including, policies, process, and guidelines on project development. Moreover, an onsite visit was organised at the North Island Resort to learn about their sustainability practices and environmental management. Finally, two interviews were conducted with the project team of the Seychelles cable car. The cable car project aims to link Victoria to



Beau Vallon with a station on the top of the mountain in between and is still currently in the planning phase (3.2.4 Partnership with the Cable Car Project). The discussions focused on feasibility and sustainable practices in construction and operations for projects in mountainous areas. Furthermore, it appeared that a partnership with the cable car project is a relevant option for developing an ecolodge in Seychelles. The discussions also encompassed exploration of the other options for ecotourism development presented in this study, providing a more comprehensive perspective on the potential landscape of ecotourism development in the region.

## 2.3 Frameworks

Despite the growing global significance of ecotourism and sustainable hospitality, the literature has remained relatively sparse in providing comprehensive guidance specific to ecolodges. In the context of this research, the choice of the framework of best practices for ecolodges sustainability by Fennell and de Grosbois (2020) is due to the fact that their study is one of the few identifying best practices from existing establishments building their comprehensive framework from real-world data. Notably, the framework presented by Fennell and de Grosbois (2020) stands as a pioneering effort to offer a structured approach to ecolodge management and sustainability. This uniqueness underscores the necessity of adopting their framework as it provides valuable insights into practical ecolodge management, making it a fitting choice for this study. The framework used in this study to build the virtual pilot project is an adapted version of the framework developed by Fennell and de Grosbois (2020) to the case of ecolodges in the mountainous areas of Mahé.

### 2.3.1 Original Framework

The original framework suggests that ecolodges' sustainability and best practices are shaped by the so-called ecotourism principles, internal and external factors, and a chain of decisions implying the stakeholders with a mechanism of audit and feedback as it is presented on the figure below (Figure 1 – Framework of Best Practices for Ecolodges Sustainability). Ecotourism principles refer to a set of values that form the foundation for sustainable and responsible tourism practices in natural and cultural environments (The International Ecotourism Society 2023). They aim to create a form of tourism that is both environmentally and culturally sensitive, economically beneficial to host communities, and supportive of conservation efforts.

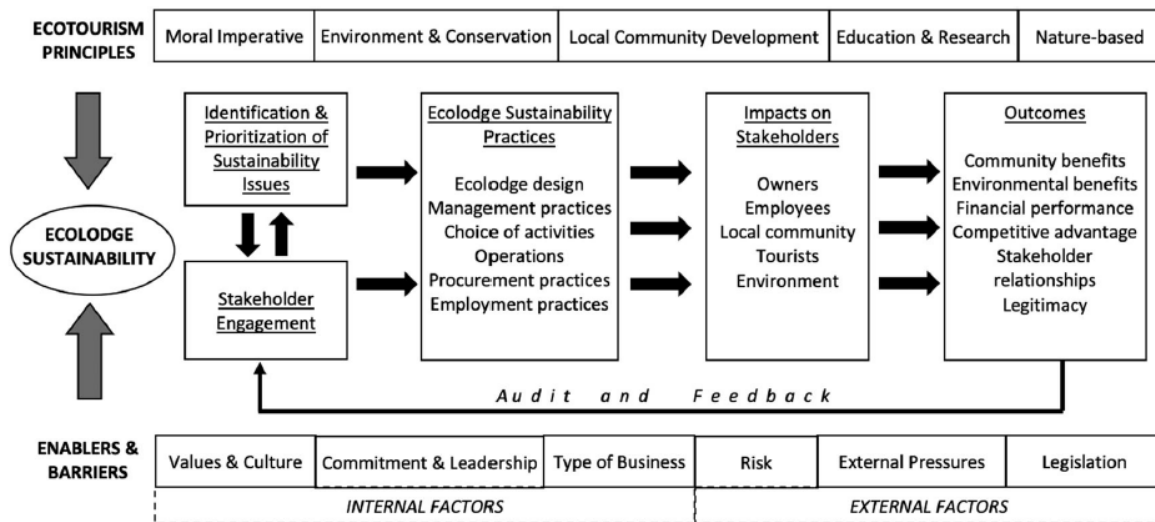


Figure 1 – Framework of Best Practices for Ecolodges Sustainability, Source: Fennell and de Grosbois (2020), p486

The original framework presents the following aspects. To treat the inputs of the model, namely the ecotourism principles and the barriers and enablers, the chain of decisions starts with an analysis and prioritisation of the sustainability issues by engaging all the relevant stakeholders. This phase is one of the most important ones as good practices will come from a complete understanding of the challenges and of the ecolodge’s environment. The following step is then shaping the ecolodge sustainability practices, it includes the design of the ecolodge itself, the internal infrastructure as well as the procurement and supply choices, and the activities that can take place around the ecolodge. The evaluation of sustainability concerns and both the internal and external elements, along with the management of the ecolodge, exert significant influence on the consequences for stakeholders and outcomes, such as community, environmental, and financial benefits. To ensure a dynamic supervision of the ecolodge and a better risk management, a system of audit and feedback is recommended both from inside and outside to be more resilient. In addition to these elements, the five ecotourism principles identified by Fennel and de Grosbois (2020) were further investigated in their study leading to the following list of themes and sub-themes for ecolodges, (Table 1 – Transcribed Original Ecotourism Principles, Themes, and Sub-Themes for Ecolodges; Appendix A.2).

Table 1 – Transcribed Original Ecotourism Principles, Themes, and Sub-Themes for Ecolodges, Source: Fennell and de Grosbois (2020)

Ecotourism Principles				
Nature-Based	Moral Imperative	Sustainability 1: Environment and Conservation	Sustainability 2: Local Community Development	Education and research
Themes				
1) Location in natural settings	1) Explicit statement indicating a commitment to sustainability or ecotourism	1) Sustainable lodge design and construction	1) Preserving socio-cultural heritage	1) Learning opportunities for tourists
2) Facilities (accommodation and infrastructure) with good access to nature	2) External recognition for sustainability/ecotourism efforts	2) Environmentally-friendly lodge operations	2) Social wellbeing	2) Influencing local people and staff attitudes to conservation and ecotourism
3) Availability of nature-related activities	3) Accountability	3) Biodiversity conservation	3) Contribution to the local economy	3) Opportunities for tourists to get involved
	4) Sharing profits with the community		4) Involving local people in ecolodge planning, design, construction and operations	4) Supporting research
	5) Contributions to social justice		5) Minimizing negative social impacts	
Sub-Themes				
		2.1) Water management	2.1) Supporting education	1.1) Environment-focused
		2.2) Energy management	2.2) Supporting health	1.2) Local culture-focused
		2.3) Waste and supply chain management	2.3) Supporting quality of life	
		2.4) Pollution and carbon footprint reduction	2.4) Employee wellbeing	
Best Practices Example				
1) Location in natural settings Access to area with high biodiversity	1) Explicit statement indicating a commitment to sustainability or ecotourism Providing environmental policy	1) Sustainable lodge design and construction Ensuring only local materials are used	1) Preserving socio-cultural heritage Traditional or locally-inspired architecture	1) Learning opportunities for tourists Guided nature tour

This non- exhaustive list of themes and sub-themes was derived from best practices of existing ecolodges. Additionally, the extended version including all the best practices can be found in the Appendices (Appendix A.2). The following points can be raised concerning the original ecotourism principles, themes, and sub-themes. These subjects can serve as a basis to evaluate the sustainability of any hotel, with a particular focus on environmental and social aspects. With the exception of the aspects related to contribution to the local economy and sharing profits with the community, the economic component is underrepresented in the presented principles of ecotourism and themes. This discrepancy is notable despite the inclusion of economic benefits in the UNWTO definition of ecotourism, which emphasizes the generation of “*economic benefits for host communities, organisations and authorities managing natural areas with conservation purposes*” (‘Ecotourism and Protected Areas | UNWTO’ 2023). Focusing only on the environmental and social aspects of the triple-bottom-line approach and neglecting the financial aspect can be harmful in the medium and long term. Following the framework presented previously, the environmental and social aspects are taken into account in the ecotourism principles, and the economical one is more evaluated in the internal and external factors through the business plan, and possibly in the external financial risks question (Figure 1 – Framework of Best Practices for Ecolodges Sustainability).

### 2.3.2 Adapted Framework

The adapted framework for ecolodges sustainability, presented in Figure 2, was adjusted to the objectives of the study and of the distinctive context of Seychelles. The modifications include a reduced focus on internal factors of the ecolodge due to the virtual nature of the pilot project. Conversely, external factors have been emphasized, reflecting the development climate and the challenges within Seychelles' tourism landscape. An added section about the outputs of the external factors, guides the selection of a target tourist segment and justifies the choice of mountainous ecotourism as a solution to the challenges presented. Four ecotourism development options aligned with Seychelles' context are presented. The core ecotourism principles remain, with some adjustments for clarity and relevance. The design analysis incorporates these principles, taking into account the local socio-environmental considerations and practices from North Island Resort, to the option for ecotourism development chosen as the virtual pilot project. A section analysing the financial aspect of the project is added as an output of the framework. Furthermore, the framework includes another output titled " Comparison between the Seychelles Sustainable Tourism Label (SSTL) and the Ecotourism Principles ". The existing sustainability criteria under the SSTL certification are evaluated against the ecotourism principles. This assessment aims to identify discrepancies and gaps, ultimately leading to a discussion on adapted criteria aligned with the ecotourism principles, encouraging more sustainable practices within the tourism industry. Finally, the last section of the adapted framework aims to present potential development paths towards more sustainable tourism practices at the country's scale.

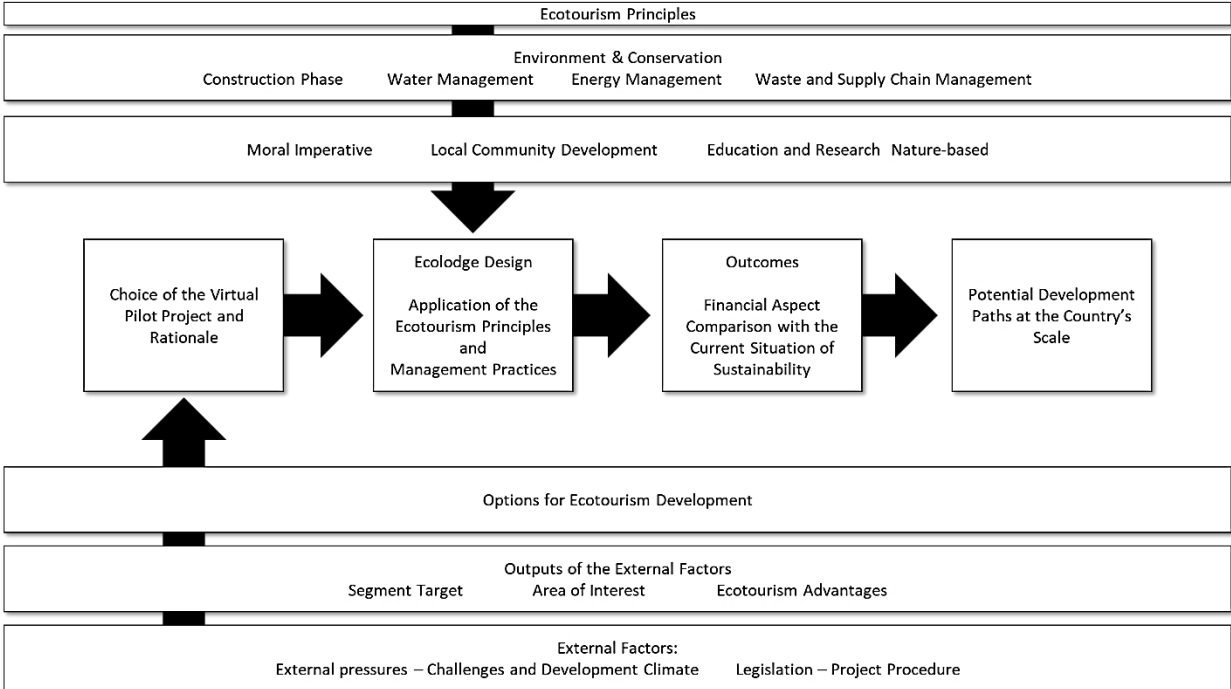


Figure 2 – Adapted Framework of Best Practices for Ecolodges Sustainability considering the Ecotourism Principles and the External Factors to shape the Virtual Pilot Project, Based on Fennell and de Grosbois (2020)



### 2.3.2.1 Internal Factors

First of all, the original framework makes the distinctions for the enablers and barriers between the factors internal to the ecolodge and the factors external to it (Figure 1 – Framework of Best Practices for Ecolodges Sustainability). The internal factors are presented in the original framework as the “Values and Culture”, the “Commitment and Leadership”, and the “Type of Business” (Figure 1 – Framework of Best Practices for Ecolodges Sustainability). But as the pilot project in this study is virtual and thus there are no team nor investors to build it, the “Internal Factors” section from the original framework inherent to the ecolodge and to the team is estimated as less relevant for this thesis and removed in the adapted framework. Focusing on the team developing the ecolodge is considered as less pertinent if there is no team. Instead, the adapted framework concentrates on the very basics for establishing an ecolodge in Seychelles. Nonetheless, the assessment of the type of business is still incorporated within the financial aspect section (3.4 Financial Aspect).

### 2.3.2.2 External Factors

The external factors from the original framework are the sections “Risk”, “External Pressures”, and “Legislation” (Figure 1 – Framework of Best Practices for Ecolodges Sustainability). On the opposite to the internal factors, a bigger emphasis is put on the external factors with adjustments made to the factors themselves. In the context of the present study, the following adaptation of the external factors is used.

The external pressure, presented as the feasibility and the costs (Fennell and de Grosbois 2020), is changed because the feasibility is already studied in the section “Design of the Ecolodge, Environment and Conservation” (3.3.1 Design of the Ecolodge, Environment and Conservation), and the financial aspect in the corresponding chapter (3.4 Financial Aspect). For the same reason, the feasibility risk and the financial risk are not further discussed in this section. The original framework was built on data from existing ecolodges. It results of an absence of elements to determine whether building an ecolodge at a specific location within the given context is justified and offers significant benefits. To palliate to this lack of context, the development climate of the country is introduced in the adapted framework, replacing the external pressures from the original one. The development climate refers to the overall economic, political, social, and environmental conditions within the country that influence the prospects for economic development, investment, and business activities. This part of the framework highlights the current challenges that the country is facing in terms of tourism.

The legislative question also plays a big role in any new projects. The policy from the country regarding new tourism accommodation is the following: *“All new tourism accommodation establishments shall be built within the context of a carrying capacity study and land use plan of the island, taking into account location, site dimension, density of rooms/chalets per site, and other relevant issues”* (Seychelles Tourism Department 2019, p3). In effect, there is a list of policies and regulations applying to project development in Seychelles and a general procedure to follow before receiving an approval from the government (Seychelles Investment Board 2023). For this reason, the legislation factor is slightly shifted to the procedure presentation.

### 2.3.2.3 Outputs of the External Factors

In order to address the challenges presented, the following section, which does not have a counterpart in the original framework, titled "Outputs of the External Factors" is introduced in the adapted framework (3.1.2 Outputs of the External Factors). This section aims to determine the target tourist segment and evaluate the inputs from the external factors, helping to determine whether and how ecotourism can serve as a potential solution to the presented challenges. Even though the choice of the segment target does not address and directly solve one of the challenges, it is a mandatory step to shape the pilot project and adapt its focus. Moreover, the evaluation of ecotourism as a solution to the problems faced by Seychelles in the tourism sector enables the development of an adapted response to the existing issues.

### 2.3.2.4 Options for Ecotourism Development and Choice of the Virtual Pilot Project and Rationale

Four different options for ecotourism development based on the outputs of the external factors are identified and presented with a preliminary analysis of the advantages and disadvantages for each case. As mentioned in the introduction, one of the options for ecotourism development is analysed more in depth following the adapted framework. The choice of the pilot project is based on components and hypotheses on the sustainability, the feasibility, and the financial viability.

### 2.3.2.5 Ecotourism Principles

The ecotourism principles are kept the same as the ones from the original framework as they form the basis for the analysis of the virtual pilot project. Nevertheless, the theme "Sustainable design and construction" as well as the sub-themes "Water management", "Energy management", and "Waste and supply chain management" from the ecotourism principle "Environment and Conservation" are adapted to "Construction phase", "Water management", "Energy management", and "Waste and supply chain management" and are placed on the same level as the four other ecotourism principles for developing the pilot project (Table 1 – Transcribed Original Ecotourism Principles, Themes, and Sub-Themes for Ecolodges; Figure 2 – Adapted Framework of Best Practices for Ecolodges Sustainability). The reason of this choice is that these themes and sub-themes are the most tangible and are mandatory for building and operating an ecolodge.

### 2.3.2.6 Ecolodge Design

The virtual ecolodge's design analysis involves applying the ecotourism principles to the pilot project in regard to the interviews conducted. This direct application of the ecotourism principles can be seen as an adapted version of the part "Ecolodge Sustainability Practices" from the original framework but with more emphasis on feasibility and on the best practices of the ecotourism principles' themes and sub-themes (Figure 1 – Framework of Best Practices for Ecolodges Sustainability). In effect, this section is constructed based on adapted best practices from the original framework. Both the best practices from the original study and the adapted ones are presented at the beginning of each chapter. In addition, the procedure of the mandatory environmental impact assessment (EIA) used to assess new project in Seychelles is taken into account to

respect the constraints of the country. The environmental management practices from North Island Resort are also included to enhance the realism of the approach.

#### 2.3.2.7 Financial Aspect

The financial aspect of developing an ecolodge's section is divided in two parts. The first one presents the general business case for ecolodges from the literature including financial data of real ecolodge projects and key characteristics for an ecolodge to be financially successful. The second part focuses on general and qualitative elements and their financial impacts on the virtual ecolodge and the local community around. The factors discussed are the size and degree of luxury of the ecolodge as well as the overall financial impact of developing an ecolodge on the local community.

#### 2.3.2.8 Comparison between the Seychelles Sustainable Tourism Label (SSTL) and the Ecotourism Principles

The current situation of sustainability is examined to do a comparison with the design and operations of the virtual pilot project. The criteria currently used for assessing the environmental impacts of accommodations and hotels leading to the Seychelles Sustainability Tourism Label (SSTL) certification, the different topics they belong too, and their impact are compared with the ecotourism principles and themes. The evaluation aims to identify any discrepancies or gaps between the existing sustainability certification and the principles of ecotourism. This assessment enables a discussion on the proposal of adapted criteria that align with ecotourism principles and have the goal to incentivize the tourism industry to more sustainable practices.

#### 2.3.2.9 Potential Development Paths

This section is structured into two parts. It outlines the development path towards ecotourism envisioned by the Seychelles government, detailing its objectives and its current status. Additionally, an adapted version of this strategy is presented, taking into account the findings of the study, and presents suggestions for potential development paths.

## 3. Results

### 3.1 Challenges and Requirements addressed by the Adapted Framework

The subsequent sections point out the challenges Seychelles are facing regarding tourism and the project procedure of the country in the section “External Factors” (3.1.1 External Factors) as well as the solutions addressing these particular points in the section “Output of the External Factors” (3.1.2 Outputs of the External Factors).

#### 3.1.1 External Factors

The objective of the “External Factors” section in this thesis is to provide the foundation for assessing the rationale and feasibility of implementing ecolodges in Seychelles, determining the target tourist segment, and presenting potential development scenarios.

##### *3.1.1.1 External Pressures and Challenges*

As presented in the introduction, one of the focuses of the government of Seychelles is to increase the revenues for the country as well as the average spending by visitor while lowering the environmental impacts. Currently, the total average estimated spending per visitor is decreasing (Seychelles Tourism Department 2023a). The reason of this drop could be a side effect of the shorter amount of times tourists spend in the country (Sustainable Travel International, 2023). To palliate to the decrease of average revenue per tourist, solutions aiming to extend the time spent in Seychelles are to be considered in order to increase the average trip duration (Sustainable Travel International, 2023). The first pain point to address is thus, diversify the offer to retain the visitors longer in the country.

The agency Sustainable Travel International stated in the latest carrying capacity assessment performed for the Seychelles Ministry of Tourism, Civil Aviation, and Ports and Marine that “*The current tourism product life cycle is reaching a tipping point of saturation and may soon decline.*” (Sustainable Travel International, 2023, p12). This saturation state means that Seychelles may no longer be able to accommodate additional tourists without negative consequences, both for the environment and for the visitor experience. This situation comes from the fact that, in a very short period of time, the current tourism model focused on sun and beaches has grown importantly while staying at a very low level of diversification leading to low spending per visitor and a low repeat rate (Sustainable Travel International, 2023). To alleviate the pressure of saturation on the land and on the environment, incentivizing a redistribution of tourists across different geographical areas can help avoiding reaching the saturation of sensitive sites. Therefore, the second point to be addressed is the geographical repartition of the tourists.

In addition to diversifying the offerings, the government aims to undertake an economic transformation that maximizes value capture across all industries, with a particular emphasis on the tourism sector (Ministry of Finance 2019). Currently, the large foreign-owned hotels generate an important cash flow, but the country’s direct benefits are limited as the money is mainly exiting the country. The inflow of money into the local economy of Seychelles is primarily limited to the currency exchange process (Ministry of Finance 2023). Notably, this currency exchange process brings money to the local



economy through the international tourists who exchange foreign currency for the local Seychellois Rupees (SCR) to cover their expenses during their stay. Due to the absence of direct benefits for Seychelles, it is imperative not only to increase revenue generation but also to capture and retain value within the country for the benefit of its population. Presently, self-catering facilities and guesthouses owned by Seychellois and bringing direct revenue to the country account for 66% of the available tourist accommodations, but the share revenue generated is 9% of the Seychelles' revenues for tourism accommodations (McEwen 2010). A higher inclusion of the locals in the high-end tourism industry both in terms of ownership and employment to capture value from the lucrative high-end market seems indicated to ensure a better repartition of the cash flow in Seychelles (Giampiccoli et al. 2021). The third challenge to address is for these reasons capturing value for the country through high-end tourism.

The available land for construction on Mahé is scarce due to its size. Moreover, obtaining a plot of land to build new projects is currently the most complicated part for investors in Seychelles due to its limited availability (Seychelles Investment Board 2023). There is a clear demand from investors to acquire land in Seychelles to develop projects but they are rarely given access to it (Seychelles Investment Board 2023). Acquiring land is thus a bottleneck for project development in Seychelles. An important part of the procedure to obtain a land approval for the investors and to evaluate future projects is the environmental impact assessment (EIA) as presented in the next section (3.1.1.2 Procedure). Even though the land scarcity is also a barrier even for sustainability driven project (Seychelles Investment Board 2023), putting a particular effort on the environmental component can help in getting a building authorization due to its importance in the evaluation procedure. The focus on green projects is one key element to have access to land for developing new ventures in Seychelles. In addition to the necessity of including the sustainable component for building any new project, additional benefits arise from environmentally driven projects. In effect, for tourism, the main asset from Seychelles is its natural beauty and is thus its most significant selling point from a marketing perspective. While there may not be direct financial incentives, like tax reductions, for green projects in Seychelles at the moment (Seychelles Investment Board 2023), it is important to consider the valuable indirect benefits that can arise from enhanced marketing. Consequently, the fourth focus point emerging from the development climate is a focus on environmentally sustainable projects both to allow the project development itself and for its financial and environmental benefits.

To summarize, the challenges that must be addressed by the ecolodge to be valuable at the country's scale are: to find solutions increasing the length of stay of the visitors to ultimately enhance the spendings in the country; to do a better geographical repartition of the tourists to avoid saturation and preserve the natural environment; to capture value from the tourism industry more efficiently for the country with a focus on high-end tourism; and to improve the quality of the offer by focusing on sustainability driven projects.

### *3.1.1.2 Procedure*

The procedure for project development application in Seychelles follows various steps and requires different documents from the promoter. The documents that have to be provided to SIB include a project summary, a business plan, and an environmental assessment and planning (EAP) (Seychelles Investment Board 2021; Ministry of Agriculture, Climate Change and Environment 2023). The business plan guideline from SIB for project management related to tourism accommodations and restaurants can be found in the appendices (Appendix A.4.1).

The project summary consists of information about the promoter and the shareholders with the percentage of the business hold by any of them and their nationality. The nationality of the shareholders is an important component as Seychellois and non-Seychellois people do not have the same legal rights when it comes to owning accommodations for tourism. In fact, ownership or investment in accommodations with 15 or fewer rooms is exclusive to Seychellois citizens, while for those with 16 to 24 rooms, non-Seychellois can hold up to 80 percent of shares, and for establishments with 25 rooms or more, full ownership is allowed for non-Seychellois but with encouragement for Seychellois partnerships (Seychelles Tourism Department 2019). In addition, information about the foreign direct investment (FDI) and the share of the total investment it represents are needed as well as the total number of jobs created once the project is in full operation with the proportion of local and non-local workers. Finally, a general description of the project itself and its wanted location have to be added to complete the project summary.

The business plan comprises several sections required (Appendix A.4.1). Initially, the synopsis provides a brief overview of the project's objectives. Subsequently, the project description offers a detailed insight into the proposed business, encompassing its products, services, and quality standards, with clear objectives outlined. Moreover, a technical description is needed, it covers aspects like the environmental considerations, the project size, and the architectural concepts. A financial analysis highlighting the capital expenditure, the operational costs like the salaries or the revenues and their source must be provided. Additionally, the business plan has to include the investment costs, the financing plan, and a section about the management and the future manpower required to operate the establishment. Furthermore, the business plan must include a marketing section. The elements required in this section are a description of the market the future project will compete in, the segment target it focuses, and the overall marketing plan. Lastly, aspects about the business structure, the implementation, and the environmental externalities must be presented, even if the environmental impacts are treated more in detail in the EAP.

The environmental planning process in Seychelles, treated in the EAP, involves various stages. It begins with assessing land suitability for the type of developments of the project, followed by reclassification requests for properties located within forest reserves or national park boundaries. For large-scale projects like hotels, an environmental impact assessment (EIA) Class 1 is conducted (Ministry of Agriculture, Climate Change and Environment 2023). This includes stakeholder consultations and a comprehensive analysis of environmental, social, and economic aspects. Detailed development plans are

submitted to the Planning Authority, which involves site visits to assess the potential environmental impacts (Ministry of Agriculture, Climate Change and Environment 2023). The stakeholders and the general public also have the opportunity to express doubts or complaints about the project that have to be addressed by the team developing the project (Ministry of Agriculture, Climate Change and Environment 2023). The overall goal of this procedure is to ensure that the project aligns with the environmental and sustainability considerations in Seychelles.

### 3.1.2 Outputs of the External Factors

The following sections aim to address the challenges previously presented. Moreover, the concept of segment target is explored as a critical consideration in tailoring the country's tourism offerings. Then, attention shifts to the proposition of ecotourism in the mountainous areas as a strategy to address the challenges while fostering sustainability.

#### *3.1.2.1 Segment Target*

Defining the customer basis is of the utmost importance for any new venture to tailor the offer to the demand of the future expected customers. It is even more true when introducing a new category of product to the market. One of the aims of the tourism department strategic plan for 2026 is to stick to the numbers of travellers arriving to the country to the 383'000 tourists from 2019 while increasing the revenues and the average spending per visitor (Seychelles Tourism Department 2023d).

This goal implies that the focus is still on luxury tourism even though diversification is planned on a national scale (Ministry of Finance 2019). High-end tourists are the clear focus of Seychelles to generate increased revenues by spending more or staying longer in the country without attracting more visitors. It is also explicitly stated in the Seychelles Vision 2033 that the optimal scenario for Seychelles is to continue to be recognised as a luxury and high-end destination for high-value tourists (Ministry of Finance 2019). In addition, the tourists attracted to ecotourism practices tend to be well-educated and possessing a high-level of income (Patterson 2007).

The current main attractions of Seychelles are its natural beauty and the exclusive experience the country offers. Enlarging the offer to propose premium alternatives to the tourists already coming to Seychelles seeking unique experiences is the challenge to be addressed in order to have a better repartition of the visitors mainly beach-oriented at the moment. An adaptation of Seychelles' branding and marketing is needed to facilitate this change from beach tourism to exclusive mountain ecotourism.

Moreover, it seems legitimate to leverage the existing supply and category of tourists for any new activity and tailor it to them as the existing wealthy category is the most promising to fulfil the objectives of the country. In the light of the decisions and objectives of the government, diverting the efforts towards targeting a new less-wealthy category of tourists seems counterproductive. Seychelles can by capitalizing on the established market optimize its limited resources, sustainably enhance revenue streams, and maintain the desired level of exclusivity that attracts high-value tourists seeking premium experiences.

### *3.1.2.2 Ecotourism in the Mountainous Area*

As mentioned before, a geographical diversification seems appropriate to smooth out the repartition of visitors and avoid crowded beaches. Considering the challenges presented, developing tourism deeper inside the lands and more precisely in the mountains emerges as the most suitable choice. This development path was already considered by the government of Seychelles back in 2015 when planning the strategic land use for tourism for 2040 (GoS 2015). In addition of distributing the tourists over different part of the island, there are two additional advantages of mountainous tourism. Firstly, the view and the quietness are a big argument in themselves to attract customers (Cobanoglu et al. 2021). Secondly, it can offer a brand-new nature-based exclusive experience for visitors coming in Seychelles. For these reasons, it fits perfectly with the strategy of diversification of the offer while being potentially attractive for the high-end segment target. In effect, high-value tourists can be willing to spend more time in the country to take part in an exclusive relaxing experience in the mountains and extend their stay to have access to it (4.2 Limitations and Further Research). The success of luxury resorts in Seychelles offering a large scope of relaxing activities exemplify this trend.

Even though mountainous tourism seems to be a promising path of development, additional features can be taken into account to be more future driven and sustainable. In fact, ecotourism is a valuable tool for promoting a sustainable use of natural resources and reducing threats to biodiversity (Drumm and Moore 2004). While the objective of ecotourism has expanded beyond purely economic considerations, unlike common mass tourism, selling a unique sustainable experience has its monetary attractiveness. For example, by prioritizing good relationships among stakeholders and ensuring a fair distribution of benefits, ecotourism can provide a competitive advantage and improved financial performance for operators (Fennell and de Grosbois 2020). Corporate social responsibility is therefore becoming an essential component of business strategy. Furthermore, the sustainability principles of ecotourism have the goal to ensure a bottom-up distribution of the benefits because of the indigenization of the processes and ownership as the local population is included in every step of the project (d’Hautesserre 2016). Because of the enhanced repartition of the benefits, ecotourism is an adapted mean to capture value more efficiently for the population and on a national scale. Moreover, premium ecolodges compete in the luxury accommodation market capturing value from the high-end market and not the local self-catering facilities and guesthouses. The sustainability commitment has the vocation to replace the benefits coming from mass tourism and economy of scale in the long term.

To conclude, the challenges presented in the section “External Pressures and Challenges” (3.1.1.1 External Pressures and Challenges) are for these reasons addressed by developing ecotourism in the mountainous area. In effect, this potential solution can improve the geographical repartition of tourists through its location and tackle the problem of saturated places. It allows to propose alternatives to the existing offer both through the setting in the mountains and through the new ecotourism experience offered incentivising visitors to stay longer in Seychelles. The social component of ecotourism of including the population in the project ensures that the value is captured more efficiently on a national scale and contribute to the local economy. Finally, the environmental nature of ecotourism and ecolodges guarantees a limited impact on the biodiversity implying a more sustainable business than the existing offer coming with the financial benefits described in this section. Therefore, building ecolodges in the mountainous areas of Mahé seems to be a promising long-term solution for Seychelles.

### 3.2 Options for Ecotourism Development and Partnerships

Based on interviews, reviewing documents and laws and regulations, four potential options for ecotourism development in the mountains of Mahé can be considered while taking into account the external factors and their outcomes. The goal of this section is to present ideas for different cases, but only one out of the four is analysed thoroughly in the present study. The structure of each option for ecotourism development is the following: a short introduction to the option for ecotourism development, an overview of the benefits focusing on the socio-environmental benefits and on the feasibility, the financial aspect, counterarguments against the project, and a brief conclusion. The options for ecotourism development are the following: an isolated ecolodge in the south of Mahé, an ecolodge in partnership with existing activities, a group of ecolodges linked together, and an ecolodge in partnership with the cable car project. The main characteristics of each option for tourism development are summarized in the table below (Table 2 - Main Characteristics of the Options for Ecotourism Development) and are developed more extensively in the succeeding sections (3.2.1 Isolated Ecolodge in the South of Mahé, 3.2.2 Partnership with Existing Activities, 3.2.3 Group of Ecolodges, 3.2.4 Partnership with the Cable Car Project)



Table 2 – Main Characteristics of the Options for Ecotourism Development

Criteria	Isolated Ecolodge	Ecolodge in Partnership with Existing Activities	Group of Ecolodges	Ecolodge in Partnership with the Cable Car Project
Reason of the choice as an Option for Ecotourism Development	Basis for the other scenarios	Focus on the bottom-up development of the local community	Presents a case of hard-diversification from an existing model	Integrated solution into the country's development landscape
Environmental Benefit	Limited due to the impact of the construction phase but important during the operations	Depends on the location of the project	Very limited due to the impact of the construction phase but important during the operations	Important due to the potential in-place green transport infrastructure
Feasibility	Limited due to the need of building the whole infrastructure around	Unknown as it needs to be driven by the local community	Very limited due to the need of a lot of land	Important due to the potential in-place green transport infrastructure
Social Benefit	Limited if too remote	Important if there is the will from the local community to develop this concept	Depends on the location of the projects	Important due to the easy access for the local community and the access for tourists to a wide range of activities
Financial Benefit	Limited due to the impact of the construction phase but important during the operations	Direct benefits for the local community	Need of a huge initial investment but with huge benefits if there is a market for this option	Important as the partnership cuts costs and enhance the economic region
Main Advantage	Creates a new compelling proposition for Seychelles' tourism industry's diversification	Directly linked to authentic ecological and traditional activities	Potential very high financial benefits through the new category of product offered	Benefits from all the advantages from ecotourism while offering access to a wide range of activities
Main Disadvantage	The remoteness impacts heavily the benefits especially during the construction phase	Needs to be driven by the local community	High risk project in terms of investment and uncertainties about the market	Dependency on the cable car project and potential loss of exclusivity

### 3.2.1 Isolated Ecolodge in the South of Mahé

This option for ecotourism development aims to present general ideas with characteristics that are not exclusive to the south of Mahé. This option is the most general one and many of its elements are applicable to other more specific ecolodges concepts making of it a basis for the other options for ecotourism development.

One optional area for building an ecolodge is in the south of Mahé. The southern part of Mahé is defined by the latest carrying capacity assessment as the region consisting of the districts of: Anse Aux Pins, Anse Royale, Au Cap, Cascade, Pointe Larue, and Takamaka (Sustainable Travel International, 2023). But, for the purpose of the study the districts of Anse Boileau and Baie Lazare can be included in the southern region in reason of their relatively low bed density and their geographic situation (Sustainable Travel International, 2023). Other districts located north of the highlighted region presenting low bed density and some of the same characteristics could also be considered (Figure 3 – Map of Mahé). In addition, not every south-location would be suitable for an ecolodge in the mountain as, for example, the district of Pointe Larue is mainly occupied by the airport.

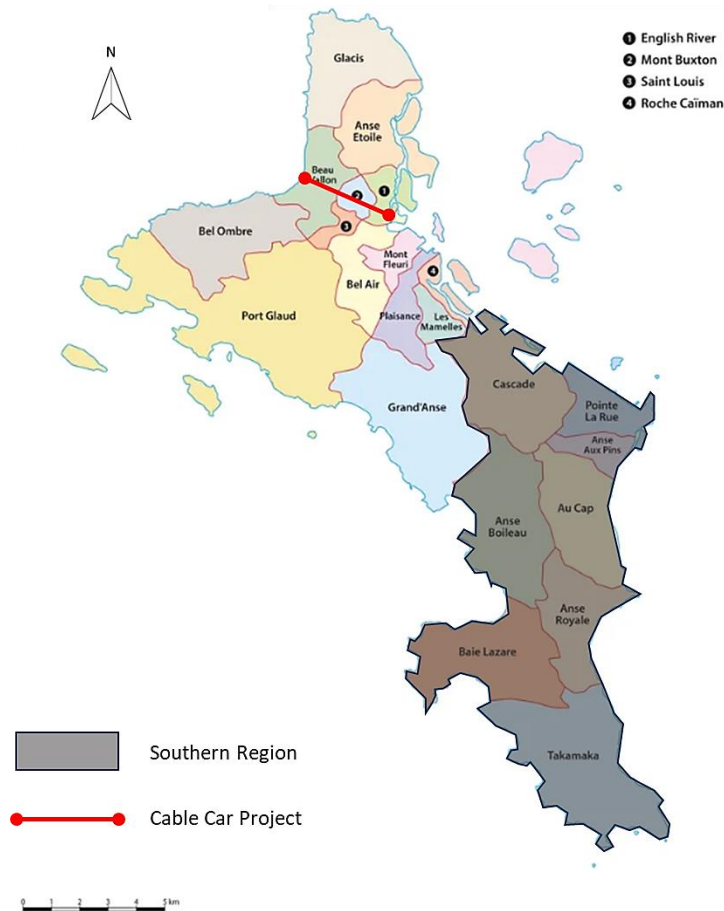


Figure 3 – Map of Mahé, Source: ('Administrative Map of Seychelles Island of Mahe' 2023)

The main characteristics from the mountains in the south of Mahé are their remoteness, quietness, and wilderness which are the main reasons behind the idea of building an ecolodge in this area (GoS 2015). The nature-based aspect from the ecotourism principles would be especially strong and well-represented. In fact, once in place, such a project would be almost only driven on the environmental aspect and on the exclusive and private experience. To stay coherent with the outputs identified from the external factors, a high-end establishment would make sense (3.1.2.1 Segment Target). Even though the ecolodge would present some characteristics of a luxury hotel, it is crucial to find the right balance between high-end features and the sustainability aspect of an ecolodge. The value proposition of such an establishment is a premium experience with a total disconnection from the outside world and a strong focus on relaxation and calm nature-based activities. Some potential activities offered by the ecolodge could be, walks nearby to explore the rich biodiversity of the region, the opportunity for the customers to participate in small manual tasks like cooking, trees planting, and gardening for example, or the possibility to take part in yoga sessions.

Furthermore, the financial prospects for such an ecolodge are promising. The existing supply of tourists in Seychelles demonstrates a strong interest in unique and exclusive experiences. The isolated location of the ecolodge in the mountains enhances its exclusivity and provides a sense of tranquillity and privacy for guests. This exclusivity, coupled with the immersive nature-based activities, creates a compelling value proposition, resulting in a potentially high willingness to pay from the target market. For

these reasons, this option seems well-tailored for the existing category of visitors coming into Seychelles. It can be attractive for wealthy and stressed tourists looking for an escape of the real world and wanting to focus on themselves through the nature setting (Cable Car Project Team 2023). In addition, the message of such an institution can be easily understood and doing the advertising of the establishment is also straight forward.

On the other side, the following disadvantages of an ecolodge in this area must be considered. The biggest pain point impacting the overall sustainability of the project is the construction phase. Indeed, if the remoteness is a major selling point, it is at the same time a big problem as it means that the ecolodge is isolated from any kind of infrastructure. The absence of a road is a big challenge to overcome, as building one is especially complicated considering the very limited space available in the island. Furthermore, the impacts of building a road on the biodiversity are significant and have detrimental effects highly hindering the environmental benefits of an ecolodge (Karlson et al. 2014). The remote location of the ecolodge may pose logistical challenges in terms of access and transportation. Infrastructure development and connectivity to key tourist areas would require careful planning and investment. Moreover, the travel time and therefore the pollution footprint of the employee once the construction is finished can also be a problem to come to an isolated location if they don't have the opportunity of having an overnight accommodation. It is also complicated to integrate the social component for this kind of spatially isolated project and include the local community as it is remote from everything (Dluzewska and Giampiccoli 2020). The social benefits and the contribution to the local economy can be limited. In addition to these environmental and social issues, some interrogations concerning the financial aspect can be raised. In effect, the cost of developing the whole infrastructure in addition to the ecolodge itself require a consequent amount of money and can discourage potential investors. Obtaining the approval from the government for a bigger scale project than just the establishment can be challenging as well (Seychelles Investment Board 2023). Finally, the ecolodge's isolated nature may limit the number of visitors and necessitate the establishment of strong marketing strategies to reach the target market effectively even if the value proposition is clear.

In summary, an isolated ecolodge situated in the southern part of the mountains holds great promise on one side. This location offers significant environmental benefits due to its natural surroundings and focus on nature-based activities. From a financial perspective, there is the hypothesis that the existing supply of tourists would have a high willingness to pay for such a unique and immersive experience. On the other side, the feasibility is questionable. A more detailed analysis is required to assess the impacts on the biodiversity and the financial investment needed for such a project to determine if the environmental and financial costs do not overweight the expected benefits (4.2 Limitations and Further Research).

### 3.2.2 Partnership with Existing Activities

An alternative approach could involve establishing the ecolodge in close proximity to an existing cultural or natural activity, allowing for direct integration through a partnership. Two of the potential activities that could be suitable for such a partnership would be the existing tea factory and plantations and a partnership with a traditional farm. Even if the boundary between ecotourism, community-based tourism, and agritourism would be thin, the selling proposition is to ensure real traditional activities and not made-up ones just for tourism amusement (Cable Car Project Team 2023). The main advantage of such a project is that it would be directly linked to authentic ecological and traditional activities creating new learning opportunities. Moreover, it would have a direct positive impact on the local population. The social component would be especially well-represented through the bottom-up distribution of the benefits and the direct spill over on the population (d'Hautesserre 2016). These aspects can be found in the ecotourism principles as education and local community development (Table 1 – Transcribed Original Ecotourism Principles, Themes, and Sub-Themes for Ecolodges). In addition to the benefits for the community described before, such an immersive and different experience can be attractive for the visitors.

One of the counterarguments for this kind of project is that there is only a limited number of activities available at the moment. Even though two ideas have been evocated, an additional study about the feasibility is needed (4.2 Limitations and Further Research). Furthermore, if the social component would be a strong advantage in a case of the success of the development of this kind of ecolodge, it can also be a barrier to its development. In fact, building a partnership requires additional efforts and cannot be taken for granted (Dluzewska and Giampiccoli 2020). The initial consideration should be given to the willingness of the stakeholders involved to develop a partnership. It does not make sense to start this kind of project without the support and implication of the locals.

To conclude, the social aspect is at the same time the strength and the weakness of a project based on the community and the activities already in place. Due to constraints regarding the scope of the thesis, the social analysis required for this project will not be conducted in this study (4.2 Limitations and Further Research).

### 3.2.3 Group of Ecolodges

Instead of focusing on a single ecolodge development, a different approach is to build several ecolodges in parallel and operate them as a group or link independent ones together. This can be done for example with trail paths connecting the different establishments. Hiking in the mountains from one accommodation to the next one is already a popular activity in other countries as for example in the Reunion Island (Dowling and Margueritte 2014). A high-end and less intense version can be imagined for Seychelles going from the Northern part of the island and the touristic area to the wild and quiet South (Cable Car Project Team 2023). Some of the positive aspects of a group of ecolodges are the following. The time spent in the country can be significantly increased. In fact, it would take a few days to do the ecolodges tour keeping the visitors longer on Mahé and therefore incentivising them to spend more money in local infrastructures. The group of ecolodges can be either operated as a single entity under the same brand and benefiting from economy of scale or include for example the three other options for ecotourism development presented in the study and focus on economy of scope. In the case of the second option, there would not only be diversification of the offer on the national tourism industry scale but also inside the group with different focuses. This would allow to create a new unique overall experience by coupling the hikes with the nature-focused aspect of a remote ecolodge, the learnings from a more cultural and community based ecolodge, and a direct access to other attractions as it is presented in the next section for the solution analysed more in depth.

Nevertheless, there are also some interrogations and potential downsides for this project. The interest of the shift from the existing offer focusing almost only on beaches and relaxation to an active type of holiday is debatable. In fact, this could be characterised as an “hard-diversification”. The willingness of wealthy tourists and the existing supply of customers to pay for this kind of experience has to be proven (4.2 Limitations and Further Research). Moreover, a project of this magnitude is more complicated to implement than a single ecolodge. It needs a way bigger initial investment if it is operated under the same brand or a well-in place partnership between the different entities in addition of building the trail paths. Getting the approval from the government might also be more difficult as the land needed is by far more important than for an individual ecolodge (Seychelles Investment Board 2023).

This option for ecotourism development can be seen as a high-risk high-reward project. The different prerequisites as the financial requirements and the coordination needed are important but if there is a market for such an offer it could be a long-term project with consequent benefits for all the stakeholders involved.



### 3.2.4 Partnership with the Cable Car Project

The option for ecotourism development chosen to be studied as a pilot project is the development of an ecolodge in partnership with the planned cable car project.

The project team presents the cable car project as follows. The concept revolves around the creation of a new product that caters to the significant influx of tourists visiting Seychelles. Simultaneously, it aims to establish an alternative and innovative urban transportation system to facilitate the daily travel of the Seychellois, particularly for those residing in the North of Mahé. This product will leverage advanced technology while seamlessly blending into the natural landscape and preserving the unique environment of Seychelles (Cable Car Project Team 2023). The goal is to link the capital Victoria to Beau Vallon which is one of the most popular destinations for tourists on Mahé. It is planned to have stations in each of these places and an additional one on the mountain in between called Creve Coeur station. The project's location is illustrated in the figure below (Figure 4 – Project Overview).



Figure 4 – Overview of the Project's Location (Appendix A.3), Source: Cable Car Project Team (2023)

The top station is particularly interesting as it would be the starting point of the virtual ecolodge pilot project. The intended plan is to have a restaurant at the Creve Coeur station and construct adjacent to it a nature reserve park, an orchid garden, a zipline, and landscaped social spaces (Cable Car Project Team 2023). The project is currently in the EIA and discussion with the stakeholders phase to obtain the final approval resulting from the lease of the required land (Cable Car Project Team 2023).

A partnership with the future cable car would present the following advantages. By assuming that the cable car will be constructed in the coming years, it emerges as the most integrated solution within Seychelles' existing infrastructure. This integration eliminates the need for constructing new roads, thereby preserving the natural surroundings, and promoting sustainable means of transportation. The cable car system acts as a convenient

and eco-friendly mode of arrival at the ecolodge. It is for these reasons the most promising option for ecotourism development in terms of feasibility. Furthermore, the partnership offers direct access to a wide range of activities for guests. There is on one side the ones next to the ecolodge as presented before, namely the nature reserve park and the orchid garden to explore the unique biodiversity of Seychelles, the zipline for a more adventurous stay, and the landscaped social spaces for exhibitions or spectacles. On the other side, due to the proximity of the Victoria station to the port, sea nature-based activities are easily accessible within minutes which is a rare feature for an ecolodge located in top of a mountain. There is also the possibility to enjoy aspects of beach tourism at the Beau Vallon beach on the other side of the mountain. The possibilities offered by the partnership allow a unique selling proposition to clients with the calm and features of an ecolodge and at the same time a central location and direct access to everything. Moreover, this location allows guests to experience both sunrise and sunset from a single vantage point (Cable Car Project Team 2023).

From a financial perspective, this project can be considered as a cost-cutting solution. In fact, the utilization of the existing cable car infrastructure significantly reduces the need for extensive development expenses. It applies for the construction of the ecolodge itself as the cable car can be used to bring the material on top of the mountain, but also for the water, the electricity, and the waste and logistics management. This approach minimizes costs and maximizes efficiency, enabling a more financially viable and sustainable operation. These aspects are detailed in the section “Design of the Ecolodge, Environment and Conservation” (3.3.1 Design of the Ecolodge, Environment and Conservation). Additionally, the social component of the project holds potential benefits. The ecolodge’s accessibility for workers and the encouragement of tourist mobility contribute to increased spending in the region, thereby positively impacting the local economy.

Nonetheless, some interrogations can be raised. The first one is about the cable car project itself. In effect, as the project is still in the planning phase the eventuality that it never arrives to the construction phase might exist. In this case, the location would still be interesting to build an ecolodge but a lot of advantages coming from the partnership would not be applicable. In addition, even if the proximity to other infrastructures has some benefits, the loss of exclusivity and quietness can be brought up. Nevertheless, there seems to be space north to the Creve Coeur station and to the planned nature reserve park to detach the ecolodge from the station (Appendix A.3). Further investigations must be done to find the right location and determine the best trade-off between proximity to the cable car and the exclusivity sought by the customers (4.2 Limitations and Further Research).

To sum up, the main reason of the choice of this option for ecotourism development as the virtual pilot project of the study is the following. An ecolodge developed in partnership with the future cable car infrastructures benefits from all the ecotourism principles but is at the same time integrated in a larger sustainable plan and present unique features as presented. The project is for this reason more feasible than an isolated initiative and can therefore be a pilot project at the country scale. As ecotourism is still a niche in Seychelles, developing a facilitated larger scale initiative can pave the way for further ecotourism development and facilitate the transition towards sustainable tourism.

### 3.3 Virtual Pilot Project

The objective of this part of the study is to present the virtual pilot project and analyse its potential contributions to sustainable tourism in Seychelles. The subsequent sections focus on the development of the virtual pilot project and highlighting problematics based on the semi-structured interviews conducted and within the framework adapted for the Seychelles context. It integrates the principles of ecotourism and considers the external factors from the previous sections. The following sections are the adaptation of the best practices identified from the ecolodges top performers in the original framework applied to the case of the partnership with the cable car project. The changes made to the original best practices are the results of the interviews conducted and the application of the environmental part of the procedure for project development mentioned before (3.1.1.2 Procedure).

#### 3.3.1 Design of the Ecolodge, Environment and Conservation

The virtual ecolodge's design is mainly developed based on the ecotourism principle from the adapted framework "Environment and Conservation" (Figure 2 – Adapted framework of best practices for ecolodges sustainability). The themes and sub-themes adapted from the study of Fennel and de Grosbois (2020) used to evaluate and shape the pilot project are the following: the construction phase, the water management, the energy management, and the waste and supply chain management (Figure 2 – Adapted framework of best practices for ecolodges sustainability). The best practices concerning this ecotourism principle can be found in the appendices (Appendix A.2 – Table 16)



### 3.3.1.1 Construction Phase

The construction plays a major role in the environmental impact for any kind of building. Three main components can be identified, the materials used, the transportation of the materials, and the integration of the construction in its surrounding (Table 4 – Adapted best practices for the section: Construction phase). The materials related best practices are kept the same as in the original framework. On the opposite, the topics related to energy are removed as they are already addressed in the section “Energy Management” (3.3.1.3 Energy Management) and the location choice is also not developed into further details as an EIA should be conducted in order to have real data about animal movements for example. Finally, the question of the materials transportation was added to the adapted framework as it is one of the critical topics for building in the mountains as well as for the future cable car project (Cable Car Project Team 2023). The changes made to the best practices from the original to the adapted framework can be seen in the two tables below (Table 3 – Original Best Practices from the Theme: Sustainable design and construction; Table 4 – Adapted Best Practices for the Section: Construction phase)

Table 3 – Original Best Practices from the Theme: Sustainable design and construction, Source: Fennell and de Grosbois (2020)

Themes and Sub-themes	Best Practices
Sustainable design and construction	Local materials: ensuring only local materials are used
	Integration with nature: blending with the environment, site-sensitive development with minimal or no landscaping, tree cutting, or earth movements, small lodge size to reduce impacts
	Environmentally-friendly or sustainable materials: renewable, natural, reclaimed, recycles, sustainably-sourced, or certified materials
	Sustainable construction and energy efficient design: natural ventilation system, passive cooling design, open concept, window screens, materials that counteract hot summer temperatures and cooler winter temperatures, using hand tools during construction to minimize land disturbance
	Location choice: taking into account effects on soil, water table, vegetation, animal movements, visual and aural implications

Table 4 – Adapted Best Practices for the Section: Construction phase, Based on Fennell and de Grosbois (2020)

Themes and Sub-themes	Best Practices
Construction phase	Materials: use of local material, environmentally-friendly or sustainable materials: renewable, natural, reclaimed, recycles, sustainably-sourced or certified materials
	Transporting the material to the construction site: selecting environmental-friendly transport practices
	Integration: effect on the visual, blending with the environment, site-sensitive development, minimal landscaping, avoiding tree cutting, size of the ecolodge

Regarding the materials, the best practice would be to work with local material in order to reduce the overall construction’s carbon footprint (Table 3 – Original Best Practices from the Theme: Sustainable design and construction). However, relying on local material for construction in Seychelles is complicated. The local timber is not suitable for

construction, and apart from the rocks needed for concrete, most materials have to be imported (Cable Car Project Team 2023). Although this practice can be pointed out as not sustainable and not following the ecotourism ideology, it is nevertheless mandatory in Seychelles in reason of the country's very limited production capabilities (Cable Car Project Team 2023). To mitigate the impact the focus can be oriented on importing environmentally-friendly and sustainable materials like renewable, natural, reclaimed, recycled, sustainably-sourced, or certified materials (Figure 4 – Adapted Best Practices for the Section: Construction phase). The material issue is independent from the choice of the type of project and the location within the country.

Building in an isolated and mountainous area presents significant challenges, particularly when it comes to transporting construction materials. Several transportation methods can be considered for such projects, including helicopters, road construction, hand-carrying materials, and using an existing cable car or building a temporary transport cable car (Cable Car Project Team 2023). Helicopters designed for construction and carrying material are not available in Seychelles (Cable Car Project Team 2023). As mentioned before, the impact on the environment of building a road are important and the construction is complicated considering the very limited space on the island (Cable Car Project Team 2023). Moreover, the environmental negative impacts from the road is not only related to its construction but also to its design and integration in the landscape and to its utilisation and maintenance (Karlson et al. 2014). For these reasons, building a road has downwards exceeding the construction phase. The manual transport option could be considered as it would be the most environmental-friendly option in reason of its absence of heavy machinery, but the costs associated may be high and the feasibility of the project potentially compromised due to the additional efforts and to the extended timeline required. Given the significant drawbacks associated with these methods, the concept of partnering with the cable car project emerges as a promising solution for the materials transport. Associating the ecolodge with the cable car project offers several advantages, including the ability to share infrastructure and reduce environmental impact by minimizing logistics installations if they are built in parallel (Cable Car Project Team 2023). This approach also presents cost-saving opportunities for both projects. Alternatively, considering the possibility of constructing the ecolodge after the cable car's establishment and transporting all construction materials via the cable car could yield similar benefits in terms of environmental impact reduction and cost-efficiency for the ecolodge project.

The best practices suggested about natural integration are blending with the environment, avoiding landscaping and tree cutting, and focus on small ecolodges (Table 4 – Adapted Best Practices for the Section: Construction phase). When considering visual implications, maintaining a discreet and harmonious presence is necessary. It is one of the focus points of the cable car team for the Creve Coeur station, initial sketches inspired from existing buildings like the Heritage Kandalama hotel in Sri Lanka can be found in the appendices (Appendix A.3). A similar approach is recommended for a potential ecolodge in order to blend into the environment as much as possible and minimizes any visual impact.

However, due to the project's location in a forested area, a complete avoidance of landscaping and tree cutting is not possible. The same problem would occur in any other mountainous area on Mahé as 88,4% of the land in Seychelles is under forest cover (Sustainable Travel International, 2023). Even if landscaping is not optimal from a biodiversity conservation point of view, it is a mandatory aspect of the project due to the high percentage of forested areas in Seychelles. Nevertheless, evaluating the impacts on the area of interest is an essential part of the EIA and must be carefully taken care of to minimize negative consequences and maximize the ecological benefits of the ecolodge within the context of the forested landscape (Ministry of Agriculture, Climate Change and Environment 2023). In addition, the EAP aims to assess the suitability of the land for the ecolodge project. In case the parcel of land is situated within a classified zone or within the boundaries of the national park, it becomes necessary to initiate a reclassification request (Ministry of Agriculture, Climate Change and Environment 2023). This step is essential to ensure compliance with environmental regulations and land use policies.

The potential size of the ecolodges rises several questions. From an environmental standpoint, smaller scale ecolodges offer advantages in terms of minimizing land use and reducing ecological impacts on the surrounding environment (Cable Car Project Team 2023). In fact, small accommodations would require less imported materials and allow a reduced resource consumption in general. Additionally, shorter construction times associated with smaller scale projects contribute to reduce emissions and disturbances during the construction phase. On the other side, the decision to focus on small accommodations must also consider the financial aspect and the overall profitability of the project. The financial aspect and the resulting impacts from the choice of the ecolodge's size is developed more in depth in its respective section (3.4 Financial Aspect).

### 3.3.1.2 Water Management

Water management is a critical aspect for mountainous accommodations. The pristine environment of the mountains demands a thoughtful approach to ensure the conservation of this valuable resource while meeting the needs of the guests. The topics of best practices presented in the original study are the following: Waste water treatment, reuse and water purification; Water conservation; Water harvesting and storage (Table 5 – Original Best Practices from the Theme: Water management). The topics are kept the same in the adapted framework, but the name of the first topic is changed to “Wastewater treatment” as the focus is brought on wastewater and the question of the drinking water is addressed in the part about water collection (Table 6 – Adapted Best Practices for the Section: Water management). The emphasis is placed on best practices about the treatment of wastewater for the water treatment part, the potential sources of water as rain or springs for the harvesting one, and the overall water consumption of the ecolodge as well as the ways of monitoring the consumption in the part about water conservation (Table 6 – Adapted Best Practices for the Section: Water management). The original best practices and the adapted ones can be found in the two tables below (Table 5 – Original Best Practices from the Theme: Water management; Table 6 – Adapted Best Practices for the Section: Water management).

Table 5 – Original Best Practices from the Theme: Water management, Source: Fennell and de Grosbois (2020)

Themes and Sub-themes	Best Practices
Water management	Waste water treatment, reuse and water purification: water purification system to supply clean drinking water, bio-filter systems for gray and waste water, construction of a wetland to treat the waste water from the kitchen and laundry before it enters the nature, gray water irrigation
	Water conservation: low-flow shower heads, towel replacement policies, low water use toilets, low water consumption dishwashers and washing machines, leaks reduction, disposable and compostable plates, asking guests to bring own linens
	Water harvesting and storage: rain or snow harvesting for laundry and irrigation, producing own water using desalination plant, using water from springs or boreholes

Table 6 – Adapted Best Practices for the Section: Water management, Based on Fennell and de Grosbois (2020)

Themes and Sub-themes	Best Practices
Water management	Wastewater treatment: small individual sewage treatment plant, bio-filters, septic tanks, composting toilets
	Water harvesting and storage: access to drinking water, rain harvesting, using water from springs
	Water conservation: low water consumption, monitoring the water consumption

The common practices to treat wastewater in remote areas are the use of small individual sewage treatment plants, bio-filters, septic tanks, and wetlands (Buckley 2003). Even if it is one of the most ecological solutions in other cases, building a wetland to filter the water

on top of a mountain does not seem feasible nor beneficial. To determine which solution would make the most sense for the virtual pilot project the most critical component is the size of the ecolodge. In fact, using a septic tank with bio-filters for the greywater and wastewater and composting toilets for the human waste is an appealing ecological solution for small-scale systems (Anand and Apul 2014). On the other side, a small individual sewage treatment plant make sense for bigger projects and is notably used at the North Island Resort to treat the water for the whole island (North Island Resort 2023). In addition, a solution applicable to the partnership with the cable car, but usually complicated for remote places, is to have access to a connexion to the Public Utilities Corporation (PUC). In effect, the Creve Coeur top station will be connected to the PUC water system enabling a potential easy connexion to the virtual ecolodge (Cable Car Project Team 2023). A further analysis is needed during the EIA process considering in priority the size of the ecolodge to determine which solution is the most adapted environmentally and economically (4.2 Limitations and Further Research).

The second question to address is the access to water. Currently, Seychelles primarily relies on reservoirs, rivers (surface water), and boreholes as its main water sources as well as desalination plants depending on the intensity of the dry season (Public Utilities Corporation 2021). The sources of drinking water planned to be used by the cable car top-station are spring water and rainwater. Nevertheless, these sources are estimated as not sufficient, and will be complemented by water coming via pipes from the PUC (Cable Car Project Team 2023). It seems legitimate to focus on the same source of water as the cable car project for the virtual ecolodge, namely the spring and rainwater, as other means like desalination are less applicable to the mountainous context (Buckley 2003). Moreover, the size of the virtual ecolodge also plays a big role to determine the supply of water needed and the necessity to have an additional source of water coming from the PUC. In addition to the wastewater question, the EIA should include an analysis of the future demand in water of the ecolodge.

Several means exist to reduce the water consumption. The best practices mentioned by Fennel and de Grosbois (2020) for water conservation are using low-flow shower heads, having towel replacement policies, using low water consumption toilets, dishwashers and washing machines, reducing leaks, using disposable and compostable plates, and asking guests to bring their own linens (Table 5 – Original Best Practices from the Theme: Water management). Some of these best practices have a relatively minor impact on visitor comfort like for example the choice of low-consumption equipment. On the opposite, bringing their own personal belongings have a direct impact on the consumer and on the level of comfort and luxury perceived. Therefore, it is imperative to find the right trade-off between the environmental concerns and the comfort of the customer in adequation with the target market of the establishment. The segment identified in its respective section is high-value tourists seeking for exclusive and premium experiences (3.1.2.1 Segment Target). Consequently, a relevant approach to address this challenge would be to do a market analysis with the ultimate goal being to determine which is the minimal level of comfort, and thus the best option in terms of environmental impact, acceptable for the tourists looking for an exclusive stay (4.2 Limitations and Further Research). Regardless of the luxury level, monitoring the water and avoiding leaks is essential to conserve this valuable resource.

### 3.3.1.3 Energy Management

Energy management and transitioning to sustainable and renewable energy solutions are pressing contemporary issues. This holds even truer for sustainability-driven projects such as ecolodges. The topics addressed in this section are the use of renewable energy to power the ecolodge and the energy conservation (Table 8 – Adapted Best Practices for the Section: Energy management). The topic “Solar water heating” from the original framework is included in the use of energy to power the lodge part (Table 7 – Original Best Practices from the Theme: Energy management). The original best practices, as well as the adapted ones, are listed in the two tables below (Table 7 – Original Best Practices from the Theme: Energy management; Table 8 – Adapted Best Practices for the Section: Energy management)

Table 7 – Original Best Practices from the Theme: Energy management, Source: Fennell and de Grosbois (2020)

Themes and Sub-themes	Best Practices
Energy management	Use of renewable energy to power the lodge: solar, wind, geothermal power, alternative fuels (e.g. olive pit charcoal) to light, heat or cool the lodge
	Energy conservation: low-wattage light fittings, providing no electricity in the rooms, use of lighting sparingly, no air conditioning, energy efficient appliances, using only essential electrical appliances, air drying the laundry
	Solar water heating: used for showers and pool

Table 8 – Adapted Best Practices for the Section: Energy management, Based on Fennell and de Grosbois (2020)

Themes and Sub-themes	Best Practices
Energy management	Use of renewable energy to power the lodge: electricity production, heating and cooling
	Energy conservation: low energy consumption, monitoring the energy consumption

The listed best practices about renewable energy are the use of solar, wind, and geothermal power (Table 7 – Original Best Practices from the Theme: Energy management). The use of the wind power and the installation of wind turbines seem to be complicated in terms of feasibility while respecting the concept of an ecolodge blending into its surrounding as presented in the section about best practices for the construction phase (Table 8 – Adapted Best Practices for the Section: Construction phase) (3.3.1.1 Construction Phase). The geothermal potential of the area should be assessed to determine if it is a meaningful option for this zone, but it has not been done in this study (4.2 Limitations and Further Research). The solar power can be considered. Nevertheless, this solution was described as a good option by the cable car team during the interview, but the power generated will very likely not be sufficient for the whole consumption of the ecolodge (Cable Car Project Team 2023). Using the opportunity to have a potential connexion to the PUC facilities was also recommended to fulfil the need of the establishment (Cable Car Project Team 2023). Being connected to a power grid is not included in the best practices options for ecolodges but it could be needed to ensure the level of comfort expected by the clients.

The other big topic to address is the energy consumption. As for the water management, the energy conservation can be divided in two categories. On one hand, the measure having a relatively low impact on the comfort of the customer like using low-wattage lights and energy efficient appliances, or air drying the laundry (Table 7 – Original Best Practices from the Theme: Energy management). On the other hand, the practices affecting the comfort like providing no electricity in the rooms and not having air conditioning (Table 7 – Original Best Practices from the Theme: Energy management). The low impact practices are encouraged, but it is more debatable for the impacting ones. In fact, providing a too rustic offer for the class of tourists coming to Seychelles could be damageable for the business. In opposition, offering the exact same service as every high-end hotel would importantly hinder the environmental benefits of the accommodation and could also be seen as greenwashing if the name “Ecolodge” is used for the establishment. The minimal expected service should be further analysed as mentioned before. However, some services are estimated as mandatory as for example using energy for refrigerating the perishable food (Cable Car Project Team 2023). Air conditioning could on the other side be absent from the ecolodge. It is possible to cool rooms purely by design or thank to air convection through the use of fans (Cable Car Project Team 2023). This is notably the solution used by the premium and exclusive North Island Resort with success (North Island Resort 2023). Compromises have to be made between the environmental benefits and the comfort of the clients.

### 3.3.1.4 Waste and Supply Chain Management

Waste and supply chain management are pivotal components that shape both the environmental impact and sustainability of operations. This section delves into strategies and best practices aimed at minimizing waste, optimizing resource use, and fostering responsible supply chain management within the context of the virtual mountain ecolodge project. The topics of best practices from the original framework about reducing, sorting, reusing and recycling waste, optimising the organic waste disposal, adopting sustainable supply practices, treating sewage, and buying sustainable food are grouped into two distinct topics (Table 9 – Original Best Practices from the Theme: Waste and supply chain management). These topics addressed in the adapted version of the best practices are the supply practices and the waste disposal (Table 10 – Adapted Best Practices for the Section: Waste and supply chain management). The adaptations are presented in the tables below (Table 9 – Original Best Practices from the Theme: Waste and supply chain management; Table 10 – Adapted Best Practices for the Section: Waste and supply chain management).

Table 9 – Original Best Practices from the Theme: Waste and supply chain management, Source: Fennell and de Grosbois (2020)

Themes and Sub-themes	Best Practices
Waste and supply chain management	Waste reduction: minimize or eliminate single-use plastic, packaging, batteries; buying in bulk, minimizing food waste (e.g. adoption of a nose-to-tail philosophy), soap and shampoo served by dispensers, donating reusable linen bags to community, providing reusable water bottles or cups (stainless steel, ceramic, clay), complimentary filling stations
	Sorting, reusing, recycling waste: recycled materials used to make slippers, decorations, souvenirs, planters; plastic and glass bottles used as building or crafts and arts materials; cans and boxes given to locals for reusing
	Organic waste disposal: composting; feeding waste to local livestock
	Sustainable supplies: using biodegradable and toxic free cleaning products, hand soaps, bathroom amenities, organic spa products; using supplier code of conduct
	Sewage treatment: composting toilets, turning waste into biogas used as cooking fuel, using animal waste as fertilizer or building material
	Buying sustainable food: sourcing organic, free range, fair trade and sustainably farmed produce, organic fruit and vegetables, seasonal food

Table 10 – Adapted Best Practices for the Section: Waste and supply chain management, Based on Fennell and de Grosbois (2020)

Themes and Sub-themes	Best Practices
Waste and supply chain management	Supply practices: using biodegradable and toxic free products, offering local and sustainable farmed food, reducing waste
	Waste disposal: sorting, reusing, recycling waste, composting, using waste as fertilizer, disposing of non-organic waste

The supply practices for the ecolodge can be divided in two categories, the products that can be produced onsite and the ones that require to be imported. To reduce the environmental footprint of the transport and offer a traditional experience to the guests,



it is recommended to produce as much local food as possible onsite to reduce the need for external sourcing (Drumm and Moore 2004). To this end, the ecolodge could include a vegetable garden growing a variety of vegetables and herbs, using organic and environmentally friendly methods to ensure the highest quality produce. Treated greywater coming from the ecolodge could be used for the irrigation optimising the water management of the ecolodge (Buckley 2003). In addition, a small poultry farm could also be maintained, where chickens are raised in accordance with ethical and humane practices. This would allow to provide guests with fresh eggs and meat, sourced directly from the farm, reducing the need for external supply chains and promoting local and sustainable food production. Even though these practices seem beneficial environmentally and financially for the ecolodge, it is important to ensure that the landscaping stays at a minimal level and it blends with the environment (Table 4 – Adapted Best Practices for the Section: Construction phase). For the items that must be imported, such as specialized equipment or certain food products in case the onsite supply is not sufficient, responsible sourcing and selecting products with minimal packaging waste should be prioritized (Drumm et al. 2015). The option adopted by the North Island Resort is to produce onsite all the food for the employees taking care of the island and the resort, and to import the luxury ingredients for the customers (North Island Resort 2023). This approach, regarding the local workers, allows to reduce the environmental impacts while being financially attractive. The choice was made to ensure the maximal luxury service to the clients and to not reduce the offer on the menu for ecological reasons. Even if it makes sense in this case of extreme high-end establishment, encouraging the consumption of local food for the guests of the virtual ecolodge seems more adapted to the concept of an ecolodge (Drumm et al. 2015).

One of the advantages of producing food onsite is the reduced amount of waste generated, especially the non-organic one which is the most problematic type of waste. In effect, the best practices about non-organic waste are to reuse and recycle the materials as much as possible (Table 10 – Adapted Best Practices for the Section: Waste and supply chain management). In cases where reuse or recycling isn't viable, and waste disposal becomes necessary, it is recommended to collect and take the waste materials down from the ecolodge to the base station via the cable car system (Cable Car Project Team 2023). This method allowed by the presence of the cable car ensures the safe and efficient removal of waste, while also minimizing any potential harm to the pristine mountain environment. Nevertheless, organic waste should represent most of the waste if the majority of the food is produced onsite. This organic waste can be harnessed as a valuable resource rather than discarded through the implementation of compost systems (Buckley 2003). Moreover, it allows to create a closed-loop system that enriches the soil used for onsite agriculture. This approach not only minimizes waste disposal but also contributes to the self-sufficiency and resilience of the ecolodge.

### 3.3.2 Nature-Based

The essence of an ecolodge is its deep-rooted connection with nature. A nature-based ecolodge offers a sanctuary where guests can escape urban life, immerse themselves in nature's beauty, and reconnect with the environment (Patterson 2007). It signifies a commitment to the environment and a deep understanding of the relationship between travellers and the natural world. The best practices for the nature-based ecotourism principle identified by Fennel and de Grosbois (2020) can be found in the appendices (Appendix A.2 – Table 14). The themes guiding these best practices are: being located in a natural area, having an accommodation and an infrastructure with a good access to nature, and offering nature-related activities (Appendix A.2 – Table 14).

The interest of building an ecolodge on top of a mountain under forest cover is to be in a remote natural area providing unique features. Even though the choice of the option for ecotourism development of the cable car partnership is not the one located in the wildest area of Seychelles, it offers a potential access to untouched nature north of the virtual ecolodge and the possibility to visit the future nature reserve park and orchid garden south of it (Appendix A.3). This feature can compensate the fact that the Creve Coeur region is not located in the Morne Seychellois National Park and is not a biodiversity hotspot by itself (Sustainable Travel International, 2023). The notion of “hard to access” from the best practices also requires some nuance. One of the goals of the partnership with the cable car is to have an easy access to the ecolodge while being inaccessible through other means. This option represents a compromise between a sole focus on isolation within a biodiversity hotspot and the practical feasibility of the project.

The accommodation and infrastructure providing with a good access to nature theme encompasses subject as the style of the accommodation, the view it offers, and an absence of electronic features like television or Wi-Fi (Appendix A.2 – Table 14). In effect, the objective of adapting the architecture is to harmonize the ecolodge with its natural surroundings to create a blend between the built environment and the wilderness. Guests should feel like they are an integral part of the landscape, and the design should facilitate a sense of immersion in nature (Nowaczek and Smale 2010). In addition, the view allowing to observe from the same place the sunrise and the sunset as well as Silhouette Island on one side and the Ste Anne Marine National Park on the other side plays a big role in the choice of this option for ecotourism development as the virtual pilot project. The decision of not providing the guests with electronic features is understandable in the case of certain ecolodges to encourage a deeper connexion to the nature and a more unique stay. It is also beneficial environmentally and financially in reason of the reduced consumption of energy and the absence of the costs it generates. Nevertheless, this decision should be taken while considering the target market and the expectations of the future potential guests.

The last theme focuses on the activities that can take place around the ecolodge (Appendix A.2 – Table 14). As mentioned before, the opportunity to have nature-based activities close to the ecolodge are mainly artificial as it is not a biodiversity hotspot. It would be mainly restricted to the activities offered by the Creve Coeur station and the vegetable garden. However, the unique location of the ecolodge allows a quick access to land activities like hikes in the national parc or water activities like snorkelling thank to the

proximity of the boat charter in Victoria. Excursions organised by the ecolodge can be considered to take advantage of the ecolodge's connectivity. It would ensure a choice of activities that align with the ecolodge's commitment to sustainability and environmental conservation as all nature-based activities offered by a lodge are not necessarily part of ecotourism. For example, a distinction is made between nature-based activities like fishing and hunting and nature-based activities not hurting the wildlife offered by ecolodges (Nowaczek and Smale 2010). Customized packages encompassing both land and water activities could be presented to guests, catering to their individual preferences and desires. While the ecolodge's location may not be nestled within a pristine wilderness, its strategic connectivity to diverse activities, its commitment to sustainability, and its ability to provide nature-based experiences offer a unique blend of environmental conservation and activities for guests.

### 3.3.3 Moral Imperative

The new category of tourism is categorised by its ethics (Butcher 2005). Ecotourism is one of the most representative applications of these ethical practices. Indeed, the ecotourism principle moral imperative identified in the original study includes the following themes: “Commitment to sustainability or ecotourism”, “Seeking external recognition for sustainability efforts”, “Accountability”, “Sharing profits with the community”, and “Contributions to social justice” (Appendix A.2 – Table 15). The theme related to sharing the profits with the community is treated in the section about the financial aspect (3.4 Financial Aspect). The other themes can be grouped into two distinct topics namely, developing and applying policies, and taking credit for them.

The policies should address a range of subjects that collectively form the foundation of responsible and sustainable operations. Environmental policies are paramount, encompassing guidelines for resource conservation and habitat preservation as described in detail in the preceding sections. Equally crucial are community engagement and fair labour policies, which allow respectful interactions with local populations and the creation of equitable job opportunities. Additionally, the best practices emphasize the adoption of supporting gender equality and eliminate all forms of discrimination (Appendix A.2 – Table 15). The environmental, social, and financial aspects of the triple-bottom-line should be reflected in the ecolodge’s policies to transition to more responsible and sustainable tourism practices (Stoddard et al. 2012).

Recognizing and taking credit for the ethical and sustainable policies applied is an essential component of responsible ecolodge operations (Appendix A.2 – Table 15). In fact, marketing efforts that transparently communicate these policies serve different purposes. Firstly, they inform potential guests about the ecolodge's commitment to ethical and sustainable practices. This information helps travellers to make informed choices, encouraging them to choose accommodations that align with their values (Krizman Pavlovic 2019). Secondly, it contributes to the accountability of the ecolodge (Appendix A.2 – Table 15). When ecolodges report their performance and policies, they encourage examination and input from both visitors and the broader community. This external review can help identify areas for improvement and innovation, demonstrating the transparency of the project. Moreover, responsible marketing builds trust (Krizman Pavlovic 2019). Guests are more likely to support ecolodges that demonstrate a genuine commitment to sustainability and ethical conduct. When an ecolodge's marketing aligns with its actual practices, it not only attracts environmentally conscious travellers but also cultivates loyalty among existing guests (Krizman Pavlovic 2019). Applying sustainable policies improve the environmental benefits of the ecolodge and the induced enhanced marketing is an important indirect source of revenue.

### 3.3.4 Local Community Development

Local community development is an important aspect of ecotourism and sustainable hospitality. It represents a conscious effort to not only coexist with, but also actively support and enhance the well-being of the community in which the ecolodge is situated (Dluzewska and Giampiccoli 2020). This approach recognizes that the success of an ecolodge is intrinsically linked to the prosperity and resilience of the surrounding local community. The topics emerging from the best practices of this ecotourism principle are the integration of the local traditions in the ecolodge and developing the community around the ecolodge, and contributing to the local economy (Appendix A.2 – Table 17).

Integrating the local tradition inside the ecolodge can take several forms as exhibiting local and traditional art and crafts, offering access to local exhibitions and spectacles, preparing native food for the guests, and include local people in the project (Appendix A.2 – Table 17). In fact, designing the ecolodge's decor in a traditional style does not only adds an authentic and aesthetic dimension to the lodge but also provides a platform for local artisans to display their talents and generate income. The landscaped social place from the Creve Coeur top station can also serve as a hub for local artists and dancers to perform for the tourists and for the local people as well. By incorporating native food and traditional recipes into the ecolodge's menu, guests can enjoy the flavours of the region while supporting local farmers and food producers in case the food production onsite is not sufficient. This culinary journey allows a deeper connection to the local culture and promotes sustainable food systems. Moreover, engaging with the local community is fundamental. Including local residents in the ecolodge project, whether through employment opportunities, cultural exchanges, or collaborative initiatives, can create a sense of shared ownership and pride (Dluzewska and Giampiccoli 2020). The employees' wellbeing and good relationships among stakeholders should be an important focus point of the ecolodge (Appendix A.2 – Table 17). This collaboration not only helps the local economy but also enhances the authenticity of the guest experience. The contribution to the local economy related discussion can be found in the section highlighting the financial impact of the virtual pilot project (3.4 Financial Aspect).

### 3.3.5 Education and Research

The fifth ecotourism principle focuses on education and research. It plays an integral role in the sustainable development of ecolodges and their surrounding communities. These aspects are not only essential for promoting environmental awareness and conservation but also for empowering local populations and enriching the overall guest experience (Nowaczek and Smale 2010). The best practices identified by Fennel and de Grosbois (2020) can be seen as belonging to the category of educating the tourists or influencing the local people as it can be seen in the appendices (Appendix A.2 – Table 18).

Tourists' education can be approached from different ways. The most intuitive one is to add an educational component to the activities offered by the ecolodges. It can include guided nature tours on land and water or closer to the ecolodge in the nature garden park, the orchid garden or the vegetable garden. Informing tourists about sustainability and environmental conservation is central in ecotourism (Stronza et al. 2019). It also involves raising awareness about the ecolodge's own sustainable practices, such as waste reduction, energy conservation, and water management. Furthermore, such educational programs align with the principles of responsible tourism, as they encourage guests to make informed choices that minimize their impact on the environment (Nowaczek and Smale 2010). Rehabilitation programs could also be considered once the ecolodge is in place both for fauna and flora to sensitize the guests to the unique biodiversity of Seychelles. On top of the sustainability education, it is recommended to initiate the customers to the local culture (Appendix A.2 – Table 18). As mentioned before, the landscaped social place from the Creve Coeur top station could be the perfect designated place for such interactions between tourists and the local community. Finally, a sustainability learning centre in the form of a room or a small house could be incorporated to the ecolodge. It would have the function to officiate as the same time as a small museum and as a sustainability hub. For example, the North Island Resort possess such a centre with notably tortoise and turtle shells, bird bones, various endemic plants, posters about different topics like their sustainable approach to collecting water for the island or their rehabilitation program, and other objects with educational purposes (North Island Resort 2023). A similar sustainability learning centre would be a valuable extension to the virtual ecolodge.

In addition to the value of such a centre for tourists' education, it could be used to teach and inform local people too. For instance, the ecolodge staff could undergo training sessions within this facility as it is currently done at North Island (North Island Resort 2023). In a broader context, it could serve as a formation centre for local guides, not necessarily associated to the ecolodge, with the aim of promoting sustainability across the entire island and country. Moreover, it can incorporate research facilities to support ongoing efforts in environmental conservation and sustainable practices. Finally, partnerships with schools can be established to give children environmental education programs from a young age. By investing in the environmental education of children, the ecolodge can not only contribute to the wellbeing of the local community but also plays a part in creating a generation of responsible and eco-conscious individuals who can make a positive impact for the country.

### 3.4 Financial Aspect

This section explores the financial aspect of developing an ecolodge through the topics of the general business case for ecolodges from the literature and the financial component of the virtual pilot project. The original plan included developing a business plan for the virtual ecolodge. However, due to limited data availability, this aspect of the thesis was not conducted (4.2 Limitations and Further Research). Nevertheless, an informative table comparing a literature-based framework for preparing a business plan for potential investors in the domain of ecotourism and the Seychelles guidelines for business plan in the tourism accommodation sector can be found in the appendices (Appendix A.4.2 – Table 19).

#### 3.4.1 Ecolodges General Business Case

The International Finance Corporation (IFC) which is part of the World Bank Group conducted a study on 73 ecolodges to determine the business characteristics of ecolodges operating in developing countries and the critical factors leading to their business viability (International Finance Corporation 2004). The quantitative data about the ecolodges' business are summarized in the table below (Table 11 – Ecolodges Business Case Data).

Table 11 – Ecolodges Business Case Data, Source: International Finance Corporation (2004)

Annual Revenue [\$]	Number of Rooms [-]	Annual Number of Clients [-]	Annual Occupancy Rate [%]	Price per Night [\$]	Average Personnel Expenses [%]
100'000 – 3 Mio	11 - 35	501 – 2000	30 – 67	40 – 500	22

Average Number of Staff per Room [-]	Average Workers from Local Community [%]	Marketing Costs [%]	Average Cost per Room [\$]	Average Profitability Margin [%]
1.89	81	6 – 10	58'000	12

These indicators are useful to give indications on the size of the ecolodges, with the number of rooms for example, and the level of luxury that is partially reflected by the price per night or the annual revenue. They provide a general overview of what ecolodges typically look like, but it's essential to recognize that each ecolodge is a unique case. In fact, the average profitability margin measured took exclusively profitable ecolodges into account which introduce some bias into the result and is not representative of the first years of the venture (International Finance Corporation 2004). In addition, the annual occupancy range is rather large and the marketing costs depend on factors like the location of the ecolodge and its affiliation to a larger group that may provide marketing support outside the ecolodge itself (International Finance Corporation 2004). The percentage of local workers employed in the ecolodges is exactly the same as the percentage of Seychellois working in the travel and tourism industry ( Sustainable Travel International, 2023). Even if 81% of local workers may seem consequent, it is aimed to increase this ratio at around 90% for Seychelles (Sustainable Travel International, 2023), indicating that there is room for improvement for the ecolodges as well .

To complete the business data from the existing ecolodges, the IFC propose the following key characteristics for an ecolodge to be financially successful: be less than one hour away from an airport with international connexions, be launched by committed local entrepreneurs, have a sufficient amount of capital to cover a four-to-five-year break-even period, include and train the local staff, develop partnerships, and participate in a multi-lodge development model led by a single ecotourism business offering benefits like shared marketing costs, expanded services for clients, and risk diversification (International Finance Corporation 2004).

The airport proximity facilitates the transit logistics for international tourists. It minimizes the travel time and complexity for guests, making the ecolodge a more attractive option (International Finance Corporation 2004). On the other side, this statement contradicts the best practice from the original framework stating that the ecolodge should be located in a place difficult to access (Appendix A.2 – Table 14). A compromise should be considered to have at the same time the remote natural environment and the sufficient amount of tourist wanting to visit the ecolodge.

Starting an ecolodge is a risky entrepreneurial activity (International Finance Corporation 2004). In fact, to minimize the risks it is recommended that the project is driven by local committed entrepreneurs who have access to enough funding to go through the startup phase of the ecolodge. The importance of having local entrepreneur onboard comes from their knowledge of the local market and opportunities as well as a usual keen interest to preserve the natural surroundings and benefit the local community (International Finance Corporation 2004). The access to adequate capital reserves is paramount as the ecolodge may not operate at full capacity, and building a reputation takes time. Having sufficient capital to cover operating expenses, marketing, and maintenance during the four-to-five-year break-even period is crucial (International Finance Corporation 2004). This financial stability ensures that the ecolodge can weather the early challenges and continue its sustainability efforts without compromising on the quality.

Ecolodges are typically situated in or near communities that benefit from tourism-related employment. Investing in training programs for the local workforce is essential to both enhance the quality of service and maximize the positive impact on the local community, ultimately leading to increased revenue (Appendix A.2 – Table 17).

Partnerships or affiliation are interesting means to cut the costs and benefit from economy of scale (International Finance Corporation 2004). In effect, partnerships with other local businesses, tour operators, or even international eco-travel agencies can expand the range of services and experiences offered to guests, enhancing the overall value proposition. In addition, participating in a multi-lodge development model led by a single ecotourism business, offers several advantages. Firstly, it allows for the sharing of marketing costs across multiple properties, making marketing more cost-effective for each lodge (International Finance Corporation 2004). Secondly, it enables ecolodges to provide a broader array of services and experiences to clients, enhancing their competitiveness. Lastly, it spreads risk across different locations, reducing the vulnerability of any single lodge to seasonal fluctuations or unforeseen challenges (International Finance Corporation 2004).



### 3.4.2 Financial Aspect of the Virtual Pilot Project

Strictly applying the concepts presented to the virtual pilot project is complicated because only the very basic stages are investigated in the present study and there is a lack of data to do a further step projection (4.2 Limitations and Further Research). Precisely estimating factors as the target profitability margin or the occupation rate is too early for the status of the virtual ecolodge. However, more general and qualitative aspects having important consequences on the finances of the ecolodge and the region like the size of the ecolodge, its degree of luxury, and the financial impacts on the local community can be discussed.

As presented before in the section about the construction phase (3.3.1.1 Construction phase), focusing on a small-scale ecolodge presents environmental benefits. On the other side, this choice has direct impacts on the finances of the project. In fact, smaller scale ecolodges may face challenges in terms of economy of scope, potentially limiting the range of services that can be offered to guests. Hence, the decision regarding the ecolodge's size has significant implications for the overall guest experience. Economy of scale can also be a problem as smaller orders often result in higher per-item supply costs. In a broader sense, covering the fixed costs is more complicated for smaller establishments (Drumm et al. 2015).

Another factor directly related to the size of the ecolodge is the price charged to the client. For a fixed piece of land, the pricing strategy is not the same for an establishment with smaller but more rooms or fewer and more spacious ones. The International Finance Corporation's study shows that most of the ecolodges analysed are mid-range ecolodges providing a room for between \$61 and \$200 per night (International Finance Corporation 2004). As identified previously in the segment target section (3.1.2.1 Segment Target), it is recommended to focus on the high-end market and build a high-end ecolodge probably more expensive than the mid-range ecolodges. Another argument in favour of expensive rates in addition of offering an exclusive experience to the guests is the luxury of the rooms. The costs associated to building a rustic hut made of wood are not the same as providing the client with a luxury accommodation. Therefore, a careful evaluation of the financial implications and market demand is necessary to strike a balance between environmental sustainability and economic viability as well as determining the optimal size of the ecolodge and the best pricing strategy (4.2 Limitations and Further Research).

Hiring local people for any new project in the country has a positive financial impact on the region (Dluzewska and Giampiccoli 2020). Moreover, the bottom-up distribution of the benefice achievable through ecotourism allows an even bigger impact (d'Hautesserre 2016). It takes the form of employment of the local population at every stage of the project, but also sourcing the goods and services for the ecolodge locally as well as creating opportunities for other local business around the ecolodge (Appendix A.2 – Table 17). Developing an ecolodge generate direct and indirect financial benefits for the region. Direct benefits include wages and income earned by the local workforce, while indirect benefits result from increased economic activity in the area, such as purchases from local suppliers and the growth of related businesses. These combined effects contribute significantly to the economic well-being of the community and the region as a whole.

The other aspects that can be observed in the best practices is the recommendation to do donations to the local community in the sectors of education and health, and for social causes (Appendix A.2 – Table 17). Even though the short-term benefits for the institutions receiving the money is evident, it might be difficult for the ecolodge to cover its costs while donating part of its revenue. Indeed, committing a portion of the ecolodge's revenue to charitable causes is a commendable practice. However, it requires a delicate balance to ensure that these donations do not jeopardize the ecolodge's ability to cover its operational costs and maintain its commitments to sustainability and environmental conservation. To address this challenge effectively, ecolodges may consider adopting a strategic and long-term approach to their donations. This could involve establishing partnerships with local organizations to maximize the impact of their contributions and ensure that funds are directed toward initiatives that align with their sustainability goals. Furthermore, involving the local community in decision-making processes related to donations can help identify priority areas and foster a sense of ownership and collaboration (Dluzewska and Giampiccoli 2020).

### 3.5 Comparison between the Seychelles Sustainable Tourism Label (SSTL) and the Ecotourism Principles

The primary objective of incorporating the analysis of the Seychelles Sustainable Tourism Label (SSTL) in this study is to obtain a comprehensive understanding of Seychelles' current position regarding sustainable practices within the tourism industry. Currently, the country does not have any ecolodges established, and there are no government-defined guidelines in place for assessing or supporting the development of such projects (Seychelles Tourism Department 2023b). Consequently, the SSTL is the most advanced instrument employed by Seychelles to promote sustainability and serves as the framework for implementing best practices at a national scale. Although the objective of the SSTL criteria is not to transform existing hotels into ecolodges and therefore has a different purpose from the principles of ecotourism, the study aims to compare the reality of Seychelles in terms of sustainability for tourist accommodation and the potential gaps with the theoretical best practices from the literature.

#### 3.5.1 Seychelles Sustainable Tourism Label (SSTL)

The stated purpose of the Seychelles Sustainable Tourism Label is to improve the overall sustainability in the tourism industry in Seychelles through a user-friendly set of standards ('SSTL Assessors Manual, Tourism Department', 2017). The nomenclature to do the classification for the different elements of the SSTL is theme, section, and criterion in opposition to the ones used in the original and adapted frameworks as presented before which are ecotourism principle, theme, sub-theme and best practice (Table 12 – Comparison between the Ecotourism Principles, Themes, and Sub-Themes for Ecolodges and the SSTL Themes and Sections). The themes evaluated by the SSTL are the following: "Management", "Waste", "Water", "Energy", "Staff", "Conservation", and "Guests" (Appendix A.5). Each theme is then divided in sections. For example, the theme "Waste" includes five sections, namely, "Waste water", "Reducing Waste", "Recycling Waste", "Avoid Harmful Chemicals", and "Other waste practices" (Appendix A.5 – Table 23). The sections are composed of mandatory criteria to be fulfilled as well as secondary criteria which score a certain amount of points based on the difficulty of the criterion evaluated. A minimum score has to be achieved for each theme, the amount needed depending on the enterprise's size. The classification in place is small (1 to 24 beds), medium (25 to 50 beds), and large businesses (more than 51 beds) ('SSTL Assessors Manual, Tourism Department', 2017). The complete list of themes, sections, criteria, and the score required per theme can be found in the appendices (Appendix A.5).

#### 3.5.2 Comparison with the Ecotourism Principles

As presented before, some elements have to be taken into account while comparing the ecotourism principles best practices identified by Fennell and de Grosbois (2020) in their studies and the Seychelles Sustainable Tourism Label criteria. The SSTL criteria aim to promote "*mainstream sustainability practices*" ('SSTL Assessors Manual, Tourism Department', 2017, p4), meaning that any hotel could in theory be certified if they fulfil the requirements of the label. In effect, when looking at the list of certified hotels it appears that they are all high-end hotels with some of them being operated by large

international groups (Kempisky, Four Seasons, Hilton, etc...) (Appendix A.5 – Table 29). All the establishments have been rewarded for their sustainability practices, but they were not primary intended to be ecolodges nor are they presently. On the other side, the ecolodges investigated to determine the best practices are all accommodations presented as top-performer in the ecolodge industry by third parties and were planned accordingly from the beginning (Fennell and de Grosbois 2020). The different objectives of these frameworks have thus to be kept in mind.

As highlighted in the table below by the colours assigned to each SSTL theme and their equivalent theme or sub-theme coming from the original and adapted frameworks (Table 12 – Comparison between the Ecotourism dimensions and sub-dimensions for ecolodges and the SSTL themes), except the theme “Management” which is debatable, all the other ones have an equivalent in the themes and sub-themes for ecolodges. In effect, the SSTL “Management” theme could be seen in the theme “Accountability”, but it is better reflected in the chain of decisions and in the tactical and strategic management part from the original framework (Figure 1 – Framework of Best Practices for Ecolodges Sustainability). Therefore, the SSTL can be presented as a subset of the ecolodges best practices as all the themes are included in the model of the best practices.

Additionally, it is apparent that the SSTL themes belong mostly to the two dimensions about sustainability “Sustainability 1: Environment and Conservation” and “Sustainability 2: Local Community Development”. This observation seems quite reasonable as it is the substantial goal of a sustainability label to focus on sustainability improvements. The theme “Guests” could be seen as related to the education and research ecotourism principle as the objective of this part of the criteria is to assess the methods of communicating sustainability to the guests and the measurement of tourists’ satisfaction. Even if there is a part on education, the overall focus is still clearly on sustainability practices.

Table 12 – Comparison between the Ecotourism Principles, Themes, and Sub-Themes for Ecolodges and the SSTL Themes and Sections, Sources: Fennell and de Grosbois (2020); ‘SSTL Assessment Form’, Tourism Department (2019)

Ecotourism Principles							
Nature-Based	Moral Imperative	Sustainability 1: Environment and Conservation	Sustainability 2: Local Community Development	Education and research			
Themes							
1) Location in natural settings	1) Explicit statement indicating a commitment to sustainability or ecotourism	1) Sustainable lodge design and construction	1) Preserving socio-cultural heritage	1) Learning opportunities for tourists			
2) Facilities (accommodation and infrastructure) with good access to nature	2) External recognition for sustainability/ecotourism efforts	2) Environmentally-friendly lodge operations	2) Social wellbeing	2) Influencing local people and staff attitudes to conservation and ecotourism			
3) Availability of nature-related activities	3) Accountability	3) Biodiversity conservation	3) Contribution to the local economy	3) Opportunities for tourists to get involved			
	4) Sharing profits with the community		4) Involving local people in ecolodge planning, design, construction and operations	4) Supporting research			
	5) Contributions to social justice		5) Minimizing negative social impacts				
Sub-Themes							
		2.1) Water management	2.1) Supporting education	1.1) Environment-focused			
		2.2) Energy management	2.2) Supporting health	1.2) Local culture-focused			
		2.3) Waste and supply chain management	2.3) Supporting quality of life				
		2.4) Pollution and carbon footprint reduction	2.4) Employee wellbeing				
Best Practices Example							
1) Location in natural settings Access to area with high biodiversity	1) Explicit statement indicating a commitment to sustainability or ecotourism Providing environmental policy	1) Sustainable lodge design and construction Ensuring only local materials are used	1) Preserving socio-cultural heritage Traditional or locally-inspired architecture	1) Learning opportunities for tourists Guided nature tour			
Themes							
Management	Waste	Water	Energy	Staff	Conservation	Community	Guests
Section							
1) Policy	4) Waste Water	9) Conserving Water	12) Conserving Energy	16) Staff Pay and Opportunities	20) Conserve Habitats and Species	23) Community Relations	26) Guests
2) Monitoring	5) Reducing Waste	10) Re-using Water	13) Renewable Energy	17) Staff Working Conditions	21) Garden and Design	24) Community Economy	
3) Health and Safety Standards	6) Recycling Waste	11) Other Water Practices	14) GHG	18) Staff Training	22) Other Conservation Practices	25) Other Community Practices	
	7) Avoid Harmful Chemicals		15) Other Energy Related Practices	19) Other Staff Related Practices			
	8) Other Waste Practices						
Criteria Example							
1.9) The enterprise publicly displays a summary of the results of its SSTL assessment	5.8) Paper products that are used in the enterprise are recycled or from a sustainable source	9.3) Low flow devices are installed in taps and showers	12.2) Energy efficient lighting fixtures have been installed	16.3) At least 60% of full-time staff are Seychellois	21.3) The enterprise has a vegetable or fruit garden which supplies produce for the guests and/or staff	24.3) The company's daily menus offer at least one creole regional dish where 50% of ingredients have been sourced locally	26.5) The enterprise provides access and information to visitors and workers with special needs where appropriate

On the other hand, if it can be said that the Seychelles Sustainable Tourism Label themes are all included in the ecolodges' themes and sub-themes, the opposite is not true. The first observation that can be made, is that the "Nature-based" aspect is lacking. It can be said that one of the most important aspects of ecotourism and ecolodges is not assessed by the SSTL criteria, as it is part of the IUCN definition of ecotourism: "[...] *visitation to natural areas, in order to enjoy and appreciate nature [...]*" (Drumm and Moore 2004, p15). Criteria possibly belonging to the "Moral imperatives" dimension can be found as for example the criteria 3.1: "*The enterprise is in compliance with all national legislation (e.g., health, fire, environment, safety, labor) has a current tourism license based on recommendations from fire, health and environmental permits.*" ('SSTL Assessment Form, Tourism Department', 2019) (Appendix A.5 – Table 21). However, it can be seen as too basic, even if mandatory, to express more of an ethical mission as for example, "[s]upporting gender equality" or the "*elimination of discriminations*" (Appendix A.2 – Table 15). It can be said that the part about the primary mission of an ecolodge is missing in the SSTL themes, but the will to focus on sustainability measures is present.

From a general point of view, there is a big difference between mitigating the environmental impacts for big international hotels and implementing ecolodges principles from the start. Even if a gap between the existing SSTL certification and the ecotourism principles was identified with the lack of nature-based and further-step moral imperatives objectives, the Seychelles Sustainable Tourism Label can be placed in between pure environmental mitigation initiatives and the strict requirements of ecotourism development. Indeed, the SSTL does not have the vocation to transform existing hotels into ecolodges, the goal of the SSTL criteria being to deliver a certification to establishment with sustainable practices. The reason of the position between pure mitigation and ecotourism is the will to go a step further than the basic environmental aspect and reflect the triple-bottom-line approach of the corporate social responsibility principles. The environmental mitigation impacts are treated through the themes waste, water, energy, and conservation, the social aspect is reflected by the topics staff, community and guests, and finally the economic part can also be observed through the parts staff and community as well as in the management theme. To conclude, even if the SSTL assessment process has meaningful impacts on improving sustainability in the tourism industry in Seychelles, it is clearly not enough to promote ecotourism development.

### 3.6 Potential Development Paths towards a more Sustainable Tourism Industry

This section is organized in two parts. Firstly, the development path toward ecotourism as envisioned by the Seychelles government is presented, outlining its objectives, current status, and the progress in implementing the strategy. Secondly, a version of this strategy adapted to the findings of this study and ideas for development paths are proposed.

#### 3.6.1 Development Path considered by the Government of Seychelles

The development path toward ecotourism as envisioned by the government of Seychelles for 2040 is as follows. They state in the strategic plan for 2040 that “[i]n order for Seychelles to remain internationally competitive and an attractive location for future tourists there is a need to manage and diversify the existing accommodation offer away from predominantly large hotel resorts and focus on improving the quality and value of the tourism offer” (GoS 2015, p62). To achieve this goal, ecotourism is mentioned several times as a potential path towards tourism diversification to build a strong, resilient, and sustainable economy for the country (GoS 2015). Moreover, the implementation plan and the environmental policy related to ecotourism presented are the following (Table 13 – Implementation Plan and Environmental Policy related to Ecotourism).

Table 13 – Implementation Plan and Environmental Policy related to Ecotourism, Source: GoS (2015), p302 & p128

<p>Develop an Eco-Tourism Strategy which identifies areas suitable for eco-accommodation based on Policy EV7 and includes standards and codes of conduct that operators must comply with as part of the exiting Seychelles Sustainable Labelling scheme. The strategy should define what eco-tourism is and what must be included by eco-accommodation operators in order to justify this label. The strategy should seek to raise awareness and advertise the potential of investment in eco-tourism in Seychelles but that developers and operators will have to contribute to the management and restoration of the environment. The strategy should consider the use of:</p> <ul style="list-style-type: none"> <li>• a licence that all developers and operators will be required to obtain when building / operating an eco-accommodation;</li> <li>• a tourist activity payment scheme that will contribute to the local economy and management and restoration of habitats;</li> <li>• incentivisation plans to make eco-tourism a more attractive business option such as tax concessions;</li> <li>• the sighting of trail head and hiking/walking routes and principles/guidelines to ensure the protection of the environment in those locations.</li> </ul>	<p>Implemented within next 18 months</p>	<p><b>POLICY EV7</b></p> <p><b>Create an Eco-Tourism and Cultural Heritage Destination</b></p> <p>Proposals for development of the eco-tourism sector and cultural heritage attractions will be required to:</p> <ul style="list-style-type: none"> <li>• minimise impacts on the environment and heritage assets through appropriate scale, design and siting and the incorporation of low impact and sustainable infrastructure, commensurate to the environmental sensitivity of the area;</li> <li>• employ sustainable construction and operational methods;</li> <li>• support local communities; and</li> <li>• contribute to the costs of and actively undertake the restoration and on-going management of Protected Areas.</li> </ul>
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The important objectives that can be highlighted from the implementation plan are the following: identifying the areas suitable for eco-accommodations, defining ecotourism, establishing standards for the operators based on the existing label system, advertising to attract investors and incentivizing ecotourism to be an attractive business opportunity, developing a business plan focused on improving the local economy and protecting the habitat, and implementing defined trails and hiking routes in the areas of ecotourism

(Table 13 – Implementation Plan and Environmental Policy related to Ecotourism). Furthermore, it can be observed that there is a strong will to focus on the triple-bottom-line approach of ecotourism through the policy EV7. As a matter of fact, there are explicit mentions of mitigating the environmental impacts through the infrastructure and construction planning, supporting the local community and develop the social aspect, and contributing financially to the restoration and management of protected areas (Table 13 – Implementation Plan and Environmental Policy related to Ecotourism).

The deadline specified for implementing these different elements, as the strategic plan was done in July 2015, was beginning of 2018. Ecotourism was since then defined in the Seychelles Tourism Master Plan as *“a speciality segment of the larger nature tourism or “eco-travel” market, which covers a variety of travel industry segments, including adventure, heritage, culture, educational and sports, all linked together by an emphasis on fun, environmental sensitivity and social responsibility”* (‘Seychelles Tourism Master Plan, Seychelles Tourism Board’, 2018, p43). Although the objective of defining ecotourism for Seychelles has been accomplished, the same cannot be said for the other stated objectives within the specified timeframe of 2018. Some discussions about a label for ecolodges were started but there is nothing tangible and in place today (Seychelles Tourism Department 2023b). Additionally, as previously mentioned, there are no implemented or even planned projects of ecolodges currently in Seychelles meaning that the attractiveness for this type of entrepreneurial activity can be improved.

### 3.6.2 Potential Theoretical Development Paths

In reason of the gap identified between the current way of evaluating and rewarding the sustainability efforts in the tourism accommodation industry through the SSTL and the ecotourism best practices from the literature, a strategy with two distinct components could be considered to lead the tourism establishments in Seychelles toward more sustainable practices.

The first part is to have more establishment certified SSTL, especially self-catering ones and guesthouses as there are currently none in the country (Appendix A.5 – Table 29). This approach is one of the projects of the Seychelles Tourism Department and actions as suppressing the application fees and offering free trainings and technical assistance to improve the establishments’ practices have been undertaken but with no success at the moment (Seychelles Tourism Department 2023b). The reasons evocated for the relatively low success of the SSTL is that even if it is easy for large hotels to meet the requirements, self-catering have limited capital to invest in changes to fulfil the criteria. Moreover, most of them are still paying back their bank loan lent to build their touristic accommodations (Seychelles Tourism Department 2023b). Even though the types of help offered to develop the accommodation businesses are important, stronger incentives seem necessary to reach a higher rate of SSTL-certified establishment at the country’s scale. Currently, the primary motivation for the accommodations to seek the certification, apart from the moral satisfaction to be environmentally friendly, is the improved marketing opportunities that come with receiving the certification label (Seychelles Tourism Department 2023b). The problem with facilitated marketing is that it is hard for most of the businesses to quantify the potential additional revenue it can create (Krizman



Pavlovic 2019). Conducting a study to analyse the real monetary impact of the SSTL could be a first idea to convince Seychellois and international companies to improve their establishments to meet the sustainability requirements. Factors as the average return on investment (ROI) could be considered to have real financial data on the advantages to be SSTL-certified. Stronger incentives as tax reduction can also be interesting to motivate the transition (Table 13 – Implementation Plan and Environmental Policy related to Ecotourism). Additionally, policies compelling all newly constructed accommodation to respect the SSTL criteria, while being given financial advantages, could also be an option as it can be more costly to improve an existing establishment than building it accordingly to certain rules (Drumm and Moore 2004). From the country's perspective, investing in sustainability in the sector which represent the higher share of its GDP in order to guarantee its long-term future is extremely interesting and almost mandatory (World Bank 2013). Nevertheless, further evaluations and calculations should be made to find the right compromise to be attractive for the country and for the business owners (4.2 Limitations and Further Research).

The second part of this strategy to guide the tourism industry towards more sustainable practices is to focus on top-performers regarding sustainability and ecotourism projects. The elements needed for this approach are a definition of a new set of standards to identify these best-performers, incentives to adopt such standards, and an overview of the future potential benefits they can generate. In addition, a concrete business plan for this new tourism segment focusing on improving the local economy and reducing the environmental impacts can be developed in a second step based on the other elements (Table 13 – Implementation Plan and Environmental Policy related to Ecotourism). Developing new criteria and a new label makes sense as dimensions are lacking in the SSTL and the criteria in place can be judged as too limited for ecolodges. In fact, assessment criteria as for example the one evaluating the lightning *“at least 50% of lighting in rooms OR two areas of the enterprise (e.g., garden and kitchen) are using energy efficient light bulbs”* (Appendix A.5 – Table 24), which is part of the category of the most difficult criteria to fulfil in theory, are not adapted to evaluate in a meaningful way the degree of sustainability of ecolodges. In fact, an ecolodge following the ecotourism principles and best practices should fulfil all the SSTL criteria and score the highest score achievable. For this reason, receiving the same certification for an ecolodge as a big hotel doing the minimum to be certified does not make sense. It is important to justify the new label and explicitly state what should be included in it (Table 13 – Implementation Plan and Environmental Policy related to Ecotourism). A proposition would be that the standards should include improved sustainability criteria having a bigger impact on the environment. It should incorporate notions about the nature-based and moral imperative ecotourism principles as well as a deeper focus on the ecotourism principles local community development and education and research. The application of the ecotourism principles' best practices to the virtual pilot project can serve as a basis for the new set of standards.

The absence of ecotourism projects in Seychelles means that either the procedure for project development in the country is unfavourable to this kind of business or that there are not enough incentives and potential benefits for investors to develop nature-driven accommodations. As the problem does not seem to come from the procedure with the big

role played by the EIA for the project assessment, the challenge to be addressed seems to be the lack of actual incentives for this type of projects. The levers to change the situation could be direct financial incentives with the tax reductions or streamlining the building permit process through a fast-track system for sustainability-driven projects (Krizman Pavlovic 2019). The issuance of building permits being the bottleneck of project developments in Seychelles, it would make sense to work on this crucial aspect to incentivise sustainable projects. Furthermore, it is even more important to build the projects accordingly to the new set of standards from the beginning than for establishment aiming for the SSTL. The construction and planning of the ecolodge plays a big role in its environmental impact (Drumm and Moore 2004). Changing an existing hotel to become an ecolodge and meet the ecotourism principles and best practices is complicated as it has not been planned accordingly from the construction and planning phase (Drumm and Moore 2004). Therefore, it is recommended to implement incentives focusing on the beginning of project development.

Finally, the positive impacts on the environment from encouraging the tourism industry to change their practices are multiple as presented along this study. Many different domains can benefit from better practices as well as the whole country. Furthermore, the direct and indirect financial benefits to the local workforce and the broader area surrounding the ecolodge underscore the importance of a more significant emphasis on diversifying Seychelles' tourism offerings towards more sustainable practices. Developing attractive incentives both to have a larger number of hotels SSTL-certified and to start building ecolodges can have more impact than only on the establishment applying the criteria themselves. This diversification of the offerings has the potential to reshape the entire market for tourism establishments, compelling non-certified accommodations to adapt. The focus on a few pioneer establishments can induce a way larger effect on the whole country leading to an overall improved sustainability in the industry. This could potentially propagate to an important portion of hotels with the SSTL certification and lead to hybrid establishment between the SSTL and the ecolodges label in an effort to differentiate their business from the competition. The virtual pilot project could be the first establishment adopting the new ecolodge standard potentially creating pressure on the market. The overarching goal of these labels is to ultimately push the whole tourism industry towards more sustainable practices. This could be seen as a temporary diversification strategy aimed at achieving a long-term unification of the market where only establishments adopting sustainable practices in the environmental, financial, and social aspects are part of the tourism offering.

## 4. Discussion

This thesis explores potential development paths towards a more sustainable tourism industry for Seychelles through a diversification of the offer focusing on ecolodges development and implementation. The research question, "What are the ecological and socio-economic impacts of mountain-based ecotourism and ecolodges development in Seychelles? A conceptual study of the potential for diversifying the country's tourism industry," guides the investigation.

An adaptation of an existing framework which is constructed based on best practices from top performer ecolodges to the specific case of Seychelles was undertaken. This approach allowed the following: to obtain a comprehensive understanding of the challenges that the tourism industry is facing in Seychelles; to emphasize the reasons why ecotourism is a suitable solution to these challenges; to present different options for ecotourism and ecolodges development; to build a virtual pilot project of an ecolodge; to compare the ecotourism principles used to develop the pilot project with the current situation of sustainability in Seychelles; and to propose potential development paths based on all these elements.

Since key aspects have been extensively examined and discussed in the results section, this section concentrates on discussing the outcomes, namely, the implications of the results (4.1 Implications of the Study). Additionally, the limitations of the study as well as the proposed focus points for future further research are presented (4.2 Limitations and Further Research). Finally, a conclusion of the major findings from this thesis is drawn (4.3 Conclusion).

### 4.1 Implications of the Study

The findings underscore the potential of ecolodges as being a future-driven and ethical solution for the tourism industry presenting benefits and positive impacts in the environmental, economic, and social domains aligning with the state of the art of the literature (Drumm and Moore 2004; Patterson 2007; Stronza et al. 2019). While there are certain challenges to overcome when implementing an ecolodge project, this study demonstrates that the opportunities to develop such ventures in Seychelles exist and likely extend to many other countries presenting similar features.

One key finding that arising from the study is the importance of partnerships. In effect, partnerships emerge as a key driver of success for ecolodges, whether through collaboration with the promising cable car project allowing significant environmental advantages and cost cuttings throughout the construction and operation phases, via association with local traditional and nature-based activities, or simply by supplying the ecolodge with products coming from the local community. These alliances enrich the guest experience, enhance the sustainability efforts, and foster positive relationships with the local community (Dluzewska and Giampiccoli 2020). Furthermore, the partnership with the cable car project can be considered as a facilitated initiative on a broader scale that has the potential to set the stage for further ecotourism development and streamline the transition towards sustainable tourism. Additionally, there is no need of new cutting-edge technology to build an ecolodge but rather a careful project planning taking into

account a lot of different factors (Drumm and Moore 2004). This approach maximizes the benefits not only for the ecolodge itself but also for its surrounding environment and communities.

Given the objectives and challenges faced by Seychelles, the study points out the strategic importance for the country to concentrate its efforts on the development of high-end ecolodges that cater to the high-end tourism market. By developing high-end ecolodges, Seychelles can position itself as a leader in sustainable luxury travel. It ensures the country a sustainable long-term approach that capitalizes on its existing tourist base while differentiating from large international hotels and low-end ecolodges. Moreover, opting for high-end ecolodges introduces a gradual shift in the behaviour of visitors accustomed to common mass tourism, compared to the more austere offerings of low-end ecolodges. The gradual transition can help smooth the shift away from unsustainable practices associated with common mass tourism. This facilitated transition does not only apply to the case of Seychelles but can be considered globally to reshape the whole tourism industry. Focusing on high-end ecolodges can allow a path to both environmental and economic sustainability while ensuring a more seamless transformation within the tourism sector.

This finding of the research resonates with the study of Giampiccoli et al. (2021) on tourism development in Seychelles presenting luxury community-based tourism (LCBT) as a long-term solution for diversifying the Seychellois tourism industry (Giampiccoli et al. 2021). The main difference between their study and the present thesis is the addition of the emphasized environmental aspect in this study. In effect, Giampiccoli et al. (2021) focus mainly on the social and financial aspects of the triple-bottom-line approach, which are largely similar for LCBT and high-end ecolodges. However, in the case of ecolodges, the environmental component assumes greater significance. In their work, Giampiccoli et al. (2021) describe this aspect as *“being culturally and environmentally smart and appropriate”* (Giampiccoli et al. 2021, p452). Nevertheless, the potential benefits for Seychelles and other luxury travel destinations to change the high-end tourism market towards more sustainable practices socially and environmentally are important.

Lastly, potential development paths towards a more sustainable tourism industry both from the government of Seychelles and based on the findings of the study have been presented (3.6 Potential Development Paths towards a more Sustainable Tourism Industry). They do not differ a lot substantially, but the present work aims to provide additional ideas for potential future set of criteria, the topics to consider while developing ecolodges, and emphasize the importance of providing the means for stronger incentives. In effect, the implementation plan and the policy associated to it concur with the findings of this study. The biggest problem with this strategy is that it is not concretely applied at the moment and there are no resources allowed to its progress (Seychelles Tourism Department 2023b). The same issue has been observed globally. Even though the climate keeps degrading, there is no consensus for the definition of ecotourism and ecolodges nor guidelines to implement such projects successfully. Coordination and actions seem to be the two critical levers to avoid both reaching the tipping point of saturation and decline for the Seychellois tourism industry, and to mitigate the impacts on the planet.

## 4.2 Limitations and Further Research

The primary limitation of the study is the absence of available data both in the literature and from the stakeholders in Seychelles. In fact, ecotourism and ecolodges are currently a niche market and most of the available studies focus on very specific cases with limited adaptation to other contexts. The lack of internationally agreed definitions and guidelines present a challenge to advancing research in this field. Moreover, no studies about ecolodges on Mahé or even in Seychelles were found. In reason of the absence of ecolodges in the country, there were no quantitative data related to ecotourism and ecolodges provided by the different stakeholders. Finding cohesive and up-to-date data was a challenge in general. Consequently, the research design had to be adapted to an exploratory qualitative research design in order to develop a first qualitative basis. This structure allows to provide a broad overview of the subject, without going in depth due to the lack of empirical data.

Specifically, the absence of data particularly impacted the financial aspect of the study. It was initially aimed to develop a business plan for the virtual pilot project based on financial data from existing projects. However, the absence of ecolodges in Seychelles was the primary problem. It was then intended to develop the business plan by combining data from different projects both from existing accommodations that are not ecolodges and from sustainability driven projects not necessarily linked to the accommodation sector. However, the access to financial data from the hotel industry in Seychelles or from existing sustainable projects was denied by the different stakeholders for reasons of confidentiality.

Additionally, there were other constraints restricting certain aspects of the thesis due to its chosen scope. In particular, it was decided to focus on the virtual pilot project and not going into further details for all the options for ecotourism development. A more in-depth study could have helped solving some of the issues of each particular case. The chosen regions for these options were roughly estimated, but a further study would be needed to determine the optimal location for these projects and the consequences that the area would have on the project. Moreover, there were no resources to do a real EIA for the pilot project. Therefore, the exact location of the virtual ecolodge was not further investigated in detail. It would be recommended to conduct an EIA to have a more complete study of this case. Furthermore, it was chosen to not develop the social component of the triple-bottom-line and to not conduct a survey about local preferences as the main objective of the study is to focus on the very bases of ecolodges development.

The analysis of the challenges and objectives of Seychelles regarding the tourism highlights clear benefits from targeting the high-end tourism market. Nevertheless, a missing part in this work is a study about the potential customers' real willingness to pay as well as an extensive market analysis. A further study could include components exploring topics like the non-homogeneity of preferences of the Seychelles' visitors. This could be done to determine the proportion of tourists who are only attracted to beach tourism in comparison with the ones attracted to exclusive experiences, or to analyse the preferences regarding the nationality of the visitors. The benefit of conducting such a study would be adapting the offer more precisely to the real demand and not to hypotheses which are based on the objectives and challenges of Seychelles.

### 4.3 Conclusion

This thesis aims to present the basis of ecolodges and ecotourism development tailored to the mountainous region of the main island of Seychelles, Mahé. Its primary goal is to have a deeper comprehension of the challenges faced by the Seychelles' tourism industry and the positive impacts that can result from the implementation of ecolodges and ecotourism both within the country and on a global scale. As part of this work, an approach focusing on high-end ecolodge development is presented as a strategic option. This approach is envisioned as an option to facilitate the transition from common mass tourism to ecotourism globally while aligning with Seychelles' goals for sustainable tourism development. The conclusion emerging from the study is that ecolodges can be advantageous for the country and the implementation is theoretically feasible. Nevertheless, further investigation and empirical studies need to be conducted to determine the real impacts in practice. The objective of this study is to provide ideas and a first step into an emerging field to encourage Seychelles towards a sustainable development path through a diversification of the current offer. While this study presents a theoretical framework, the practical application of ecolodges and ecotourism in Seychelles demands in-depth research and commitment. It is hoped that this Master thesis helps to establish the basis for future research, both academic and practical, that will contribute to the sustainable development and preservation of Seychelles' unique natural treasures.

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## A.1 ETHZ Information and Consent Form



Eidgenössische Technische Hochschule Zürich  
Swiss Federal Institute of Technology Zurich

### Information and consent form

## Mountain-based ecotourism in Seychelles – a conceptual study of the potential for diversifying the country's tourism sector

Participant (full name): .....

Conducting person (full name): .....

Contact project team: Loïc Fleischmann, ETHZ, lfleischmann@student.ethz.ch

Data Protection Officer ETH Zurich: Tomislav Mitar (tomislav.mitar@sl.ethz.ch)

We would like to ask you if you are willing to participate in our research project. Your participation is voluntary. Please read the text below carefully and ask the conducting person about anything you do not understand or would like to know.

### What is investigated and how?

This study aims to assess the ecological and socio-economic impacts of mountain-based ecotourism development in Seychelles and explore opportunities for diversifying the country's tourism industry. It involves analysing literature on ecotourism and ecolodges, evaluating policy requirements and sustainability criteria, and conducting an analysis of a virtual pilot project. The findings will inform the Tourism Department of Seychelles of sustainable development paths based on literature, policy, and practical application.

### Who can participate?

To be eligible for participation, individuals must be of legal age (18 years or older) and possess the ability to comprehend and interpret the provided information and consent form.

### What am I supposed to do as a participant?

During the interview, you will be presented with a series of open-ended and closed-ended questions. The anticipated duration of the interview is expected to be between 30 to 120 minutes. The general topic of the questions is ecotourism development in Seychelles.

### What are my rights during participation?

Your participation in this study is voluntary. You may withdraw your participation at any time without specifying reasons and without any disadvantages.

**What risks and benefits can I expect?**

No risks are associated with participating in this study. As for the benefits, the study aims to generate scientific insights into the opportunities and challenges associated with implementing ecotourism in Seychelles. If desired, you will have the option to receive the final thesis upon its completion (refer to the form below).

**Will I be compensated for participating?**

There is no kind of compensation.

**What data is collected from me and how is it used?**

Your personal information, including your name, role, organization, contact details, and signature, will be collected on the consent form and stored separately from the data collected during the interview/workshops. A pseudonymization key (encrypted document) will be used to link your name with the interview/workshop data. The interview can be conducted face-to-face, via phone call, Zoom Video Communications, or through written form via email. The interview will be recorded in audio format, and notes will be taken either physically or electronically. You will be given the option to indicate on the consent form whether your role and organization can be mentioned in the list of interviewees/workshop participants in the final report of the master's thesis. All personal data, including the consent form, recordings, and transcripts, will be securely stored on password-protected computers and local servers of ETH Zurich. Only the conducting researchers, Loïc Fleischmann, Dr. Pius Krütli, Pr. Florian von Wangenheim, and TdLab's IT personnel will have access to this data. Personal data will not be shared with any third parties. After a period of ten years, all data will be permanently destroyed. Members of the ETH Zurich Ethics Commission may access the original data for examination purposes. Strict confidentiality will be observed at any time. The collected data will be used solely for research purposes in the context of Loïc Fleischmann's Master's thesis, which may be publicly accessible on the ETH website and the ETH research collection after successful completion. Furthermore, the master's thesis and all data collected may be used to prepare a scientific manuscript for publication in a suitable journal.

**What are my rights to my personal data?**

Compliance with the Swiss Federal Act on Data Protection (FADP) is guaranteed throughout the entire process of data collection and processing. Additionally, data anonymization is strictly followed in accordance with ETH Law Art. 36d. Before the irrevocable anonymisation of the collected data, you can request information about the personal data collected from you at any time and without giving reasons. You can also request that it be rectified, handed over to you, barred for processing or erased. To do so, please contact the person indicated above.

**Who funds this study?**

This study is conducted as a master's thesis and receives no funding.

**How am I insured?**

Adverse health effects that are directly caused by the study and can be demonstrated to be attributable to fault on the part of the project team or ETH Zurich are covered by ETH's liability insurance. You are responsible for insuring yourself against any other adverse health effects such as might occur, for instance, in connection with the trip to or from the place where the study is conducted.

**Who reviewed this study?**

This study was examined by the ETH Zurich Ethics Commission as proposal EK-2023-N-148-A

**Complaints office**

The secretariat of the ETH Zurich Ethics Committee is available to help you with complaints in connection with your participation. Contact: *ethics@sl.ethz.ch* or 0041 44 632 85 72.

**Consent Form**

I, the participant, confirm by my signature that:

- I have read and understood the study information. My questions have been answered completely and to my satisfaction.
- I comply with the inclusion and exclusion criteria for participation described above. I am aware of the requirements and restrictions to be observed during the study.
- I have had enough time to decide about my participation.
- I participate in this study voluntarily and consent that my personal data be used as described above.
- I understand that I can stop participating at any moment.

I would like to be informed about the results of this study

- Yes, Name and Phone Number or Email: .....
- No

Full name of participant

.....

Place, Date

Signature participant

.....

.....

Place, Date

Signature conducting person

.....

.....

## A.2 Original Best Practices for Ecolodges

Table 14 – Original Best Practices from the Ecotourism Principle: Nature-based, Source: Fennell and de Grosbois (2020), p488

Themes	Best practices
Location in natural area	<ul style="list-style-type: none"> <li>Protected area: within national park, protected sanctuary, within private conservation area or private nature reserve</li> <li>Access to area with high biodiversity or unique features: providing opportunities for viewing wildlife, e.g. rainforest, savanna, islands close to coral reefs, on banks of important waterways</li> <li>Remote area: far from developed area, hard to access</li> </ul>
Accommodation and infrastructure with good access to nature	<ul style="list-style-type: none"> <li>Lodge construction: treehouse-style accommodation high in the rainforest canopy with view of forest and wildlife</li> <li>Facilities: private ocean-view deck; lodge with view on waterhole; oversized hammocks; beach huts; no television, radio, in-room Wi-Fi or telephones to facilitate connection to nature; relaxation areas to enjoy the scenery, roof terraces</li> <li>Hiking or biking trail system: including bird stops, camera traps; offering wide variety of hikes with a variety of difficulty levels and duration/length</li> </ul>
Nature-related activities	<ul style="list-style-type: none"> <li>Nature observation: wildlife viewing and tracking, bird watching, nature study, nature photography (trips with expert photographic guide and a fully-equipped photographic vehicle), searching for rare, endangered or undiscovered animals, tours to observe wilderness scenery, natural landscapes, vegetation and wildlife</li> <li>Guided nature tours: rainforest interpretation, explanation of ecological processes and habitats, explanations of animal behaviours</li> <li>Land/air activities: hiking, visiting national parks, climbing, horseback riding, beach activities, biking, stargazing, camping, canopy zip lining, bush drives, air/walking safaris, infrared night safaris</li> <li>Water activities: kayaking, canoeing, snorkelling, cruises, boat trips along the coastline, rafting, swimming, diving, scuba safaris, intertidal walks during low tide</li> <li>Dedicated packages: bird lovers (sunset birdwatching cruise, complimentary binoculars, aviary diary), couples (picnicking in nature, sunset or sunrise river cruise), families, adventurers, escapists</li> <li>Customized experiences: trips to fit visitors' nature-related interests</li> </ul>

Table 15 – Original Best Practices from the Ecotourism Principle: Moral imperative, Source: Fennell and de Grosbois (2020), p495

Themes	Best practices
Commitment to sustainability or ecotourism	<ul style="list-style-type: none"> <li>Stating commitment: providing mission statement, our philosophy statement, providing code of conduct, stating values</li> <li>Providing formal policies: providing environmental policy, environmental management plan</li> </ul>
Seeking external recognition for sustainability efforts	<ul style="list-style-type: none"> <li>Certification: undergoing process to obtain third-party environmental or ecotourism certification</li> <li>Environmental or sustainability awards: gaining recognition through awards received from different ecotourism or conservation organizations</li> <li>External audit: arranging for an external environmental audit carried out on an annual basis</li> </ul>
Accountability	<ul style="list-style-type: none"> <li>Reporting performance: by providing performance measures on website, by publishing a newsletter including information on obtained results and outcomes, by issuing annual reports</li> </ul>
Sharing profits with the community	<ul style="list-style-type: none"> <li>A fixed amount or percentage of revenues donated to the community: supplementary fees directly given to local families, 5% levy included in guests' accommodation bills funnelled back to the villagers, 50% of proceeds from 'day in a life of local family' tours going directly to visited families, a bed-night levy for conservation projects</li> <li>Lodge 100% owned and operated by the community: all revenues going towards supporting the community and preserving their culture and protecting the environment, revenues reinvested into community projects such as renewable energy, education and health care</li> </ul>
Contributions to social justice	<ul style="list-style-type: none"> <li>Supporting gender equality: training women to become camp guides or members of security team; offering employment for women in running cooking classes or creating beadwork; and supporting women-run social enterprises making pottery, candles, beach baskets, towels or providing laundry services</li> <li>Commitment to equality: supporting immigrants and creating opportunities for them, elimination of discrimination, improving access to markets</li> </ul>



Table 16 – Original Best Practices from the Ecotourism Principle: Environment and conservation, Source: Fennell and de Grosbois (2020), p490

Themes and sub-themes		Best practices
Sustainable design and construction		<ul style="list-style-type: none"> <li>Local materials: ensuring only local materials are used</li> <li>Integration with nature: blending with the environment, site-sensitive development with minimal or no landscaping, tree cutting, or earth movements, small lodge size to reduce impacts</li> <li>Environmentally-friendly or sustainable materials: renewable, natural, reclaimed, recycles, sustainably-sourced, or certified materials</li> <li>Sustainable construction and energy efficient design: natural ventilation system, passive cooling design, open concept, window screens, materials that counteract hot summer temperatures and cooler winter temperatures, using hand tools during construction to minimize land disturbance</li> <li>Location choice: taking into account effects on soil, water table, vegetation, animal movements, visual and aural implications</li> </ul>
Environmentally-friendly lodge operations	Water management	<ul style="list-style-type: none"> <li>Waste water treatment, reuse and water purification: water purification system to supply clean drinking water, bio-filter systems for gray and waste water, construction of a wetland to treat the waste water from the kitchen and laundry before it enters the nature, gray water irrigation</li> <li>Water conservation: low-flow shower heads, towel replacement policies, low water use toilets, low water consumption dishwashers and washing machines, leaks reduction, disposable and compostable plates, asking guests to bring own linens</li> <li>Water harvesting and storage: rain or snow harvesting for laundry and irrigation, producing own water using desalination plant, using water from springs or boreholes</li> </ul>
	Energy management	<ul style="list-style-type: none"> <li>Use of renewable energy to power the lodge: solar, wind, geothermal power, alternative fuels (e.g. olive pit charcoal) to light, heat or cool the lodge</li> <li>Energy conservation: low-wattage light fittings, providing no electricity in the rooms, use of lighting sparingly, no air conditioning, energy efficient appliances, using only essential electrical appliances, air drying the laundry</li> <li>Solar water heating: used for showers and pool</li> </ul>
	Waste and supply chain management	<ul style="list-style-type: none"> <li>Waste reduction: minimize or eliminate single-use plastic, packaging, batteries; buying in bulk, minimizing food waste (e.g. adoption of a nose-to-tail philosophy), soap and shampoo served by dispensers, donating reusable linen bags to community, providing reusable water bottles or cups (stainless steel, ceramic, clay), complimentary filling stations</li> <li>Sorting, reusing, recycling waste: recycled materials used to make slippers, decorations, souvenirs, planters; plastic and glass bottles used as building or crafts and arts materials; cans and boxes given to locals for reusing</li> <li>Organic waste disposal: composting; feeding waste to local livestock</li> <li>Sustainable supplies: using biodegradable and toxic free cleaning products, hand soaps, bathroom amenities, organic spa products; using supplier code of conduct</li> <li>Sewage treatment: composting toilets, turning waste into biogas used as cooking fuel, using animal waste as fertilizer or building material</li> <li>Buying sustainable food: sourcing organic, free range, fair trade and sustainably farmed produce, organic fruit and vegetables, seasonal food</li> </ul>
Pollution and carbon footprint reduction		<ul style="list-style-type: none"> <li>On-site food growing: herb and vegetable garden, organic garden, operating a greenhouse or a farm (e.g. shade-grown coffee farm, sustainable shrimp farm), keeping animals to provide eggs and milk</li> <li>Reduce air pollution and carbon emissions: minimizing use of fossil fuels and carbon footprint, offering charging stations for electric vehicles for guests, reducing transportation by car-pooling by staff, using public transport, providing employee accommodation on-site</li> <li>Reduce noise pollution: modification of boat engines, electrical vehicles for silent safaris, e-boat with solar panels, no motorized activities, not allowing helicopter landing on the property, not using generators, using solar powered pump for water supply to avoid disturbing the surrounding natural habitats</li> <li>Reduce water pollution: no discharge of waste from boats into a lake, preventing sheep and cattle from neighbouring farms from gaining access to a lake</li> <li>Reduce light pollution: turning lights off, using less lighting</li> </ul>
Biodiversity conservation		<ul style="list-style-type: none"> <li>Sustainable land management and use of natural resources: designating land as conservation area, establishing marine protected area, responsible use of natural resources; reserve management plans</li> <li>Restoration and preservation of wildlife: animal rescue, reintroduction of animals, such as mega-herbivores, outreach to prevent locals from killing predators, establishing wildlife sanctuaries</li> </ul>

(Continued)

Table 16 continued – Original Best Practices from the Ecotourism Principle: Environment and conservation, Source: Fennell and de Grosbois (2020), p491

Themes and sub-themes	Best practices
	<ul style="list-style-type: none"> <li>• Reforestation, re-vegetation, weed control: planting native/indigenous trees and plants, weeding non-native plant species, growing tree samplings in a nursery, planting drought resistant species</li> <li>• Collaboration with conservation organizations and public sector: membership in sustainable development and biodiversity conservation groups, opposing inappropriate development or land use, expanding protected public lands, community conservation campaigns (e.g. to remove power boats from a lake)</li> <li>• Financial contributions to conservation: percentage of income or profit, fixed amount per guest-stay, lump sum payments</li> <li>• Reducing impact from tourist activities: cap on tourism development, trails preparation with minimal impacts, limiting the number of visitors and excursion group size, prohibiting diving, banning the feeding of wildlife, vehicles prohibited from driving off-road</li> <li>• Law enforcement and responders support: anti-poaching operations removing snares, logistical and financial support to local anti-poaching activities, monitoring of poaching activity, purchase of a fire-fighting unit</li> <li>• Garbage collection in the natural areas: by staff, resident environmentalists, eco-tourist volunteers</li> </ul>

Table 17 – Original Best Practices from the Ecotourism Principle: Local community development, Source: Fennell and de Grosbois (2020), p492

Themes and sub-themes		Best practices
Preserving socio-cultural heritage		<ul style="list-style-type: none"> <li>• Traditional or locally-inspired architecture, building techniques, materials: lodge based on refurbished or reassembled old traditional homes, ancient construction techniques (e.g. applying Buddhist technique without use of nails)</li> <li>• Incorporating traditional art and culture into the lodge: traditional and local art, artefacts, tools and equipment (e.g. canoes, candles) displayed in or used at the lodge, décor inspired by traditions of indigenous cultures (e.g. traditionally painted ceilings), hosting traditional events and performances by local musicians, dancers, performers of traditional art, implementing local customs such as drawing patterns with rice flour outside homes, menu announcements in local language</li> <li>• Native/traditional dishes: kitchen equipped with traditional ovens to prepare native dishes, traditional meals, indigenous herbs and vegetables incorporated into dishes</li> <li>• Educating and supporting locals with respect to heritage: heritage awareness workshops, support for arts organizations, hosting and organizing art camps and workshops for local artists, supporting students studying traditional music, coordinating activities of a heritage organization chapter, traditional musical instrument lending library for locals</li> </ul>
Social wellbeing	Education	<ul style="list-style-type: none"> <li>• Support local education: finance local school construction, renovations and maintenance (gym, library, kitchen, dining hall, administration buildings), provide school supplies and technology (e.g. e-readers), provide nutrition programs for students, pay teacher salaries, build houses for teachers, sponsor English classes and school sports teams</li> <li>• Support education beyond local school: scholarships for local students to attend culinary, music and performing arts programs, contributions to secondary and university school fees, programs to assist indigenous youth in obtaining education and finding stable careers, running education programs</li> </ul>
	Health	<ul style="list-style-type: none"> <li>• Health education: programs and camps aimed at girls, donations to local schools to create organic vegetable plots and greenhouses, cooking classes to promote healthy eating, health education in local schools, educating community on immunization and family planning</li> <li>• Health services: funding health personnel, buildings (e.g. maternity clinic, healthcare center), ambulance, surgeries for children in the community, medical supplies and equipment; providing mobile clinic, providing eye exams for community members, providing lodge vehicles to transport community members to hospital</li> </ul>
	Quality of life	<ul style="list-style-type: none"> <li>• Improved access to natural resources: supplying water from onsite well for animals belonging to nomadic herders, supplying water storage tanks and drinking water filtration systems to community; assisting locals with transportation and storage of water; supporting renewable energy projects; project extending gas piping to cooking huts in the village to make use of biogas for cooking and heat; donating fuel efficient stoves; providing food waste or grass for local livestock; allowing locals access to lodge grounds to collect firewood, walk to school or feed animals</li> <li>• Supporting social causes and local activities: donating food, clothes, linens, cutlery for orphanages, children centers, seniors' homes; hosting physically-challenged children at the lodge and organizing fun activities for them, providing library and Internet access for the local community, organizing and sponsoring sporting and cultural events, children's clubs, teams</li> <li>• Enhancing infrastructure and safety: running environmental NGO to collect garbage in the community, funding garbage disposal system, building and sponsoring a community recycling center, supporting law enforcement to fight crime</li> </ul>
Employee wellbeing		<ul style="list-style-type: none"> <li>• Job permanency and salary: salaries above the national average or statutory requirements, full time and all-year employment as opposed to seasonal only, fair working conditions</li> <li>• Benefits: life insurance, access to company doctor for employees and their families including children and parents, staff trips</li> <li>• Employee training and professional development: opportunities for advancement, job training, training in business administration, accounting, marketing, sales, customer service, food and drink preparation, tourist guiding, English and other foreign languages, reading, writing, mathematical skills, first aid, rescue services, cartography, navigation, geography</li> </ul>
Contribution to local economy		<ul style="list-style-type: none"> <li>• Hire local people: local staff, guides, management; hire people from remote, rural communities; create opportunities for first-ever formal employment</li> <li>• Sourcing goods and services locally: furniture, arts, crafts, pottery, candles, soaps, activities offered to guests, contracting skilled and semi-skilled labour to local village to build decks, walls, benches; using local transportation companies for boat, air and ground transfer</li> <li>• Purchasing local food: support for fish farms and agriculture development, purchase of fish and marine products directly through local traders working with community fishers</li> <li>• Creating opportunities for local businesses: opportunities for selling local goods, crafts, food at the lodge shop or to lodge visitors, selling excursions and activities led by locals</li> <li>• Representing local businesses and supporting local business organizations: representing local business in discussion with local and regional government, industry groups</li> <li>• Support in setting up a business: financial and administrative support for small business development, for example family farms, horseback riding or mountain biking businesses; planning sustainable businesses for local producers</li> </ul>

(Continued)



Table 17 continued – Original Best Practices from the Ecotourism Principle: Local community development, Source: Fennell and de Grosbois (2020), p492

Themes and sub-themes	Best practices
	and sponsoring training and supplies needed for their operations, such as seeds, irrigation system, tools, bee hive boxes; providing no-interest loans to help start a business
Involving local people in planning, design, construction and operations	<ul style="list-style-type: none"> <li>• Design/construction by the local/indigenous community: hiring local craftsmen, artisans, architects</li> <li>• Local or indigenous ownership or management: all administrative and operative staff native, operating as a partnership or joint venture between a tour operator and local community, employees are stakeholders of the business and get percentage of earnings</li> </ul>
Minimizing negative social impacts	<ul style="list-style-type: none"> <li>• Tour size management: limiting the number of participants in activities offered by local community to facilitate contact with locals and to disturb them as little as possible</li> </ul>

Table 18 – Original Best Practices from the Ecotourism Principle: Education and research, Source: Fennell and de Grosbois (2020), p494

Themes and sub-themes		Best practices
Learning opportunities for tourists	Environment-focused	<ul style="list-style-type: none"> <li>• Science/nature education: guided nature tours, interpretive displays, interpretation materials and books in guest rooms or a library, natural history centre, science presentations by naturalist guides, resident astronomer, resident marine biologist</li> <li>• Tours focused on sustainable practices at the lodge: tours of the back of the house, guided tours of an organic garden, greenhouse or farm; agro-tourism based tours to teach about reforestation and aquatic and organic farming practices at the lodge, tours about the design inspiration and local sourcing; visiting animal sanctuary</li> <li>• Educating visitors about environmental stewardship: providing books on environmental stewardship in lodge's library, providing environmental educational materials in guest rooms; on-site instruction or website section on minimizing impacts when travelling or staying at a lodge; asking guests to participate in sustainability efforts at the lodge; encouraging travellers to participate in non-polluting activities such as walking, cycling, or camel cart trips; explaining and proposing carbon offsetting to guests; educating guests about the lodge's code of ethics</li> </ul>
	Local culture-focused	<ul style="list-style-type: none"> <li>• Educational materials about local culture: providing books, magazines, presentations or documentaries about local culture, art, heritage or history; placing information about the region and its culture in guest rooms; providing advice for travellers explaining local culture and desired behaviours; awareness centre, exhibitions or displays of cultural collections</li> <li>• Tours and visits to cultural and heritage attractions: tours to archaeological, historical, or rock art sites; visits to villages, churches, monasteries, heritage museums, markets, tea shops, and fields; opportunity to watch local way of life, local artists performing cultural dances and songs, local festivals, celebrations, ceremonies or craftsmen working on their projects (making paper, beads, jewellery); guided tours explaining heritage, culture, traditions, sharing local legends, myths and beliefs, teaching about medicinal plants, Buddhist philosophy, heritage protection</li> <li>• Local community-led activities and interactions: workshops/demonstrations led by locals on traditional arts, crafts, house construction, food preparation, hunting techniques, honey collecting, beading, pottery, dyeing of clothes, basket weaving, medicine, archery, falconry, makeup, making leather, candles, tents, dairy products, or ropes; dream interpretation by the elders; visiting or spending a day with local/indigenous family or community members to experience their day to day life and activities (farming, fishing, working as a shepherd); participating in local events (ceremonies, bonfire, games, dances, rituals)</li> </ul>
Influence local people and staff attitudes to conservation and ecotourism		<ul style="list-style-type: none"> <li>• Demonstrating alternative economic activity and employment: promoting employment as guides, lodge staff, rangers, artisans, para-biologists, workshop leaders; demonstrating the value of biodiversity conservation (e.g. rhino conservation, predator protection) in generating income through tourism, encouraging local landowners to expand conservation area</li> <li>• Environmental education for local community: free environmental education programs, forest immersion activities, eco summer camps and eco-clubs, and rhino watch trips for school children; open days at the lodge for schools to learn about the importance of conservation; sustainability-oriented scholarship programs; free environmental workshops and events for teachers, fishers, farmers, other community groups and government officials</li> <li>• Environmental education for staff and guides: guides school teaching the philosophy of nature conservation and sustainability, training staff on the responsible use of resources, recycling, environmental best practices, wildlife rescue and supervision of visitors on the trails</li> </ul>
Opportunities for tourists to get involved		<ul style="list-style-type: none"> <li>• Volunteering opportunities: tree planting, wildlife monitoring, site rehabilitation, weeds and non-native species control, reforestation, coffee picking, teaching English and arts, gardening, beach cleaning, repairing fences, website and social media management, egg collecting, milking cows, separate opportunities for medical professionals and educators</li> <li>• Financial support: encouraging donations to lodge's foundation or the community, recommending a donation to a school after a school visit, encouraging guests to support projects by providing them with a detailed documentation on the organizations and contribution from the lodge</li> <li>• Bringing items for community: participating in Pack for Purpose or Pack-a-Pound initiatives, which encourage visitors to bring and donate supplies for educational programs or useful items for community in their luggage</li> <li>• Special activities/tours focused on conservation and community development: data collection, assisting conservation team with monitoring and tracking animals, de-horning rhinos, accompanying the anti-poaching team to survey and monitor the conservancy, reef monitoring, allowing guests to install and review camera traps, visiting local health clinics or schools, travelling with the mobile clinic to distribute medications and health advice</li> <li>• How you can help or get involved section on website: encouraging guests to visit, donate money or listed items, providing information about volunteer opportunities, providing links to donate</li> </ul>
Supporting research		<ul style="list-style-type: none"> <li>• Lodge-conducted research: forest, wildlife, reef monitoring; wildlife and bird counts; science laboratory with a resident wildlife project coordinator; wildlife research centre; use of photo-trapping (motion sensor cameras) to understand and record animal populations; use of a mini-drone to capture high-resolution imagery of the rainforest canopy; conducting socio-economic studies</li> </ul>

(Continued)

Table 18 continued – Original Best Practices from the Ecotourism Principle: Education and research, Source: Fennell and de Grosbois (2020), p494

Themes and sub-themes	Best practices
	<ul style="list-style-type: none"> <li>• Logistics, management and in-kind support for external research projects: providing logistical support, equipment, human resources, fuel, vehicle servicing, access, property use for researchers and conservation groups; accommodation and food for scientists; hosting international experts</li> <li>• Sponsoring research projects: on biodiversity (e.g. birds, mammals, reptiles, fish, butterflies), water resources, soil contamination; financial support for construction of research lab station; supporting research through a foundation</li> <li>• Collaboration with conservation and academic organizations: partnerships, participation in conferences to share best practices, organizing conferences</li> </ul>



## A.3 Cable Car Project: Creve Coeur Station

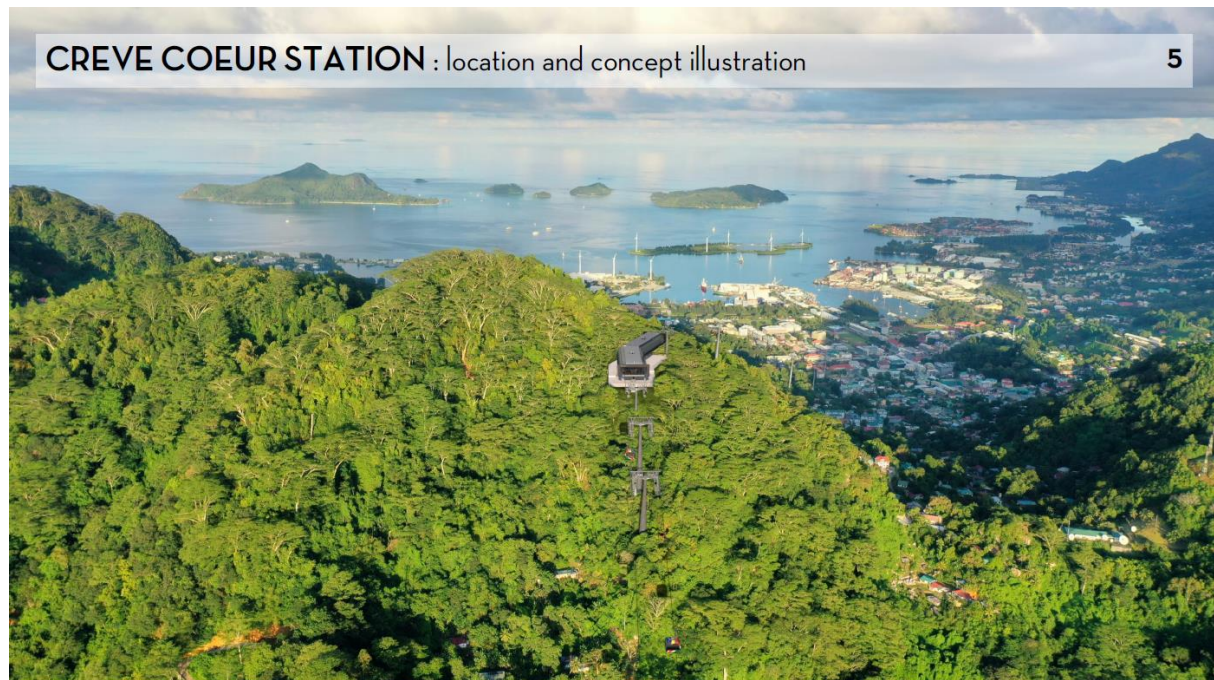
### PROJECT OVERVIEW

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- **Landmark Public Private Partnership** project (Tourism & Transportation) between Seychelles Govt & Seychellois investors
- System designed, engineered and manufactured by **Doppelmayr Austria** (14,500 installations globally)
- **Monocable Detachable Gondola (MDG)** System proven and tested in thousands of global installations
- Clean, silent and green transportation project
- Estimated Project Cost – **US\$ 40 million** including equipment, buildings & construction
- **Construction period** – 24 to 30 months estimated
- **3 Stations in total:**
  - 1 Station at Victoria (Freedom Square)
  - 1 Station at Beau Vallon next to Savoy (with **electric bus service** to Belombre, Mare Anglaise and Machabee)
  - 1 Station at Creve Coeur - Top of mountain with **360° view Restaurant/Viewpoint**
- Total of **35 cabins - 10 persons each**
- Capacity **1000 passengers per hour** each direction
- Trip time **10 minutes** from Victoria to Beau Vallon
- Total of **12 Towers**
- Total length horizontal = Approx. **3000m**
- One motor and gensets at Victoria Station
- Power Consumption: Max. appr. 500kW / Avg 260kW



Figure 5 – Project Overview, Source: Cable Car Project Team (2023)



CREVE COEUR STATION : location and concept illustration

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Figure 6 – Location and Concept Illustration 1, Source: Cable Car Project Team (2023)





Figure 7 – Location and Concept Illustration 2, Source: Cable Car Project Team (2023)



Figure 8 – Creve Coeur Station and Future Botanical Park Extension 1, Source: Cable Car Project Team (2023)



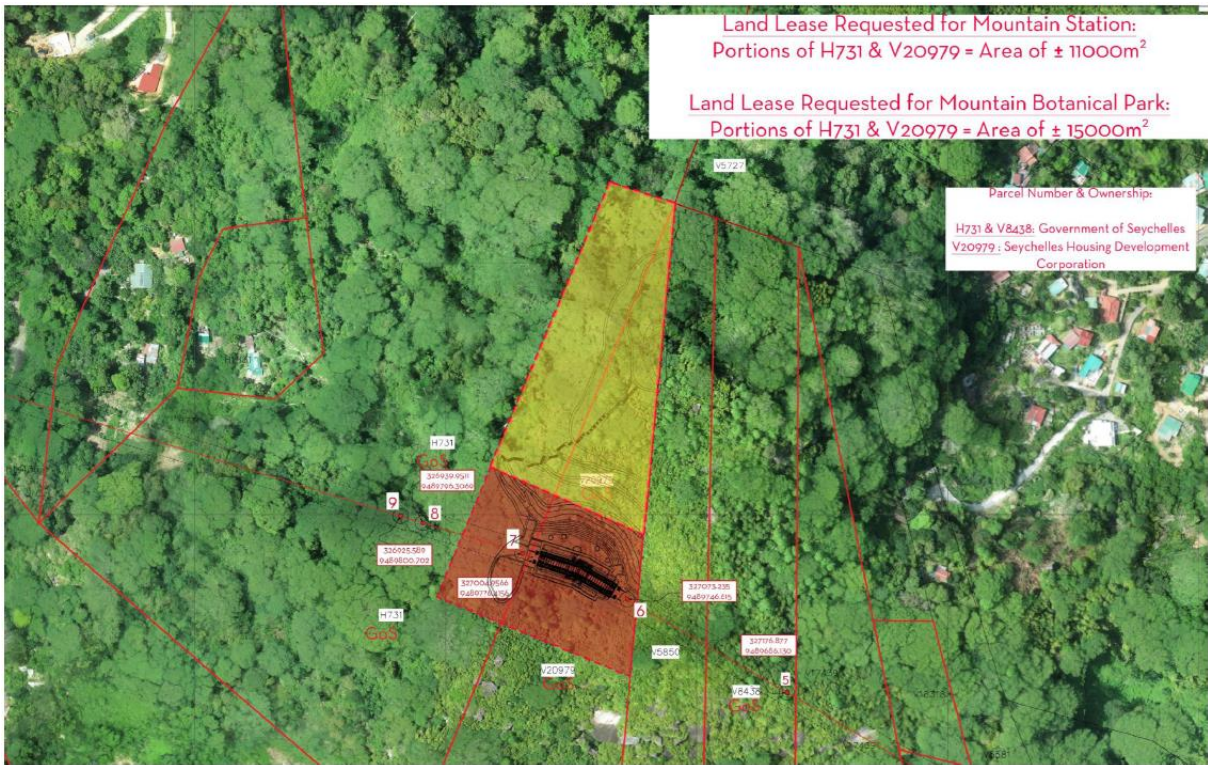


Figure 9 – Creve Coeur Station and Future Botanical Park Extension 2, Source: Cable Car Project Team (2023)

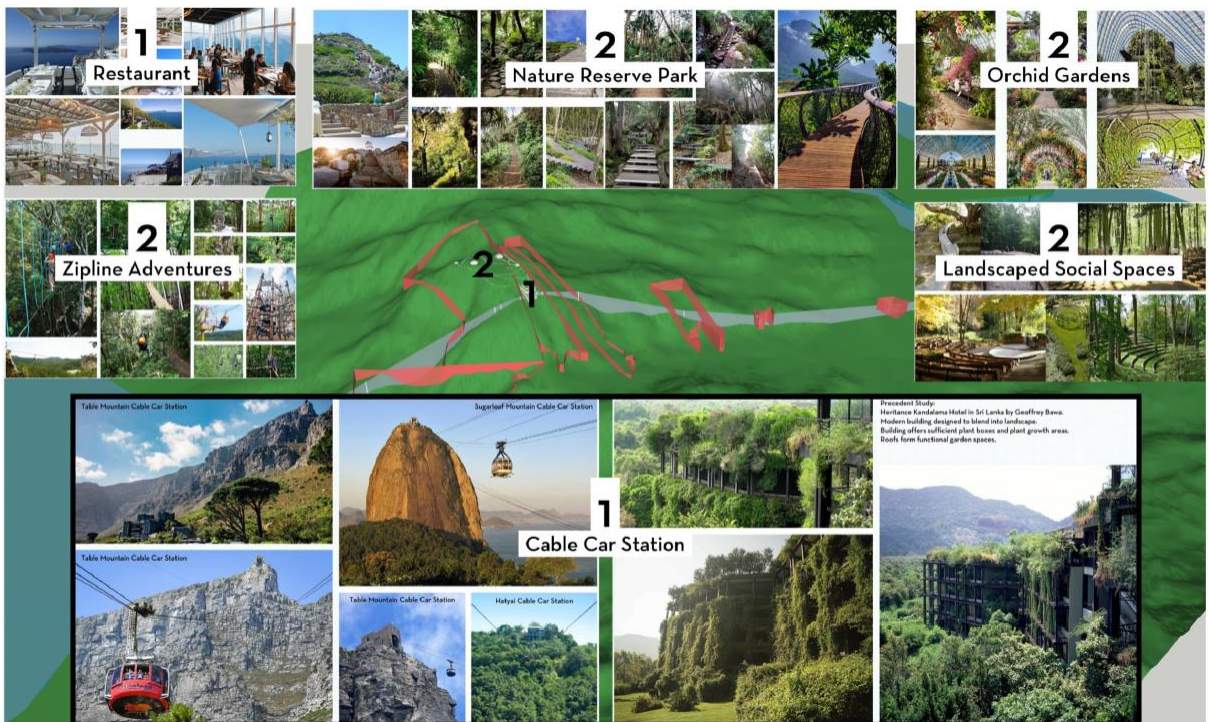


Figure 10 – Architectural Precedent Studies, Source: Cable Car Project Team (2023)





Precedent Study:  
Heritance Kandalama Hotel in Sri Lanka by Geoffrey Bawa.  
Modern building designed to blend into landscape.  
Building offers sufficient plant boxes and plant growth areas.  
Roofs form functional garden spaces.



Figure 11 – Architectural Precedent Studies: Heritance Kandalama Hotel, Source: Cable Car Project Team (2023)



Figure 12 – Architectural Precedent Studies: Creve Coeur Nature Reserve 1, Source: Cable Car Project Team (2023)









Figure 15 – Architectural Precedent Studies: Creve Coeur Orchids, Source: Cable Car Project Team (2023)



Figure 16 – Architectural Precedent Studies: Creve Coeur Park and Social Spaces, Source: Cable Car Project Team (2023)



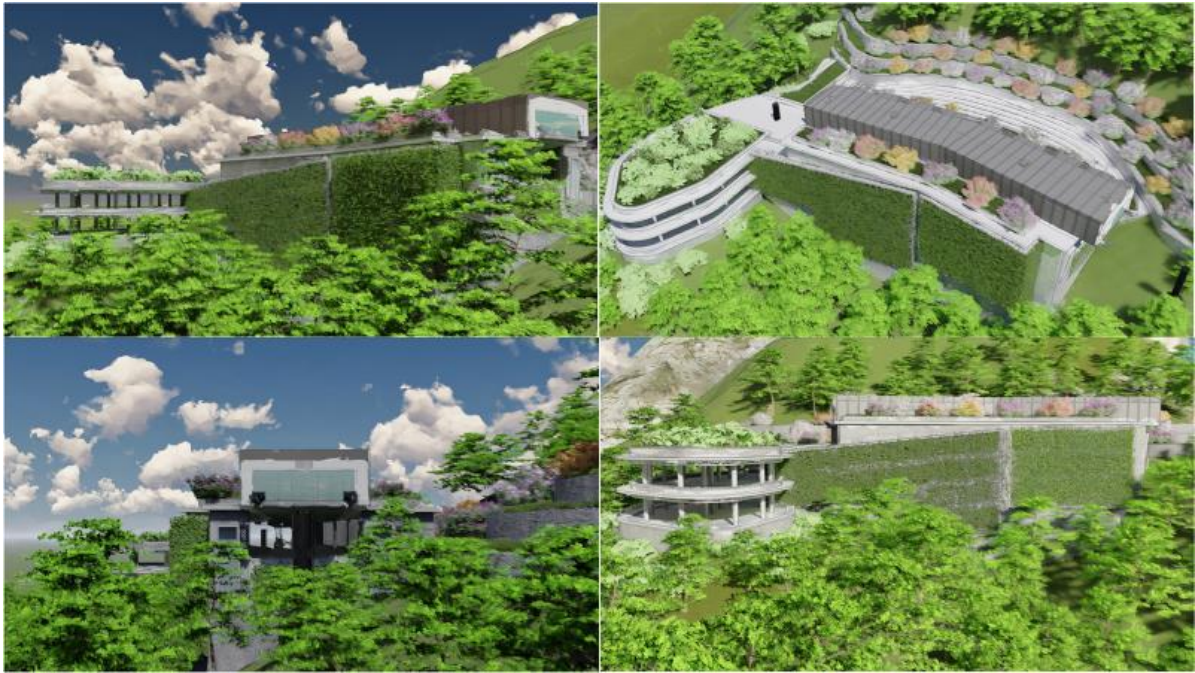


Figure 17 – Creve Coeur Station Concept: Artist Presentation 1, Source: Cable Car Project Team (2023)

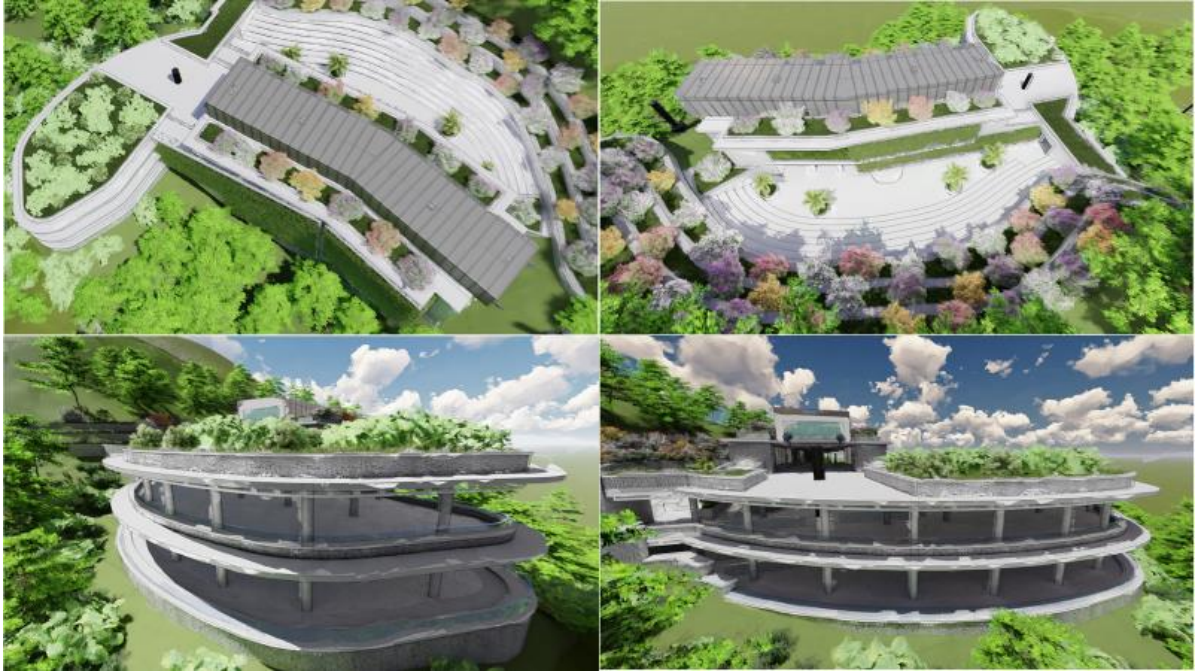


Figure 18 – Creve Coeur Station Concept: Artist Presentation 2, Source: Cable Car Project Team (2023)

## A.4 Financial Material

### A.4.1 Business Plan Guideline from SIB for Project Management related to Tourism Accommodations and Restaurants, Source: Seychelles Investment Board (2021)

## BUSINESS PLAN

### SYNOPSIS

This section briefly describes what the project is about and what it hopes to achieve. A good synopsis makes it easier for the reader to grasp the details as they unfold. A few sentences will suffice.

### PROJECT DESCRIPTION

Detailed description of the business to be established, the product(s), service(s) and the quality. The objectives of setting up this business must be clearly stated.

### BACKGROUND AND QUALIFICATIONS

The background section may cover the following:

- Promoter’s Nationality
- Professional Status (please attach CV)
- Promoter’s experience in the field
- Previous/current activities
- Any other supporting documents

### TECHNICAL DESCRIPTION

The technical description should cover a wide range of matters depending on the nature of the project. The checklist provided below should serve as a guide.

- Environmental concerns
- Project size
- External work

### CHECKLIST FOR TECHNICAL DESCRIPTION:

- Site analysis
- Site development and existing or proposed accesses
- Master plan (all phases)
- Existing public utilities and services (water and sewage, electricity)
- Building (Construction/Renovation/Addition/Rehabilitation)
- Architectural concept
- Other facilities to be provided
- Method and standard of construction (materials)
- External works (site clearance, earth moving, rock blasting, felling of trees specifying species and maturity)
- Environmental matters prior to construction energy efficiency considerations, water management and solid waste management
- Hard and soft landscaping Life cycle costs (planning of the building’s cycles for maintenance, choice of materials, use of technology, replacing furniture)
- Sketch design
- Brief visual presentation of the full project within the site (photo montage of all the buildings including the staff quarters, services)



## Dimension and Size

- Size of building
- No. of rooms if applicable
- Provide details for each floor if multi-story
- Size of building – state the number of room

## FINANCIAL ANALYSIS

This section of the business plan should analyze the financial implications of the project. Such analysis should cover:

**(a) Capital expenditure:** The total capital expenditure should be broken down into logical components. It may adopt the following classification:

- Vehicles
- Land and buildings (leased/owned)
- Other capital expenditure

**(b) Recurrent costs:** Financial analysis of the project should include analysis of the recurrent cost that would be incurred when the project is operational. The following checklist should be used in estimating recurrent costs of projects:

### CHECKLIST FOR RECURRENT COSTS

- Salaries
- Allowances
- Income Tax on non-monetary benefits tax
- GOPs
- Transportations Costs (Fuel, Running costs)
- Other charges (Accountancy fees, Rent, Maintenance, Servicing, Etc.)
- Fuel Costs (e.g. generator running/kerosene/etc.)
- Utilities (e.g. electricity, water, sewerage, internet)
- Business Tax Total recurrent cost
- Training
- Training Budget
- Administration Costs
- Consumable materials
- Insurance
- Marketing
- Replacement
- Trades Tax

Other chargers to Profit and Loss Account

- Depreciation
- Interest on Loan

**(d) Revenue:** Revenues to be derived from the project should be thoroughly declared when carrying out the financial analysis of the project.

Example:

- Occupancy Rate
- Price per room/cover
- Food and Beverage earnings
- Total revenue

Note: If the project is operational, the Audited Accounts (Profit and Loss, Balance Sheet) of the previous year must be submitted.

Every effort should be made to get the financial sums right since poor financial analysis may lead to delays in project implementation. These figures will later be compared with similar projects.

## INVESTMENT COST

Presentation in local currency of the cost of land, site preparation, infrastructure building (if any), cost of technology and equipment, working capital, etc.

## FINANCING PLAN

The mode of financing of the project should be clearly specified. It should include a total description of how the total investment costs are to be financed – loan from private individuals/ non-banking institutions, long term loans, partnership agreements, share capital. Details of bank (local and/or international) should be specified if loans are being outsourced.

## MANAGEMENT AND MANPOWER ASPECTS

This section specifies who will manage the business, the number of staff required and recruitment process- a copy of the organization plan should be attached.

### (a) Administration

Who will manage the business; please attach CV and other qualification documents.

### (b) Staff requirements

(Type and number of employees needed, state whether qualified personnel is available or not) Please provide CV for the technical staff/ chef/ barman and where/how the promoter expects to obtain the manpower needed.

## MARKETING

Give details on how and where service is to be marketed.

### (a) Market

Description of the target market for the service(s) of the proposed business.

### (b) Marketing Plan

Description of how the business is to promote itself and its service(s) in order to increase sales.



## BUSINESS STRUCTURE

The project memorandum should specify the business structure of the project. Importance should be given to detailing all aspects of the organization including the following:

- Sole proprietorship or partnership (Give the name and contribution/holding of each partner)
- Company (Give share/shareholding of each member and names of the shareholders)
- Foreign participants (State the name and other particulars along with contribution/holding)
- Patent rights (if available)

(Please attach a copy of the Memorandum and Articles of Association)

## ENVIRONMENTAL ASPECTS

This section should take into account externalities. All details of any environmental impact must be listed.

- Waste disposal
- Others

## IMPLEMENTATION AND FUTURE PLANS

Briefly explain when the business is expected to start operations and other plans for diversification, and so forth.

## A.4.2 Comparison between the Components to include in an Ecotourism Business Plan from Drumm et al. and the Seychelles Guidelines for Business Plan in the Tourism Accommodation Sector

Table 19 – Comparison between the Components to include in an Ecotourism Business Plan from Drumm et al. and the Seychelles Guidelines for Business Plan in the Tourism Accommodation Sector, Sources: Drumm et al. (2015); Seychelles Investment Board (2021)

Ecotourism Business Plan Preparation for Investors		Seychelles Guidelines for Business Plan in the Tourism Accommodation Sector	
Executive Summary	Highlights of the business plan	Project Description	Detailed description of the business to be established, the product(s), service(s) and the quality. The objectives of setting up this business must be clearly stated
Company Description	Details of the services or product offered	Backgrounds and Qualifications	Promoter's Nationality
	A mission statement for the business		Promoter's experience in the field
Industry Analysis	An evaluation of the standards, trends and characteristics of the ecotourism industry		Professional Status
			Previous/current activities
Competition Analysis	An identification of the major competitors for your target market		
	A comparison of your strengths and weaknesses versus theirs		
Marketing Plan	A description of the target customers, their motivations and purchasing patterns	Marketing	Market: Description of the target market for the service(s) of the proposed business
	An estimate of the market size and number of customers expected		Marketing Plan: Description of how the business is to promote itself and its service(s) in order to increase sales
	Details of the promotional and sales activities used to sell the product to overcome the competition and industry challenges		
Operations	Details of the daily business functioning		
Management and Organization	An overview of the business structure	Management and Manpower	Administration: Who will manage the business
	Identify who will fill key positions and descriptions of their backgrounds especially where they have experience relevant to the proposed business		Staff requirements: Type and number of employees needed, state whether qualified personnel is available or not
Financial Projections	Historical, current and projected financial data (for existing businesses)	Financial Analysis	Capital expenditure: The total capital expenditure should be broken down into logical components. It may adopt the following classification: <ul style="list-style-type: none"> <li>• Vehicles</li> <li>• Land and buildings (leased/owned)</li> <li>• Other capital expenditure</li> </ul>
	Includes a performa (projected) cash flow, income statement and balance sheet		Recurrent costs: Financial analysis of the project should include analysis of the recurrent cost that would be incurred when the project is operational. (Appendix X)
			Revenue: Revenues to be derived from the project should be thoroughly declared when carrying out the financial analysis of the project. Example: <ul style="list-style-type: none"> <li>• Occupancy Rate</li> <li>• Price per room/cover</li> <li>• Food and Beverage earnings</li> <li>• Total revenue</li> </ul>
Monitoring and Evaluation	Specifies the criteria for success and method for monitoring the business		
Appendices	Additional information that reinforces the business plan conclusions	Technical Description	(Appendix X)
		Investment Cost	Presentation in local currency of the cost of land, site preparation, infrastructure building (if any), cost of technology and equipment, working capital, etc
		Financing Plan	The mode of financing of the project should be clearly specified. It should include a total description of how the total investment costs are to be financed – loan from private individuals/ non-banking institutions, long term loans, partnership agreements, share capital. Details of bank (local and/or international) should be specified if loans are being outsourced
		Business Structure	The project memorandum should specify the business structure of the project. Importance should be given to detailing all aspects of the organization including the following: <ul style="list-style-type: none"> <li>• Sole proprietorship or partnership (Give the name and contribution/holding of each partner)</li> <li>• Company (Give share/shareholding of each member and names of the shareholders)</li> <li>• Foreign participants (State the name and other particulars along with contribution/holding)</li> <li>• Patent rights (if available)</li> </ul>
		Implementation and Future Plans	Briefly explain when the business is expected to start operations and other plans for diversification, and so forth

## A.5 Seychelles Sustainable Tourism Label

Table 20 – SSTL Total Possible and Required Points by Themes and Sections, Source: ‘SSTL Assessors Manual’, Tourism Department’, (2017), p9

Total possible points (black) and total required points (in red) by section and size of enterprise			
Standard, by themes	Small (1-24)	Medium (25-50)	Large (51+)
<b>Theme 1. Management</b>	5	6	7
Section 1: Policy	15	15	15
Section 2: Monitoring	5	5	5
Section 3: Health and Safety Standards	6	6	6
<b>Theme 2. Waste</b>	5	6	7
Section 4: Waste water	2	2	2
Section 5: Reducing Waste	15	15	15
Section 6: Recycling Waste	6	6	6
Section 7: Avoid Harmful Chemicals	12	12	12
Section 8: Other waste practices	3	3	3
<b>Theme 3. Water</b>	5	6	7
Section 9: Conserving Water	8	8	8
Section 10: Reusing Water	7	7	7
Section 11: Other Water Conservation Practices	3	3	3
<b>Theme 4. Energy</b>	5	6	7
Total possible points (black) and total required points (in red) by section and size of enterprise			
Standard, by themes	Small (1-24)	Medium (25-50)	Large (51+)
Section 12: Conserving Energy	10	10	10
Section 13: Renewable Energy	6	6	6
Section 14: Greenhouse Gas	7	7	7
Section 15: Other Energy-Related Practices	3	3	3
<b>Theme 5. Staff</b>	5	6	7
Section 16: Staff Pay and Opportunities	2	2	2
Section 17: Staff Working Conditions	11	11	11
Section 18: Staff Training	7	7	7
Section 19: Other staff-related practices	3	3	3
<b>Theme 6. Conservation</b>	5	6	7
Section 20: Conserve Habitats and Species	3	3	3
Section 21: Garden and Design	10	10	10
Section 22: Other Conservation Practices	3	3	3
<b>Theme 7. Community</b>	5	6	7
Section 23: Community Relations	4	4	4
Section 24: Community Economy	5	5	5
Section 25: Other Community Practices	3	3	3
<b>Theme 8. Guests</b>	5	6	7
Section 26: Guest	14	14	14
<b>TOTAL POSSIBLE POINTS</b>	<b>173</b>	<b>173</b>	<b>173</b>
<b>TOTAL Required points</b>	<b>40</b>	<b>48</b>	<b>56</b>
<b>Total additional points</b>	<b>6</b>	<b>6</b>	<b>6</b>
<b>TOTAL to be certified with SSTL</b>	<b>46</b>	<b>54</b>	<b>62</b>

Table 21 – SSTL Theme 1. Management Criteria, Source: ‘SSTL Assessment Form’, Tourism Department, (2019)

THEME 1. MANAGEMENT							
Section	Criteria Number	Criteria	Possible Score	Awarded	Assessment Guidelines	Evidence sighted	Assessor Notes/ Corrective Action
1. Policy	1,1	The enterprise has a sustainable tourism policy appropriate to the size of the business, which includes a vision statement, and identifies goals in at least three of the following: waste, water, energy, staff, conservation, community, or guests. This policy, including performance must be communicated to guests and/or publicly available and be implemented	MUST		a) a sustainability management system in line with the criteria b) the policy addresses environmental, social, cultural, economic, quality, health and safety issues c) the policy has a vision statement d) the policy is publicly available e) the policy is implemented f) a report of the SSTL activities and outcomes carried out during the audit period needs to be submitted by enterprises being recertified Small organizations with few staff may have a simple system, provided it is implemented. Larger organizations must have documented systems, formal reporting, records and training.		
	1,2	The enterprise's sustainable tourism policy addresses environmental, social, cultural, economic, quality, human rights, health, safety, risk and crisis management issues, engages the support of stakeholders, including customers, drives continuous improvement and includes an action plan, targets, and monitoring results	2		a) a sustainable tourism policy in line with the criteria b) a vision statement c) evidence that the policy is publicly available		
	1,3	The enterprise has implemented a policy against commercial, sexual or any other form of sexual exploitation or harassment of children, adolescents, women and minorities and a pledge to provide equal opportunities to women and minorities and other vulnerable groups	1		a) a policy in line with the criteria. The policy may be part of the sustainability policy b) documented policy is made known to all staff and management. Small organizations with few staff may have a simple policy provided it is implemented; larger organizations must have documented policy and associated staff awareness and reporting systems.		
	1,4	The enterprise has a current crisis management plan that is suited to its scale	2		a) a plan in line with the criteria		
	1,5	The crisis management plan includes an evacuation plan and addresses climate change impacts	1		a) a plan in line with the criteria which may be included in the sustainability policy b) evidence that the plan has been communicated with staff		
	1,6	The enterprise has a policy which favors the purchase and offer of locally appropriate as well as environmentally sustainable goods and services following fair trade principles whenever these are available and of sufficient quality e.g., building materials, capital goods, food, consumables and the purchase and use of disposable and consumable goods is measured and the organization actively seeks ways to reduce their use and minimize waste	1		a) a documented policy in line with the criteria which may be included in the sustainability policy and waste management plan		
	1,7	The enterprise has a current, valid certification with ISO 14001/EMS/Green Globe/HACCP or Travelife	2		a) valid certification		
	1,8	The Enterprise scored 10% more points this year than in the last assessment	3		a) comparison with previous assessment score		
	1,9	The enterprise publicly displays a summary of the results of its SSTL assessment	1		a) sight public summary		
	1,10	The enterprise's promotional materials and marketing communications are accurate and transparent and complete, including sustainability claims and do not promise more than can be delivered	1		a) review of website and/or brochures prior to visit b) visit does not reveal any information or visuals greatly different from the promotional materials		
1,11	The enterprise is involved with sustainable tourism planning and management in the destination, where such opportunities exist.	1		a) the enterprise participates in partnerships between local communities, NGOs and other local bodies b) the enterprise participates in planning and management meetings and activities concerning sustainable tourism in the destination.			
2. Monitoring	2,1	The enterprise monitors the quantity of water it consumes	MUST		a) monitoring records for at least two months for new applications b) monitoring records during the audit period for enterprises being recertified		
	2,2	The enterprise monitors the quantity of energy it consumes	MUST		a) monitoring records for at least two months for new applications b) monitoring records during the audit period for enterprises being recertified		
	2,3	The enterprise monitors the quantity of waste it produces	3		a) monitoring records for at least two months for new applications b) monitoring records during the audit period for enterprises being recertified		
	2,4	The enterprise publicly communicates their monitoring results	2		a) evidence that the policy is publicly available		
3. Health and Safety Standards	3,1	The enterprise is in compliance with all national legislation (e.g., health, fire, environment, safety, labor) has a current tourism license based on recommendations from fire, health and environmental permits	MUST		a) current valid licence Check with Tourism Department, Department of Environment or Seychelles Licensing Authority prior to assessment		
	3,2	There have been no environmental disputes related to this enterprise during the last year	2		a) check with Department of Environment prior to assessment		
	3,3	There are no irregularities in refrigerators and freezers temperature or fridge door seals	2		a) check Public Health Reports prior to assessment		
	3,4	All refrigerant appliances are in line with ozone depleting substances requirements	2		a) check Public Health Reports prior to assessment b) check Ozone Unit and DOE reports prior to assessment		
Total Must Criteria in Theme			4	0			
Total Possible Points			26	0			
Total Points Scored				0			

Table 22 – SSTL Theme 2. Waste Criteria, Source: ‘SSTL Assessment Form’, Tourism Department, (2019)

THEME 2. WASTE							
Section	Criteria Number	Criteria	Possible Score	Awarded	Assessment Guidelines	Evidence sighted	Assessor Notes/ Corrective Action
4. Wastewater	4,1	The enterprise is connected to a central sewage system or has a valid permit to discharge from a secondary or tertiary system	2		a) Wastewater is either disposed to a municipal or government approved treatment system b) if secondary or tertiary system, check that the treatment system has no adverse effects on the local population and the environment. c) review any maintenance records		
5. Reducing Waste	5,1	The enterprise has developed and implemented a plan that is suited to its scale to reduce reuse and recycle solid waste, including food waste and ensures that overall residual waste disposal has no adverse effect on the local population and the environment	Must		a) plan should include: i) description of types of wastes (e.g., glass, plastics, paper, hazardous wastes); ii) an estimation of the quantity of each waste currently produced per week (kg/bags/bins per week); iii) time-bound targets for reduction b) For small enterprises, the plan can be part of the sustainability policy		
	5,2	Soft drinks, beer, and other drinks are only available in recyclable materials (PET, Cans, Glass)	2		a) check bar, restaurant and minibars to ensure no non-PET bottles are used		
	5,3	The enterprise encourages the use for tap water for drinking or provides bulk water dispensers	2		a) sign in room stating the water is fit for drinking b) jug of drinking water in room c) restaurant offers tap water as an alternative to bottled water		
	5,4	The enterprise uses rechargeable batteries	2		a) check room remote controls and security flash lights for at least 50% rechargeable batteries		
	5,5	Guest amenities (e.g., Soap, shampoo, and lotion) are provided from a bulk dispenser or compostable/recycled bottle or in other sustainable packaging	3		a) check room bottles for >50% consistent with criteria b) check housekeeping store room for refilling system c) all amenities provided need to be either in sustainable/refillable packaging		
	5,6	If the hotel offers takeout food, it is in recycled, PET, or paper packaging	2		a) check kitchen and restaurant area; no polystyrene take-out boxes should be used		
	5,7	The enterprise has implemented a program to reduce paper use in their office	2		a) at least two paper saving techniques sighted e.g., double sided printing, electronic paper audit, electronic brochures, recycled paper purchased in bulk		
	5,8	Paper products that are used in the enterprise are recycled or from a sustainable source	2		a) at least one major use of paper is recycled or sustainably sourced		
6. Recycling Waste	6,1	The enterprise has a system to collect and separately dispose of the oil/content of grease traps which meets environmental guidelines	Must		a) system that meets guidelines		
	6,2	The enterprise separates paper, glass, plastic, aluminium, and organic kitchen waste	2		a) separation system at source; check for correct separation b) waste storage area; check for consistent sorting		
	6,3	The enterprise has a functioning compost site where kitchen and garden waste is disposed of	2		a) compost system which meets guidelines		
	6,4	There are clearly marked recycling bins in guest rooms	1		a) sight separation system		
	6,5	There are clearly marked recycling bins in public areas throughout the property	1		a) separation system in place; check for housekeeping separation		
7. Avoid Harmful Chemicals	7,1	The enterprise keeps a record of all of its chemical purchases which includes only authorized chemicals	Must		a) list of chemical purchases compared with authorized list shows no black-listed items		
	7,2	The enterprise has a separate disposal area for hazardous waste that meets environmental guidelines and is suited to its scale	Must		a) hazardous waste disposal system meets guidelines		
	7,3	The enterprise waste management plan includes a plan to reduce pollution from refrigerants, used fuel, paints, pesticides, swimming pool disinfectants, cleaning materials and large batteries. The use of harmful substances, is minimized, and substituted when available, by innocuous products or processes. All storage, use, handling, and disposal of chemicals are properly managed. There is evidence of implementation of this plan	2		a) waste management plan contains all elements in criteria above b) request enterprise "shows" at least 2 ways they are doing this		
	7,4	Gardening staff have been trained in safe chemical use	1		a) evidence of training within the last 12 months (e.g., training materials, check lists etc.)		
	7,5	Environmentally friendly pest control methods are used	1		a) check pest control chemicals		
	7,6	The enterprise uses phosphate-free dishwashing & laundry detergents	2		a) check dishwashing & laundry detergents b) one point each up to two points		
	7,7	At least two commonly used cleaning agents are organic or bio-degradable	1		a) check cleaning agents in bulk storage area		
	7,8	Housecleaning staff have been recently trained in the use of chemicals and harmful products	1		a) evidence of training within the last 12 months (e.g., training materials, check lists etc.)		
	7,9	Beach showers and outside drains not connected to grey water systems post notice instructing guests and staff not to use shampoos and soaps or dispose of chemicals	1		a) sign on shower or at drainage area b) proof that housekeeping and gardening staff have been trained in where to dispose of chemical waste		
	7,10	The enterprise's swimming pool uses sea water, ozone, UV, saline mix, or other alternative to chlorine	3		a) evidence of alternative to chlorine in use for pools		
8. Other Waste Practices	8,1	Enterprise demonstrates evidence of implementing other approved waste management practices. This includes practices to minimize pollution from noise, light, runoff, erosion, ozone-depleting compounds, and air, water and soil contaminants	3		a) evidence of innovative approaches to reducing or recycling waste e.g. participation in glass recycling project, composting toilets, collection of community compost, policy against plastic bag usage, scrap metal recycling, contract for collection of waste cooking oil b) There is minimal pollution from noise, light, runoff, erosion, ozone depleting compounds, air pollutants, water pollutants, soil contaminants Only in exceptional or emergency situations should there be any pollution which affects natural ecosystems or the local community.		
		Total Must Criteria in Theme	4	0			
		Total Possible Points	38	0			
		Total Points Scored		0			

Table 23 – SSTL Theme 3. Water Criteria, Source: ‘SSTL Assessment Form’, Tourism Department, (2019)

THEME 3. WATER								
Section	Criteria Number	Criteria	Possible Score	Awarded	Assessment Guidelines	Evidence sighted	Corrective Action	
9. Conserving Water	9.1	The enterprise has developed and implemented a water management plan that is suited to its scale. Water sourcing is sustainable, and does not adversely affect environmental flows.	Must		a) plan should include: i) identification of main water uses (e.g., showers, toilets, kitchen appliances, bar, swimming pool, cleaning); ii) the total quantity currently used; iii) time-bound targets for reduction in water use b) at least two pieces of evidence to suggest the plan has been implemented For small enterprises, the plan can be part of the sustainability policy			
	9.2	The enterprise's water management plan contains the following elements: Water risk is assessed, water consumption is measured by type, and steps are taken to minimize overall consumption. Water sourcing is sustainable, and does not adversely affect environmental flows. In areas of high water risk, context-based water stewardship goals are identified and pursued.			1			a) Water risk has been assessed and documented. b) Where water risk has been assessed as high, water stewardship goals have been determined. c) Water used per tourist/night per source is monitored and managed. d) Equipment and practices are used that minimize water consumption. e) Water originates from a legal and sustainable source which has not previously affected, and is unlikely in future to affect environmental flows. f) Consideration is given to cumulative impacts of tourism in the locality on water sources g) Goals for reducing water consumption are in place h) Staff and guests are given guidance on minimizing water use.
	9.3	Low flow devices are installed in taps and showers			3			a) inspection shows at least 50% of showers and taps have low-flow devices in place b) test at least two devices with measured bucket and timer. Flow rates should be less than: • 9 litres per minute for low flow faucets and aerators • 10 litres per minute for low flow showerheads
	9.4	Efforts have been taken to reduce water usage in toilets using dual flush, reduced volume cisterns or other effective device			3			a) inspection shows at least 50% of toilets/urinals have low-flow devices in place b) test at least two devices with measured bucket and timer. Flow rates should be less than: 5 litres per flush
	9.5	The guest is given an option to decide when s/he wants the towels to be changed			1			a) notice is found in guest rooms to change towels less frequently b) housekeeping staff are able to confirm procedure
10. Re-using Water	10.1	The enterprise re-uses treated wastewater for garden or toilets in line with environmental guidelines with no adverse effects to the local population and the environment	3	a) Wastewater reuse system viewed enterprise can only reuse waste water if it is treated to tertiary level				
	10.2	Roof/rain water is collected	2	a) at least one rainwater collection system				
	10.3	Gardens and/or golf courses are irrigated with collected rainwater	2	a) system for rainwater irrigation in some garden areas				
11. Other Water Practices	11.1	Enterprise demonstrates evidence of implementing other approved water conservation or reuse practices	3	a) evidence of innovative approaches to conserving or reusing water e.g. desalination, drip-watering of gardens, sprinkler systems have override for when it is raining, system in place for guests to report leaks b) one point each up to three points				
	Total Must Criteria in Theme		1	0				
Total Possible Points		18	0					
Total Points Scored			0					

Table 24 – SSTL Theme 4. Energy Criteria, Source: ‘SSTL Assessment Form’, Tourism Department, (2019)

THEME 4. ENERGY								
Section	Criteria Number	Criteria	Possible Score	Awarded	Assessment Guidelines	Evidence sighted	Corrective Action	
12. Conserving Energy	12.1	The enterprise has developed and implemented an energy management plan that is suited to its scale. Sources of energy are indicated.	Must		a) plan should include: i) main energy uses (e.g., a/c, lighting, cooking); ii) quantity currently used; iii) time-bound targets for reduced usage b) at least two pieces of evidence to suggest the plan has been implemented For small enterprises, the plan can be part of the sustainability policy			
	12.2	Energy efficient lighting fixtures have been installed			3			a) at least 50% of lighting in rooms OR two areas of the enterprise (e.g., garden and kitchen) are using energy efficient light bulbs
	12.3	Energy-efficient appliances are installed			3			a) at least 50% of appliances are energy efficient-star rated
	12.4	Electric equipment is turned off (not on standby) when guest room is not occupied			2			a) functional power key card or notice to guests to switch off lights, and evidence that housekeeping staff confirm that they switch off appliances after cleaning room
	12.5	The enterprise provides fans as an alternative to air-conditioning in guestrooms with air conditioners			1			a) at least 50% of rooms with a/c also are equipped with fans
	12.6	All air conditioning units have their minimum temperature set at 23 degrees C			1			a) at least two rooms show minimum temperature of 23 b) housekeeping staff can confirm correct temperature for rooms
13. Renewable Energy	13.1	The enterprise has installed solar panels and/or wind turbines	3	a) renewable energy devices sighted and functional				
	13.2	The enterprise uses alternative energy heating systems for all hot water	3	a) water heating with renewable energy is demonstrated				
14. GHG	14.1	The enterprise documents its total annual green-house gas (GHG) emissions from business-related energy consumption (not including guest-travel) using a nationally or internationally accepted GHG calculator	3	a) results of current year's GHG calculations and how these were made				
	14.2	The enterprise documents its purchase of verified carbon offsets and mitigate 51% or more of its total net annual greenhouse gas emissions	3	a) results from 14.1 b) receipts from carbon offsets showing more than 51% carbon has been offset Section 15 offers additional points for use of local carbon offset program				
	14.3	The enterprise seeks to reduce transportation requirements in its operations and encourages its customers, staff and suppliers to reduce transportation-related greenhouse gas emissions.	1	a) Customers, staff and suppliers are aware of practical measures/opportunities to reduce transport related greenhouse gas emissions.				
15. Other Energy-Related Practices	15.1	Enterprise demonstrates evidence of implementing other approved energy conservation practices	3	a) evidence of innovative approaches to energy conservation and/or renewable energy use e.g. energy generated is transferred to national grid, water is desalinated using solar power, solar power lighting systems are used, bicycles are available for guest use, only non-motorized water recreation is provided b) one point each practice up to three points				
	Total Must Criteria in Theme		1	0				
Total Possible Points		26	0					
Total Points Scored			0					

Table 25 – SSTL Theme 5. Staff Criteria, Source: ‘SSTL Assessment Form’, Tourism Department, (2019)

THEME 5. STAFF							
Section	Criteria Number	Criteria	Possible Score	Awarded	Assessment Guidelines	Evidence sighted	Corrective Action
16. Staff Pay and Opportunities	16.1	The enterprise conforms to the Employment Act and Occupational Health and Safety Decree and meets or exceeds minimum wage (the established national living wage) for all salaried employees	Must		a) list of all employees b) confirmation that all employees are paid over the minimum wage c) payment is made into Personal Income Tax for all workers and other national social security/pension system for local workers d) overtime is paid for hours worked beyond the established work week hours and working hours must not exceed the legal maximums or those established by the local and International Labour Organization. e) all employees have the right to annual paid vacation.		
	16.2	Evidence that the employer uses fair labour practices in settling staff disputes	Must		a) staff know procedure for lodging a dispute e.g. employee handbook, publicly posted knowledge confirmed by staff member b) enterprise has details of laws on labour practices c) assessor checks with community office on active disputes prior to assessment and confirms fair practices are implemented		
	16.3	At least 60% of full-time staff are Seychellois	1		a) list of all staff by nationality		
	16.4	At least 30% of management/supervisory level staff are Seychellois	1		a) list of all management and supervisory level staff by nationality		
17. Staff Working Conditions	17.1	Dedicated staffroom is provided with lockers for staff use	2		a) staff room is suited to the scale of the enterprise b) staff room has lockers for staff use		
	17.2	Establishment provides transportation/accommodation for late night shift workers	2		a) evidence is provided of regular transportation and/or accommodation for night workers		
	17.3	Childcare/creche is provided by the enterprise for working parents	3		a) childcare system or crèche for working parents is seen		
	17.4	Uniforms/staff shirt is provided for staff	2		a) uniform is seen in use and in good condition		
	17.5	Suitable protective clothing is provided for kitchen, cleaning, and garden staff	2		a) evidence is provided that protective clothing in use		
18. Staff Training	18.1	There is a designated member of staff responsible for environmental management	1		a) assessor is provided with employee name b) employee designated in this role can be identified by other staff		
	18.2	All employees are aware of the enterprise's sustainable tourism policy	Must		a) copy of the policy is posted in staff room or public area b) information about sustainability policy is included in employee handbook c) evidence that all staff have attended training on sustainability issues d) staff questioned are aware of the policy		
	18.3	The enterprise offers equal employment and advancement opportunities, including management positions without discrimination by gender, race, religion, disability or in other ways	1		a) Percentage of women and local minority employees on staff is reflective of local demographics (both in management and non-management categories) b) Internal promotion of women and local minorities occurs c) There is no child labour (as defined by local laws and the ILO).		
	18.4	Staff are engaged with the development and implementation of the enterprise's sustainability management system and receive periodic guidance and training regarding their roles and responsibilities with respect to environmental, social, cultural, economic, quality, health and safety, human rights and climate change issues risk and crisis management, and are offered opportunities for advancement.	2		a) list of staff b) evidence of training received e.g., materials, manual, videos, certificate c) career opportunities are offered		
	18.5	There is a feedback mechanism for employees to place suggestions to improve service or make complaints known in an open and/or anonymous manner	1		a) record of employee complaints or suggestions with date and name of employee b) note of suggestions which have been acted on		
	18.6	The enterprise has a programme that encourages staff rotation for more diversified work experience	1		a) record of employee rotation schedule		
	18.7	There is an award system in place to reward exemplary staff performance	1		a) record of award system showing successful employees		
19. Other Staff Related Practices	19.1	Enterprise demonstrates evidence of implementing additional staff management practices	3		a) evidence of innovative approaches to staff management and/or training e.g. international exchange for staff, benefit system, annual performance evaluation b) one point each up to three points		
	Total Must Criteria in Theme		3	0			
Total Possible Points			23	0			
Total Points Scored				0			



Table 26 – SSTL Theme 6. Conservation Criteria, Source: ‘SSTL Assessment Form’, Tourism Department, (2019)

THEME 6. CONSERVATION							
Section	Criteria Number	Criteria	Possible Score	Awarded	Assessment Guidelines	Evidence sighted	Corrective Action
20. Conserve Habitats and Species	20.1	The planning, siting, design, construction, renovation, operation and demolition of buildings and infrastructure respect the natural and cultural heritage and comply with national zoning laws and regulations regarding natural and cultural capacity and impact assessment.	3		a) Impact Assessment report for buildings built in the last year b) confirmation from Ministry Of Environment that any new buildings are in line with regulations (check beach set-back, design, impact assessment, and land and water rights as appropriate)		
	20.2	Beach area illumination is consistent with turtle guidelines of the Department of Environment (n/a if no beach front)	Must		a) guideline from Department of Environment		
	20.3	Any interactions with wildlife, taking into account cumulative impacts, do not produce adverse effects on the animals concerned and on the viability and behaviour of populations in the wild. If turtle watching activities or other interactions with wildlife occur, these are conducted in line with the guidelines of the Department of Environment (n/a for establishments without wildlife activities)	Must		a) guideline from Department of Environment b) has copy of turtle guidelines c) guidelines are publicly posted		
	20.4	No wildlife or domestic animals are acquired, bred or held except under approved conditions by those authorized and properly equipped to house and care for them conforming to local and international law and standards of animal welfare	Must		a) there is evidence of compliance with local to international laws for any harvesting, consumption, display, sale, or trade of wildlife. b) has copy of tortoise/bird keeping guidelines c) guidelines are publicly posted and adhered to		
	20.5	The enterprise supports and contributes to biodiversity conservation on its own property and including natural sites, natural protected areas and areas of high biodiversity value. If it is located in or adjacent to a protected land or marine area it has established guidelines or a code of behaviour to minimize visitor impacts on this area. Any disturbance of natural ecosystems is minimized, rehabilitated, and there is a compensatory contribution to conservation management.	Must		a) assessor checks location relative to protected land and marine areas prior to visit b) code of behaviour must be sited c) a percentage of annual CSR is allocated to support conservation		
	20.6	The enterprise contributes to the protection, preservation and enhancement of local properties, sites and traditions of historical, archaeological, cultural and spiritual significance and does not impede access to them by local residents	Must		a) has built boardwalks over wetland, taken steps to protect dunes, historic buildings, endangered species or forest areas b) local access is not impeded Assessor must sight these projects and confirm access is not impeded		
	20.7	Property, land and water rights have been acquired in a legal manner, comply with local, communal, and national rights, including their free, prior, and informed consent, and property, land, and water rights acquisitions do not require involuntary resettlement of inhabitants.	Must		a) check planning approval		
21. Garden and Design	21.1	The enterprise values and makes use of traditional or contemporary authentic local art, architecture, or cultural heritage in its operations, design, decoration, food or shops while respecting the intellectual property rights of local communities	3		a) design of buildings makes use of local architecture b) décor makes use of local art c) food includes local dishes d) enterprise is aware of IP laws		
	21.2	Historical and archaeological artefacts are not sold, traded or displayed, except as permitted by local and international law	2		a) any sales, trading or display of historical and archeological artifacts is permitted by local to international law. The organization should be able to show evidence it is permitted prior to any sales, trading or display		
	21.3	The enterprise has a vegetable or fruit garden which supplies produce for the guests and/or staff	2		a) evidence of vegetable or fruit garden b) evidence the garden supplies 20% or more of enterprise's vegetable/fruit requirements		
	21.4	The enterprise uses native species for landscaping and restoration, and takes measures to avoid the introduction of invasive alien species	3		a) evidence of native tree planting program e.g., trees, plan, contracts with landscapers b) awareness of invasive species		
22. Other Conservation Practices	22.1	Enterprise demonstrates evidence of implementing other approved conservation practices	3		a) evidence of innovative approaches to conservation or garden design e.g. monitoring endangered species, working with conservation organizations, sitting on board of conservation organizations b) one point each up to three points		
Total Must Criteria in Theme			6	0			
Total Possible Points			16	0			
Total Points Scored				0			



Table 27 – SSTL Theme 7. Community Criteria, Source: ‘SSTL Assessment Form’, Tourism Department, (2019)

THEME 7. COMMUNITY							
Section	Criteria Number	Criteria	Possible Score	Awarded	Assessment Guidelines	Evidence sighted	Corrective Action
23. Community Relations	23,1	Enterprise provides safe and free public access to the beach, any adjacent conservation or heritage area, as applicable	Must		a) evidence that public access to the beach and restaurant is not impeded b) assessor to check with DOE regarding any disputes over access to land Assessor should check map of protected areas in training materials		
	23,2	Any disputes with the local community over noise, land, pollution or other issues have been resolved	Must		a) assessor must check with DOE prior to assessment		
	23,3	The activities of the enterprise do not adversely affect local access to livelihoods including land and aquatic resource use, rights-of-way, transport and housing and do not jeopardize the provision of basic services such as healthcare, water, energy, or sanitation to neighbouring communities	2		a) the local community retains access to public and common areas and is able to engage in traditional, non-tourism livelihoods. b) rights-of-way, transport, and housing remain accessible and affordable to local people c) no increase in the number of incidents/reports of outages, reduced service or quality of product for the local community as compared to the enterprise. d) no reduction in availability of water, waste, and energy to the local community as the result of the organization's activities.		
	23,4	The enterprise actively supports community development and local infrastructure initiatives. Examples of initiatives include education, training, health and sanitation and projects which address the impacts of climate change.	2		a) evidence of cash or in-kind contribution to community project(s) that meet the criteria above and are in line with the scale of the enterprise		
24. Community Economy	24,1	The management offers job opportunities/internships for students aged over 15 years	1		a) students are currently in the enterprise or enterprise can provide evidence of opportunities provided to students in the last year		
	24,2	The enterprise provides opportunities for local entrepreneurs to develop and sell products that are based on local history, nature and culture e.g. handicrafts, food, drinks, and music	2		a) events or market-day opportunities held by the enterprise in the last year		
	24,3	The company's daily menus offer at least one creole regional dish where 50% of ingredients have been sourced locally	1		a) sight menu and request information regarding the source of ingredients used		
	24,4	The enterprise has a programme in place to purchase and contract directly from local suppliers and services e.g. transportation, fruit, vegetable, fish	1		a) evidence of local supplier purchases		
25. Other Community Practices	25,1	The enterprise demonstrates evidence of implementing other approved community practices	3		a) evidence of innovative approaches to community engagement e.g. Financial or in-kind donation to community organisation and initiatives; hosting education/school groups on site; donating time to community or charitable organisations (not covered in 24.2); donation of products, linen, furniture, food or similar to charitable organisations b) one point each up to three points		
	Total Must Criteria in Theme		2	0			
Total Possible Points		12	0				
Total Points Scored			0				

Table 28 – SSTL Theme 8. Guest Criteria, Source: ‘SSTL Assessment Form’, Tourism Department, (2019)

THEME 8. GUEST							
Section	Criteria Number	Criteria	Possible Score	Awarded	Assessment Guidelines	Evidence sighted	Corrective Action
26. Guests	26,1	The enterprise follows international and national good practice and locally agreed guidance for the management and promotion of visits to culturally or historically sensitive sites e.g local attractions, protected areas, and endangered species, and informs guests about appropriate behaviour code when visiting natural sites areas, villages, historic, and cultural heritage sites in order to minimize adverse impacts and maximize local benefits and visitor fulfilment.	Must		a) can be written e.g., brochure, in-room guide, poster, code of behaviour or verbally explained but must include all elements in the criteria as applicable b) if primarily verbal, at least a code of behaviour must be publicly posted c) assessor will need to be satisfied that all the elements above are covered		
	26,2	The enterprise informs guests about opportunities and encourages their involvement and their support in conservation and climate change adaptation projects and initiatives	2		a) evidence that this is being done b) may be donation box to support projects to address Climate change adaptation		
	26,3	The enterprise provides guests with information about public transport routes and schedules, where applicable	3		a) schedules are publicly posted b) front desk staff are knowledgeable in these schedules (current schedules available from SPTC)		
	26,4	Customer satisfaction including sustainability aspects is monitored and corrective action taken where appropriate	3		a) system for collecting guest feedback is in place b) evidence that feedback is recorded and acted on e.g., log with action taken		
	26,5	The enterprise provides access and information to visitors and workers with special needs where appropriate	3		a)Facilities and services are accessible to visitors and workers with special needs b)Level of accessibility is clearly communicated Points may be awarded if main entrance, restaurant, and at least one guestroom and toilet is accessible. Level of accessibility is clearly communicated.		
	26,6	The enterprise has won a national or international award for their facilities or services within the audit period	3		a) receipt of quality or sustainability award within the last 12 months		
Total Must Criteria in Theme		1	0				
Total Possible Points		14	0				
Total Points Scored			0				

Table 29 – List of Hotels certified SSTL, Source: Seychelles Tourism Department (2023b)

No.	Name of Establishment	Year First Certified	Status	
1	Berjaya Beau Vallon Bay Resort & Casino	2012	Active	Large
2	Constance Ephelia Resort	2012	Active	Large
3	Hanneman Holiday Residence	2012	Active	Small
4	Banyan Tree Seychelles	2013	Suspended-Hotel undergoing renovation	Large
5	Kempinski Seychelles Resort	2013	Active	Large
6	Heliconia Grove	2015	Active	Small
7	Cote D'Or Footprints	2016	Active	Small
8	Constance Lemuria Resort	2016	Active	Large
9	Four Seasons Resort Seychelles	2016	Active	Large
10	Hilton Seychelles Labriz Resort and Spa	2016	Active	Large
11	Chalets D'Anse Forbans	2016	Active	Small
12	Hilton Seychelles Northolme Resort & Spa	2016	Active	Large
13	DoubleTree by Hilton Allamanda Resort	2016	Active	Medium
14	Acajou Beach Resort	2017	Active	Large
15	Coral Strand Hotel	2017	Active	Large
16	AVANI Seychelles Barbarons Resort and Spa	2018	Suspended-Hotel undergoing renovation	Large
17	Story Seychelles (formerly The H Resort)	2018	Active	Large
18	Hotel L'Archipel	2018	Active	Medium
19	Raffles Seychelles	2019	Active	Large
20	Le Meridien Fisherman's Cove	2019	Active	Large
21	Anantara MAIA Resort	2019	Active	Medium
22	Paradise Sun Hotel	2021	Active	Large
23	La Cigale Estate	2022	Active	Small
24	Four Seasons Resort Seychelles at Desroches	2022	Active	Large

## A.6 Other

### A.6.1 List of the Stakeholders Interviewed

Table 30 – List of the Stakeholders Interviewed

Institution	Name	Expertise	Date	Topic of the interview	Reference
Seychelles Tourism Department	Lebon Paul	Director General Destination Planning and Development	10.02.23	(Preliminary Interview) Situation of Seychelles and Objectives of the GoS	(Seychelles Tourism Department 2023c)
Seychelles Tourism Department	Bristol Janice	Product Development Manager	10.05.23	Seychelles Sustainability Tourism	(Seychelles Tourism Department 2023b)
Seychelles Tourism Department	Matombe Chris	Director of Strategic Planning	12.05.23	Tourism Recovery and Objectives in Seychelles	(Seychelles Tourism Department 2023a)
Ministry of Finance	Palit Lenny	Director General Economic Planning	05.07.23	Financial Situation of Seychelles and Objectives	(Ministry of Finance 2023)
Seychelles Investment Board	Rosette Anne	Chief Executive Officer	07.07.23	Project Development and Financial Situation in Seychelles	(Seychelles Investment Board 2023)
Seychelles Investment Board	Hortère Helda	Senior Investment Analyst	07.07.23	Project Development and Financial Situation in Seychelles	(Seychelles Investment Board 2023)
North Island Resort	Dina Dominique	Environment Manager	30.06.23	Sustainability Practices and Environmental Management at the North Island Resort	(North Island Resort 2023)
Seychelles Cable Car Project	Houareau Marc	Entrepreneur and Investor	06.06.23	Project Development in Seychelles	(Cable Car Project Team 2023)
Seychelles Cable Car Project	Neethling Christiaan	Architect	06.06.23	Project Development in Seychelles	(Cable Car Project Team 2023)
Seychelles Cable Car Project	Neethling Christiaan	Architect	12.06.23	Cable Car Project Deep Dive	(Cable Car Project Team 2023)