

Managing adaptation finance in SIDS: A study of subnational allocation criteria and procedures in Seychelles

Clara Bartram Gurresoe

Kiel University

Germany

gurresoe@philsem.uni-kiel.de

ABSTRACT: The international climate regime considers Small Island Developing States (SIDS) priority recipients for international adaptation finance due to their high vulnerability to climate change. This objective neglects two important aspects: firstly, vulnerability is unevenly distributed at the subnational level. Therefore, protecting the most vulnerable requires not only providing finance to SIDS, but also ensuring that it reaches the most vulnerable people and areas within them. Secondly, vulnerability is a complex and context-dependent phenomenon that may differ between and even within communities. Studies on subnational adaptation finance tend to apply pre-defined indicators of need and treat national governments as unitary actors. However, governments consist of a web of different entities and individuals with potentially differing perceptions and interests. To explain subnational allocation, we need to understand it better from a recipient country perspective, including who makes the decisions and who are perceived as the most vulnerable. This paper examines priorities and procedures shaping subnational adaptation finance allocation in Seychelles, through interviews and analysis of government reports. The findings indicate inconsistent perceptions between and within public entities of who are those particularly vulnerable. Actors prioritise projects protecting the largest number of people and the economy, which they perceive as a way to protect the most vulnerable. Whether this is plausible must be evaluated in the context of Seychelles' fragile and undiversified economy. Finally, public entities in Seychelles have uneven decision-making power and capacity constraints, resulting in certain sectors being prioritised over others for adaptation finance.

Keywords: adaptation finance, climate change, Seychelles, Small Island Developing States, vulnerability

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Introduction

Adaptation finance is a subset of climate finance that refers to all financial resources funding actions with an adaptation objective (Peterson et al., 2015). Parties to the UN Framework Convention on Climate Change (UNFCCC) and climate justice scholars agree that the most vulnerable countries must be prioritised in the allocation of public international adaptation finance (Batz, 2018; Farber, 2008; Gardiner, 2010). In line with this, the Paris Agreement mentions Small Island Developing States (SIDS) and Least Developed Countries (LDCs) as priority recipients for adaptation finance due to their high vulnerability to climate change and significant capacity constraints (UNFCCC, 2015, Art. 9.4).

The objective to prioritise the most vulnerable countries, however, neglects two important aspects: firstly, vulnerability is not distributed evenly at the subnational level. Hence, a commitment to prioritising the most vulnerable requires not only providing finance to SIDS and LDCs, but also ensuring that subnational allocation processes prioritise the most vulnerable

groups within them (Barrett, 2013). Secondly, vulnerability is a complex and context-dependent phenomenon, making it difficult to measure and compare (IPCC, 2022). Indeed, both vulnerability and perceptions of vulnerability may vary between and within countries (IPCC, 2022; Thomas et al., 2019).

While there is a substantial literature on the international allocation of adaptation finance, subnational allocation has received less attention. Studies on adaptation finance and general development aid tend to take a top-down approach, assessing allocation according to pre-defined indicators of need and neglecting the recipient country perspective (Barrett, 2014; Morris & Wodon, 2003; Reinikka & Svensson, 2004). It furthermore contains a polarised narrative on recipient control dominated by ‘good’ and ‘bad’ governments. In electoral democracies, recipient control is argued to implicitly favour allocation to the most vulnerable because national governments have a better understanding of national needs (Duus-Otterström, 2015). Contrastingly, in countries with poorer governance, allocation practices could end up serving the political and economic interests of powerful elites (Berlin et al., 2023; Francken et al., 2009; Hodler & Raschky, 2014). Both narratives treat national governments as unitary actors. But governments consist of a web of different entities and individuals with potentially differing perceptions and interests. To explain subnational allocation, we need to understand it better from a recipient country perspective, including who makes the decisions and who are perceived as the most vulnerable.

This article seeks an understanding of subnational public adaptation finance through an explorative case-study of allocation procedures and priorities in a specific SIDS: Seychelles. I examine how vulnerability is constructed by subnational actors and whether it informs their decision-making on adaptation finance. This involves mapping out the country’s fragmented adaptation finance landscape and identifying public actors’ adaptation priorities. To explore what shapes subnational allocation, I rely on content analysis of government documents and interviews with political decision-makers, public administrators and experts in Seychelles.

The rest of the article is organised as follows: Section 2 discusses the literature on vulnerability and adaptation finance allocation and explains the case selection. Section 3 describes my data collection and analysis methods. Section 4 presents my results, starting with a discussion of climate change impacts and governance in Seychelles. Subsequently, I describe the country’s adaptation finance landscape and identify priorities and other factors that shape allocation. Section 5 summarises my findings and reflects on wider implications of my research. The findings show that public actors in Seychelles have inconsistent perceptions of who are most vulnerable to climate change and uneven access to adaptation funds. Based on this, I argue that to understand subnational allocation we need a more nuanced view of recipient governments as non-unitary actors. Such a nuanced understanding is required even when dealing with small states, because smallness does not exclude uneven development.

Literature

This section discusses the literature on adaptation finance allocation, starting with the commitment to prioritise the most vulnerable and the challenges it raises. Secondly, I introduce the literature on subnational allocation of adaptation finance, which generally focuses on three key determinants: climate vulnerability, donor utility and government interest. This includes a brief reflection on the need to understand allocation better from a recipient country perspective. Based on this, I discuss what we know from the literature about the characteristics and vulnerabilities of SIDS, and introduce my case study; Seychelles.

Adaptation finance and vulnerability

Climate change is characterised by an unequal distribution of benefits and burdens. While the lion's share of historical emissions come from industrialised countries of the Global North, the effects of climate change are disproportionately felt in the Global South (Schalatek, 2011). Dealing with climate change requires adaptation measures, with the aim to avert or minimize its adverse effects (Rosales, 2019). Such adaptation measures can be costly, and climate justice scholars contend that the Global North ought to contribute to the costs of adaptation in the Global South (Baatz, 2018; Farber, 2008; Gardiner, 2010). Mirroring this consensus, Global North Parties to the UNFCCC agreed to mobilise adaptation finance for the Global South (UNFCCC, 2009, 2015b). Yet current mobilisation efforts are insufficient to meet needs. According to UNEP (2022), annual adaptation costs in the Global South are currently around US\$71 billion, and will increase to US\$160-340 billion by 2030. Meanwhile, adaptation finance providers reported mobilising US\$28.6 billion in 2020 for adaptation, and their efforts are unlikely to increase sufficiently to close the finance gap (UNEP, 2022).

Unlike mitigation projects, which have universal benefits, adaptation projects mainly benefit the communities and regions in which they are implemented (Rübelke, 2011). Therefore, the Paris Agreement affirms that adaptation finance should prioritise “particularly vulnerable” countries, including SIDS and LDCs (UNFCCC, 2015a). However, this raises questions regarding how and at which scale we think about vulnerability. Firstly, it implies that vulnerability is measurable at the national level. However, vulnerability is distributed unevenly within countries (IPCC, 2022). A commitment to protecting the most vulnerable therefore requires that funding reaches not only the most vulnerable countries, but also the most vulnerable groups or areas within them (Barrett, 2012).

Secondly, vulnerability is a complex and context-dependent phenomenon, with no universally agreed indicators to measure or compare it (IPCC, 2022). It is defined by IPCC (2022a, p. 5) as “the propensity or predisposition to be adversely affected and encompasses a variety of concepts and elements, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt”. Certain social characteristics tend to influence vulnerability, including gender, race, age, social class and income (Eriksen et al., 2015). Perceptions of vulnerability may vary between and within countries because culture informs how we perceive our environment, including perceptions of risk (Thomas et al., 2019). Cultures are systems of meaning and patterned behaviours shared between members of social groups (Thomas et al., 2019). In addition to governing our perceptions of vulnerability, it also governs how we respond to risk (Adger et al., 2009; Rühlemann & Jordan, 2021). As individuals participate in multiple cultural frames simultaneously, perceptions and responses can differ between members of the same community (Thomas et al., 2019). Rühlemann & Jordan (2021) add that the existence of different sub-narratives on vulnerability among social groups or organisations can lead to inaction or ineffective action. A commitment to prioritising the most vulnerable therefore raises questions about who the most vulnerable are (perceived to be), who makes the allocation decisions and to what extent vulnerability influences their decisions.

Theories on allocation

While there exists a substantial literature on the international allocation of adaptation finance (e.g. Betzold & Weiler, 2018; Noltze & Rauschenbach, 2019; Robertsen et al., 2015; Saunders, 2019), the literature on subnational allocation is more limited. Allocation to countries

is primarily shaped by recipient need, recipient merit and donor interest, with population size and path dependency also playing a role (Betzold & Weiler, 2018). These factors are to some extent echoed at the subnational level. Drawing on studies on adaptation finance and general resource allocation, Barrett (2014) identifies three subnational key determinants: *climate vulnerability*, *donor utility* and *government interest*.

Climate vulnerability, an expression of recipient need, is, as previously discussed, a complex concept. Subnational allocation of adaptation finance is often shaped by the same social, economic and political processes contributing to vulnerability (Colenbrander et al., 2018). Evidence from natural disaster relief in Honduras shows that higher asset losses increased the likelihood of receiving emergency aid, but did not affect the amount of aid received (Morris & Wodon, 2003). Barrett (2014) finds that domestic adaptation finance in Malawi is negatively correlated to socioeconomic vulnerability and positively correlated to physical vulnerability. The negative correlation to socioeconomic vulnerability could occur because people with more resources are better able to operationalize funds into productive use, and thus are favoured in allocation (Barrett, 2014; Reinikka & Svensson, 2004). These findings highlight the difficulty of assessing climate vulnerability as a determinant for allocation without agreed indicators.

Donor utility (also known as path dependency) means that aid is more likely to target areas where donors have invested in institutional capacity such as personnel, offices, infrastructure and institutional reputation (Clay et al., 1999). Donor utility is a stronger determinant for aid delivered by aid agencies rather than national governments (Francken et al., 2009), implying that to understand allocation we must consider who makes the decisions.

The third determinant is *government interest*. National governments are important in the allocation of domestic and international adaptation finance (Barrett, 2012), but the literature reflects a polarised narrative on their role. On one hand, national governments are argued to have a better understanding of national needs, leading to better and more effective spending of resources (Duus-Otterström, 2015). This is especially true in electoral democracies, where national priorities are collectively chosen or authorised (Duus-Otterström, 2015). On the other hand, allocation by national governments can also favour co-partisan and/or co-ethnic areas (Berlin et al., 2023; Francken et al., 2009; Hodler & Raschky, 2014; Jablonski, 2014; Posner, 2005; Sharp, 1997). High media access and voter turnout may affect this, by allowing citizens to monitor government actions and hold them accountable (Besley & Burgess, 2001; Francken et al., 2009). Allocation favouring politically powerful groups can lead to maladaptation if benefits of adaptation projects are skewed towards local elites at the expense of marginalised groups (Eriksen et al., 2021; Thomas et al., 2019). Such measures increase social inequalities, rather than support the most vulnerable (Eriksen et al., 2021; Thomas et al., 2019). Nightingale (2017) stresses that the authority associated with controlling a resource may be an end goal in itself, regardless of one's level of vulnerability, by signalling social status and prestige.

The studies discussed above offer differing evidence on what determines the allocation of adaptation finance. Most of them explore subnational allocation from a top-down perspective and neglect the recipient perspective, for example, by choosing vulnerability indicators based on the literature rather than local points of view. Furthermore, the top-down approach treats governments as unitary actors. This creates a polarised and simplified narrative in which donor utility is juxtaposed with government interest, and interests of 'good' governments are juxtaposed with those of 'bad' governments. However, governments consist of multiple entities and factions, with potentially differing interests and objectives. Indeed,

climate adaptation is subject to multi-level governance at the national level and shaped by a multitude of decisions and actors (Etongo & Gill, 2022; IPCC, 2007). Recalling the earlier discussion of vulnerability perceptions, differing organisational cultures and objectives across actors can result in diverse sub-narratives on vulnerability that shape actors' responses. In a study of bilateral adaptation finance, Peterson & Skovgaard (2019) find that allocation is shaped by which donor ministry is charged with selecting recipients. Development ministries favour poor recipient countries while environmental ministries favour allies in the UNFCCC (Peterson & Skovgaard, 2019). It is plausible that similar intra-government dynamics influence subnational allocation, yet this hypothesis is underexplored in the literature.

SIDS context and case selection

This paper seeks to understand subnational allocation of adaptation finance from a recipient country perspective, using the Indian Ocean SIDS Seychelles as a case study. In this section, I discuss SIDS' characteristics and differences as context for the subnational allocation of adaptation finance. This is followed by a brief introduction to Seychelles, highlighting why it is an interesting case study for this purpose.

SIDS are a group of states distributed across the Caribbean Sea and the Atlantic, Indian and Pacific Oceans (Robinson, 2018). They are island and coastal states, typically with small populations, small and undiversified economies and a high exposure to external environmental and economic shocks (Briguglio, 1995; Kelman et al., 2019; Sealey-Huggins, 2017; UN-OHRLS, 2015; World Bank, 2016). Due to their shared characteristics, SIDS are often treated as a homogenous group in the literature. But despite their similarities, there is also a great deal of diversity between and within SIDS. They differ in terms of physical and demographic characteristics such as size, income and language (IPCC, 2014; Julca & Paddison, 2010). Furthermore, their social institutions vary, giving people different opportunities to adapt to climate impacts (Baldacchino & Kelman, 2014). Within SIDS, vulnerability to climate change can vary according to such factors as physical environment, housing and socioeconomic status, age and gender (IPCC, 2022).

Thus far, the adaptation finance literature has only considered SIDS in regards to their share of international adaptation finance (Betzold & Weiler, 2017; Carty et al., 2020; Persson & Remling, 2014; Robinson & Dornan, 2017; SEI, 2017; Wilkinson et al., 2023). SIDS receive less total adaptation finance than other, larger countries, but tend to receive a higher amount per capita (Betzold & Weiler, 2017; Robinson & Dornan, 2017). Given their small populations, adaptation measures in SIDS are also more expensive per capita than in larger countries (Briguglio, 1995). As previously discussed, a multiscale approach requires that we also assess whether vulnerability influences subnational allocation decisions. Moreover, we need to assess this from a recipient country perspective to accurately reflect the role of the government and how vulnerability is perceived within the country.

To address this gap, I explore the priorities and procedures that shape subnational allocation of public adaptation finance in Seychelles. Seychelles constitutes an interesting case for two main reasons. The country scores well on governance indicators such as level of democracy (Papada et al., 2023), which is associated with public good provision (Deacon, 2009). Similarly, they have low perceived public sector corruption (Transparency International, 2022), meaning that funds are less likely to be misused (Transparency International, 2018). Secondly, the World Bank (2023) defines Seychelles as a high-income country, which gives more fiscal space and flexibility in spending choices (Heller, 2005). It

also makes it ineligible for Official Development Assistance (ODA) (OECD, 2017). In the absence of bilateral donors, public adaptation finance comes from multilateral sources and the domestic budget. The study assumes a significant influence by national governmental actors on allocation of domestic and multilateral funding (Barrett, 2012), and hence that subnational allocation should be more closely aligned with national priorities (Duus-Otterström, 2015). Thus, if vulnerability influences subnational adaptation finance allocation decisions in SIDS, we should see it in Seychelles.

Methodology

To examine the priorities and procedures shaping subnational allocation in Seychelles, I conducted a case study on the allocation process for public adaptation finance. Climate adaptation and general development objectives are closely interlinked in SIDS (Leal Filho et al., 2020; Scobie, 2019), hence the distinction between adaptation and development finance can be blurry. I follow Peterson et al.'s (2015) definition of adaptation finance as all financial resources funding actions with an adaptation objective. Below I explain my methods, data sources and the coding framework used for my analysis.

Adaptation finance in Seychelles comes from a variety of sources and is not always clearly labelled in domestic budgets. Therefore, this study is unable to conduct a quantitative analysis of adaptation finance flows in Seychelles. Instead, it identifies priorities and procedures that shape the flow of adaptation finance. To this end, I relied on qualitative methods which were better suited to my aim of exploring vulnerability perceptions, adaptation priorities and allocation procedures. These methods included document analysis, interviews and participant observation.

Firstly, I gathered and analysed adaptation and development plans produced by the Seychelles government (see [Annex 1](#)). The document analysis was intended to identify official adaptation priorities, narratives on vulnerability and public actors involved in adaptation. Secondly, I conducted 17 interviews with 26 decision-makers, public administrators and other experts across different governance bodies and sectors during a fieldtrip to Seychelles in March 2022. The public entities included the Ministries of Agriculture, Climate Change and Environment (MACCE), Finance, Health, and Local Government (see [Table 1](#)). Inspired by Rühlemann & Jordan (2021), the analysis was guided by the notion that different sub-narratives on vulnerability may exist among different actors and which shape adaptation responses.

Table 1: Anonymised table of informants.

Affiliation	Number(s)
Public administration	1, 2*, 3, 4, 5, 6*, 7*, 8
Government	9
Government / Non-governmental	10*
Private consultant	11, 12, 13
Other	14, 15
Non-governmental	16*, 17

* = more than one informant took part in the interview

The interviews were semi-structured and focused on three key themes: 1) procedures for allocating adaptation finance; 2) perceptions of vulnerability; and 3) adaptation priorities. The document analysis revealed a list of public entities with the strongest climate links, which I targeted for my interviews (see [Annex 2](#)). During the fieldtrip, I also collected data through participant observation at a two-day workshop on local adaptation priorities. The workshop was attended by 48 local stakeholders representing a wide range of public agencies, private consultants, researchers and non-profit organisations. To protect informants' identities, I refer to them only by affiliation and randomly assigned gender.

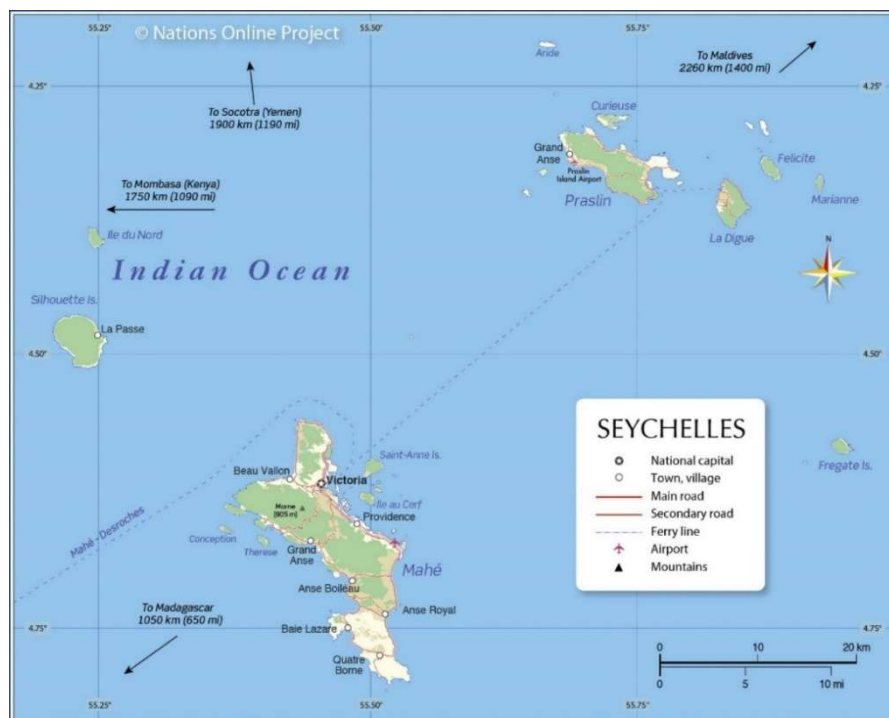
Results and discussion

This section introduces the findings from my fieldwork. I first introduce climate change impacts and governance structures in Seychelles, offering an important context for subsequent discussions. Secondly, I describe the adaptation finance landscape in Seychelles, focusing on the main sources of adaptation finance and actors involved in decision-making. Based on this, I identify priorities from various actors who contribute to shaping allocation, including a discussion of how they construct vulnerability. Finally, I reflect on issues related to uneven power and capacity of actors and how these contribute to shaping adaptation finance allocation.

Climate change and governance in Seychelles

Seychelles is a remote Indian Ocean archipelago, 1,750km east of Kenya. It consists of 115 islands and is home to a resident population of around 100,500 (Republic of Seychelles, 2018a; National Bureau of Statistics, 2022). Most of the population live on the three main inner islands of Mahé (88%), Praslin and La Digue (11%) (National Bureau of Statistics, 2022) (Figure 1).

Figure 1: Map of the main islands of Seychelles.



Source: Nations Online (n.d.)

Mahé houses the capital city Victoria and most of Seychelles' economic activities and critical infrastructure, such as the airport and seaport. More than 90% of the population and economic activities are concentrated in the narrow, low-lying coastal strip, at an average elevation of 2m above sea-level, making them extremely vulnerable to sea-level rise, storm surges and coastal erosion (Seychelles National Climate Change Committee, 2009). Other significant climate change-related threats include: changes in rainfall patterns causing flooding, landslides and extended period of droughts; and changes in sea temperature and acidity, which damage marine ecosystems (Republic of Seychelles, 2015).

Seychelles' economy relies heavily on tourism and fisheries, as well as food and fuel imports (Republic of Seychelles, 2018a). Tourism provides around 70% of foreign exchange and employs 23% of the labour force (National Bureau of Statistics, 2023; Republic of Seychelles, 2015). Meanwhile, the fishing industry constitutes more than 80% of Seychelles' export value and 10% of foreign exchange (Republic of Seychelles, 2015). Seychelles graduated from the OECD DAC list of ODA recipients in 2018 when they reached high-income status (OECD, 2017). They are therefore ineligible for bilateral ODA, but they remain eligible for multilateral funds. Despite their unemployment level of only 3% (IMF, 2023), Seychelles is one of the most unequal countries in the world, with 40% of the population living in poverty due to the high cost of living (Africa Research Bulletin, 2020).

Finally, Seychelles' governance and political history is important for understanding the distribution of vulnerability and adaptation finance in the country. The previous government, United Seychelles, introduced major socialist reforms such as free health care and social housing (Künzler, 2018). However, the state also became increasingly authoritarian and for many years the political environment was characterised by animosity between the incumbent government and the opposition (Hofmeier, 2016). In 2020, the opposition party won the presidential elections, but the political divide between supporters of the previous government and the opposition persists (Africa Research Bulletin, 2020).

The adaptation finance landscape in Seychelles

Below, I introduce the key adaptation finance sources and public adaptation actors in Seychelles: due to the complexity of adaptation and the multitude of actors, this should not be considered an exhaustive list. The aim is to highlight the complexity of the adaptation finance landscape and show that the government is not a unitary actor, but rather a compilation of different actors and (often fluid) factions. This is crucial for contextualising the subsequent findings on adaptation priorities.

In the absence of bilateral donors, Seychelles' adaptation finance comes mostly from multilateral funds and some from its domestic budget (GCCA, 2018). This is fairly representative for SIDS, whose share of international climate finance consists of 91% multilateral sources and only 9% bilateral sources (GCCA, 2018). Seychelles has received US\$ 34.3 million from the Green Climate Fund (GCF) distributed over four projects: three adaptation; one cross-cutting (GCF, 2023). All four are multiple countries-projects, developed and implemented in collaboration with other countries. Seychelles has also received grants from the Global Environment Facility (GEF) and the Adaptation Fund.

Domestic expenditure on adaptation is harder to quantify accurately, as it is rarely labelled as such in budgets (GCCA, 2019a). The best publicly available information on public climate expenditures in Seychelles is from GCCA's assessment of climate expenditures in 2018 (GCCA, 2019a). It was found that, although many government entities have potential climate linkages, few explicitly frame their activities in terms of climate change (GCCA, 2019a). Other sources of adaptation finance include domestic funds such as the Environment Trust Fund (ETF), Seychelles Conservation and Climate Adaptation Trust (SeyCCAT) and the National Grant Scheme, all of which are relatively small contributors of adaptation finance. ETF is funded through voluntary contributions from travellers and allocates around US\$ 0.5 million annually to environmental projects (GCCA, 2012; Seychelles Nation, 2019). SeyCCAT is funded through a debt-for-nature swap, organised by The Nature Conservancy, and allocates US\$ 0.2 million to adaptation projects annually (interview, other; SeyCCAT, 2015). SeyCCAT uses blended finance: a mix of private and public funding. The National Grant Scheme is a government funded scheme, which funds projects by non-profit organisations related to the country's national development priorities, including adaptation (Ministry of Finance, 2021). The scheme has allocated US\$ 2 million since it was set up in 2019 (Ministry of Finance, 2023).

Key actors

Seychelles has a multitude of different actors with relevance to adaptation. At the highest level is the central government, consisting of a democratically elected ruling party. The government is responsible for legislation and political decisions related to adaptation. It holds a majority of seats in the National Assembly, where legislation is passed and budget allocation for ministries and other public entities is decided. The President appoints the Ministers who have political responsibility for their respective ministries (Republic of Seychelles, 1993, art. 69/para. 2). Departments that do not fall under a minister are the political responsibility of the President. While public entities are subject to political leadership, the entities themselves consist of civil servants. Although the distinction between political and administrative work may not be so clear-cut in reality, it does mean that there could be divergence even within individual public entities.

Within government, several entities deal with climate links (see [Annex 2](#)). Some of the most important are MACCE and the Disaster Risk Management Department (DRMD). DRMD is a government division with responsibility for preventing and preparing measures against multi-hazard events (including, but not limited to, climate adaptation) (DRMD, 2019). Until recently, a silo working mentality in Seychelles meant that climate change was considered primarily within the realm of these two actors (GCCA, 2019b). However, the Government emphasised the need for cross-sectoral coordination in their most recent UNFCCC communication (Republic of Seychelles, 2021b).

MACCE has a complex role. It is responsible for implementing its own adaptation projects. Additionally, its principal secretary is the focal point to both GCF and GEF. They have no formal decision-making power in allocation of the funds' resources, but they influence which projects are nominated. Furthermore, MACCE manages the ETF and the Minister is a Board member of SeyCCAT, thus influencing decision-making in both funds. When local organisations want to apply for environmental funds, whether domestic or international, they often need an endorsement letter from MACCE: *“when you get the Ministry of Environment to endorse a project, it gives it more weight. ... So, this is why that partnership is very important. And we have seen how it has really helped us in so many ways.”* (interview, non-

governmental). Hence, MACCE directly and indirectly influences the allocation of both domestic and multilateral adaptation finance.

The Ministry of Local Government oversees adaptation in the 26 administrative districts: 23 on Mahe, two on Praslin and one for La Digue and Inner Islands (National Bureau of Statistics, 2022). Of the remaining islands, 14 are managed by the Island Conservation Society (ICS) and the rest are privately owned (National Bureau of Statistics, 2022). Districts are governed by government-appointed district administrators (DAs) together with district committees consisting of people from the community (Adaptation Fund, 2022; interviews, public administrators). They are responsible for local planning and hence local adaptation projects (GCCA, 2019b). According to informants from the Ministry of Local Government, districts receive two types of funding: community funding and emergency funding. Community funding is determined in the national budget and divided equally among the 26 districts each year. The informants explained that, to access the funding, each DA submits an annual plan outlining their proposed projects and activities. The Ministry then reviews the plan and conducts feasibility studies, including assessing the number of beneficiaries (GCCA, 2019b). Finally, the projects must be approved by the district committee.

Emergency funding is reserved for sudden, unexpected events at the local level. DAs report local emergencies to the Ministry which then assesses whether action is required. How emergencies are assessed has been subject to change in recent years. Until recently, the Ministry only assessed environmental effects. At the time of my fieldwork, in 2022, there were efforts to replace this with community-based cost benefit analyses (CBCBA), which consider social, economic and environmental effects. According to informants from the Ministry of Local Government, the push for adopting CBCBA comes especially from the Ministry of Finance. All this shows that allocation by the Ministry of Local Government is the result of both top-down and bottom-up priorities and interests, as well as influence from other entities.

Other relevant public actors on adaptation include the ministries of health, education and finance respectively, as well as conservation organisations. An informant from the Ministry of Health explained that climate change has changed the disease pattern in Seychelles, e.g. by introducing the mosquito-borne virus Chikungunya and causing a continuous dengue-outbreak (see McIver et al., 2016 for climate change health impacts in Pacific SIDS). Additionally, a significant share of health infrastructure is located in low-lying coastal areas at risk of flooding, along with most of the other housing and critical infrastructure. The Ministry of Education plays an indirect role in adaptation by educating citizens about the environment. The school syllabus is committed to teaching environmental protection and sustainability to children through formal and extracurricular activities (Ministry of Education, 2015). The Ministry of Finance is responsible for the national economy, including strategies for sustainable development. As part of this, it manages the National Grant Scheme (Ministry of Finance, 2021). Finally, conservation organisations, such as ICS, also carry out adaptation efforts to protect ecosystems or animal populations against environmental changes. While conservation addresses ecosystem changes caused by both anthropogenic and climatic drivers, I do not have data to quantify these drivers vis-à-vis each other. Conservation organisations in Seychelles are funded from various sources, such as SeyCCAT, other environmental funds and donations from investors and visitors (interview, non-governmental).

This discussion suggests a complex and fragmented landscape of adaptation finance in Seychelles. Public actors on adaptation finance represent different sectors and different levels of governance from high-level political decision-makers to local public administrators. In the next section, I explore what this means for allocation of adaptation finance.

Allocation of adaptation finance

Based on the actors identified above, I try to untangle priorities concerning adaptation finance. I also discuss contextual factors influencing the allocation of adaptation finance, such as issues related to power and capacity. The aim is to show that actors have different perceptions of vulnerability, and that approaches to prioritising the most vulnerable must be understood within the national context. Furthermore, uneven power and capacity among public actors influence which constructions of vulnerability dominate in allocation practices.

I begin with the Government’s official policies and continue with those of various public entities. Adaptation is a priority for the Seychelles’ government due to the country’s high vulnerability to climate change (Republic of Seychelles, 2015). In their national communication to the UNFCCC, they state an objective to “protect the most vulnerable population in society”, who are subsequently referred to as “women, youth, children and others” (Republic of Seychelles, 2021, p. 19). This is the only reference to unequal distribution of vulnerability within the population, and the description “and others” leaves it open to interpretation. The document mostly discusses vulnerability in terms of climate-vulnerable sectors and identifies eight priority sectors for adaptation efforts (see [Table 2](#)).

Table 2: Priority sectors and actions to increase resilience and reduce vulnerability up to and beyond 2030.

Vulnerabilities	Increased Resilience from
Critical Infrastructure	Climate change adaptation to be mainstreamed in all sectors with critical infrastructure Planning process for all new developments, with associated improvements in the building codes and their rigorous enforcement
Tourism	Greater co-management of the sector by the Ministry of Tourism and Department of Risk and Disaster Management as well as with the Ministry of Environment, Energy and Climate Change
Food Security	A sustainable modern agriculture supported by new and innovative technologies across all food production supply and value chains, and by skilled and qualified human resources and integrated with the <i>Blue Economy</i> and <i>Seychelles Strategic Plan 2015</i>
Biodiversity	Fully implemented <i>Seychelles Biodiversity Strategy and Action Plan</i> Fully implemented and enforced <i>Biodiversity Law</i> Fully bio-secure border
Water Security	Fully integrated approach to water security that addresses issues such as ecosystem health, waste management, water treatment and supply, sewage, agriculture, etc
Energy Security	More resilient energy base with greater innovation of renewable energy where practicable Efficient fuel-based land transport and more use of electric vehicles charged with renewable energy technology Strengthened cooperation between Government entities
Health	Health sector able to respond to population increase and its additional climate-related health burden Exploration of relevant potential science and technology innovations
Waste	Waste managed according to strict hierarchy and waste policy fully implemented Exploration of relevant potential science and technology innovations

Source: Republic of Seychelles (2015, p. 6).

National budgets from 2018-2022 all emphasise an overall goal to reduce fiscal deficits and achieve a sustainable debt level (Republic of Seychelles, 2018b, 2019, 2020, 2021a, 2022). The 2023 budget specifically mentions resilience to climate change as a focus area (Republic of Seychelles, 2022). It lists the adaptation investment priorities as: infrastructure of the tourism sector, coastal management, food security, biodiversification and the blue economy (Republic of Seychelles, 2022). This signals a narrower focus from the priorities in the UNFCCC communication from 2015, developed by the previous government. Attention to the tourism sector and the blue economy remains unchanged and reflects the before-mentioned objective to improve the national economy. I return to that later in this section as it also featured in several interviews.

Informants from various public entities had different responses regarding priorities in adaptation finance spending. Staff from the Ministry of Local Government expressed a priority for supporting the most vulnerable: *“We really try to have these projects [favouring the vulnerable]. In fact, then it takes precedence on other projects”*. They added that they considered only disabled and elderly people as particularly vulnerable, although I was unable to verify this in any documents. By suggesting projects, DAs also influence who are prioritised in local adaptation projects. One DA stated that their district does not prioritise any social groups over others, but rather: *“When we choose between projects, the criteria are high impact and low investment”*. High impact refers to the number of beneficiaries, and in combination with low investment reflects a cost-efficiency concern. The informants from the Ministry echoed this, claiming that district committees evaluate projects based on their costs and how important they are for the people in the community. The DA acknowledged that priorities vary between DAs and hence between districts. This shows that even priorities of public administrators associated with the same Ministry can vary.

A public administrator from MACCE’s coastal unit explained that due to limited resources they carry out few projects and *“prioritise the most vulnerable spots”*. When asked how they identify the latter, he emphasised the number of people impacted: *“we only intervene if it benefits a whole community. Anse Boileau has one road that connects it to the rest of the island, if that road is impacted then the whole community is cut off”*. This echoes the high impact-criterion, while also constructing it as a measure of vulnerability. Informants from both MACCE and the government further mentioned urgency as an important factor, resulting in adaptation that is often more reactive rather than proactive.

Although income and gender are identified as climate risk factors in the general literature (Eriksen et al., 2015), they rarely appeared in my interviews and mostly when explicitly asked. Coastal protection constitutes a significant part of adaptation work in Seychelles, but low-income groups are not perceived as vulnerable in this regard:

The poor are not more vulnerable to sea-level rise. Many of them live in government housing, I can't think of any that are built close to the water. (interview, governmental)

The wealthy live on the beach and in the mountains. The poor live in the middle. The beach fronts are used by the hotels because we have to bring in money. (workshop participant)

Low-income groups were only mentioned in regards to water shortages and health: *“[...] desalination is expensive and increases the cost of living, so vulnerability is uneven across income groups”* (interview, governmental). The informant from the Ministry of Health

highlighted their disproportionate exposure to health-risks associated with climate change. Most informants, particularly from the environmental sector (eg. MACCE and DRDM), simply did not mention any social indicators when asked about subnational differences in vulnerability. Regarding gender, some explicitly denied it as a risk factor for climate vulnerability (interviews, public administration and governmental). A former government official explained that “*Gender is in Seychelles' INDC because GCF wants to see it. You have to tick certain boxes*”. This shows that there exist a range of different perceptions of vulnerability among national and subnational actors. Furthermore, official government priorities may not reflect the real priorities at the subnational level, but rather external expectations.

Many actors expressed a priority for protecting the economy, particularly the tourist sector and the blue economy. This principally involves protecting critical infrastructure such as the airport and Port Victoria. Informants across different entities described protecting the economy as a way to protect the whole population (high impact), including the most vulnerable. This once again links the high impact-criterion to vulnerability considerations:

If we lose the airport we have no tourism, if we lose the port we have no fishing industry. The whole industry collapses (interview, public administration)

Protecting GDP is the best way to adapt because adaptation costs money (interview, private consultant)

I would not say that is marginalisation of certain groups. I would say it is more a focus on critical infrastructure which affects everyone. If the airport or the port goes down, everyone is affected (interview, other)

We will all be affected by changes to tourism, including the poor. Many of them work in tourism (interview, governmental)

Protecting the economy can be argued to disproportionately favour the wealthy, because it prioritises monetised adaptation benefits over non-monetised ones (Baatz & Bourban, 2019). Since the wealthy own more monetised assets, they have more to lose (in absolute terms) in an economic crash. At the same time, the impact on poor people may be worse because every bit they lose hurts them more (Baatz & Bourban, 2019). Informants merely emphasised that, despite how you define the most vulnerable, everyone depend on jobs and therefore a healthy economy. To understand this view we need to consider the national context. As discussed earlier, Seychelles has a small (in absolute terms) and undiversified economy, vulnerable to external shocks. The economy relies heavily on the fishery and tourism sectors, of which the latter employs almost a quarter of the work force. A high poverty level combined with low unemployment suggests that at least a significant share of marginalised groups actively participate in the economy.

The only challenge to prioritising the economy and the high impact-criterion came from the conservation sector:

Someone like [MACCE representative] would question why we should protect a place like Aldabra because it doesn't have any infrastructure. But Aldabra is an important ecosystem (interview, non-governmental)

Aldabra is a remote coral atoll and a UNESCO world heritage site, home to the world's largest cluster of giant tortoises; but no human population. A focus on people and the economy puts places such as these at a disadvantage in adaptation efforts.

Overall, the results show a fragmented landscape of adaptation finance in Seychelles, characterised by different priorities and perceptions of who are the most vulnerable to climate change. There is some convergence among actors, especially around the high impact-criterion. There is also convergence around protecting the economy, which is constructed as the best way to ensure high impact and protecting the most vulnerable. Yet, this puts conservation at a disadvantage despite biodiversity being an official government priority,

My fieldwork indicates that adaptation priorities are not the only factor shaping allocation; uneven power and capacity of actors influence to what extent their priorities shape allocation. Seychelles has experienced a high rate of democratisation in recent years (Papada et al., 2023). When the current government came into power, it identified “*dishonest management of public funds*” under the previous government as a key issue (Republic of Seychelles, 2020, p. 9). This practice also influenced the allocation of adaptation finance. Some public administrators alluded to biased allocation practices in the past, e.g. favouring individuals and districts with closer political ties. They added that these practices became less prevalent following the government change, giving way to established assessment procedures for determining allocation.

Corruption is not the only way that power shapes allocation. As previously mentioned, MACCE is an important actor on adaptation finance, particularly due to its role in facilitating access to environmental funds. Some public administrators perceived MACCE as “controlling” adaptation finance and prioritising projects that are more aligned with their own objectives. As one put it: “[MACCE] are the custodians of climate finance”. This informant felt that actors in the environmental sector are prioritised at the expense of other sectors:

[MACCE] keeps the funding from donors and spends it within their own sectors. There is a lack of climate finance in the social sector and they do not know how to access it. ... [MACCE] is not taking any steps to reach out and suggest projects. They only reach out to ask for inputs to write about impacts and vulnerability for reports (interview, public administrator).

According to this, the priority given to health in the Government's UNFCCC communication does not seem to extend into allocation decisions for adaptation finance. The informant acknowledged that part of the challenge concerns the capacity within these sectors themselves. They do not possess the institutional knowledge or capacity to write adaptation funding proposals; and they lack proper frameworks for agenda-setting to support adaptation objectives in their sectors. The capacity issue was echoed by an informant from the conservation sector with reference to the National Grant Scheme by the Ministry of Finance. She explained that it is often difficult for non-profit organisations with limited capacity to meet the application requirements within the given time frames.

Finally, I would like to offer a brief reflection on how the above findings may shape the spatial distribution of adaptation finance within Seychelles in the context of its archipelagic geography. The high impact criterion naturally prioritises more populated areas and islands. Additionally, several of the government's adaptation investment priorities (see table 2) indirectly prioritise areas with a higher concentration of human settlement (eg. water security,

health and waste). Combined with the focus on protecting the economy and critical infrastructure, most of which is located around Victoria, adaptation finance allocation is more likely to be channelled to the capital and other larger settlements on Mahe. The district administrations receive an equal budget every year despite their population size, which they can choose to spend on adaptation-related activities. There may therefore be local differences in adaptation spending between district territories. The districts only cover Mahe and the Inner islands. The Outer Islands are either managed by the ICS, funded by environmental funds and donations, or privately owned. Budget differences between these actors are also likely to result in differences in adaptation spending between islands. However, more research is needed to compare adaptation spending between public and private actors in Seychelles.

Conclusion

This paper contributes to the literature on adaptation finance by shedding light on the role of recipient governments and how priorities and procedures shape subnational allocation. By investigating how allocation plays out in practice, it challenges the simplified narratives presented by the theories on subnational allocation determinants: climate vulnerability, donor utility and government interest. Based on a case study of Seychelles, I identify a fragmented subnational landscape of adaptation finance with multiple sources and public actors. Within this landscape, two elements shape allocation: priorities and uneven power and capacity of actors. The fragmented landscape of actors reflects in equally fragmented priorities for adaptation finance. Despite the Government's objective to protect the most vulnerable groups, there seems to be little communication between or within public entities regarding how to approach this. This results in a high level of inconsistency in actors' perceptions of vulnerable groups. Further research could examine the vulnerability of various groups identified by informants to compare real and perceived vulnerability. The Government's narrative on vulnerability seems to focus more on sectoral, rather than social, differences. While the official priority sectors for adaptation change over time due to political changes, focus remains on the country's main economic pillars: tourism and fishing. This is in line with an overall political aim of improving the national economy and was echoed by many informants across various entities.

Despite the inconsistency in defining vulnerable groups, many actors agreed on a high impact-criterion and protecting the economy. These two priorities were usually linked to each other, and actors even constructed them as a way of protecting the most vulnerable. This has to be understood with reference to Seychelles' small and undiversified economy, which is highly vulnerable to external shocks. The findings support the initial hypothesis that there exist diverse perceptions of vulnerability among subnational actors. However, despite the diverse perceptions, many actors seem to converge around a shared narrative of how to protect the most vulnerable. How and whether the benefits of adaptation measures to protect the economy actually trickle down to marginalised groups requires further research. Nevertheless, it highlights that perceptions of vulnerability must be understood and evaluated within the national context. It furthermore has implications for how studies assess climate vulnerability as a determinant of subnational finance, as this is often evaluated through more direct financing of specific groups or locations. Further research could also assess whether women and low-income groups, which are identified in the literature as particularly vulnerable, are not indeed vulnerable groups in Seychelles. If they are not vulnerable, it would have implications for the funding requirements that donors often impose on recipients. It could also contribute to understanding the social structures that contribute to the vulnerability of certain groups.

The second element shaping allocation of adaptation finance is power and capacity of actors. Corruption has allegedly previously influenced the allocation of resources in Seychelles, favouring people with close political ties. Statements from informants suggest that these practices are changing, giving way to more formal procedures by public entities and administrators to determine allocation. Yet, public entities have different adaptation objectives and power still plays a mediating role. MACCE is a powerful actor on adaptation finance and informants perceived it to prioritise allocation to projects that are more aligned with its own adaptation objectives. The power struggle does not seem to concern how adaptation needs or priorities are defined, since the Government recognises adaptation as a cross-sectoral challenge. Instead, the power struggle concerns influence in allocation decision-making. Uneven power is combined with a lack of institutional knowledge or capacity in some sectors to apply for funds.

Overall, this suggests that we need a more nuanced narrative on the role of national governments in subnational allocation of adaptation finance that accounts for differing objectives and capacity of different actors to shape allocation. Studies on subnational allocation draw on a polarised and simplified narrative, in which donor utility is juxtaposed with government interest, and interests of ‘good’ governments are juxtaposed with those of ‘bad’ governments. Conceptualising governments as non-unitary actors challenges this narrative, thus affecting how studies assess donor utility and government interest as determinants of subnational allocation. Furthermore, previous research on how subnational power differentials influence allocation tends to focus on the power of recipient groups or communities (e.g. Eriksen et al., 2021; Thomas et al., 2019; Nightingale, 2017). However, this study suggests that to understand allocation we must also pay attention to the (uneven) power and capacity of public entities facilitating climate adaptation.

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Annex 1: Table of documents included in the document analysis.

Title	Publication year
Seychelles' National Development Strategy 2019-2023	2019
Seychelles' Updated Nationally Determined Contribution (NDC)	2021
Seychelles' National Climate Change Policy: Making Seychelles Climate Resilient	2020
Environment Management Plan of Seychelles 2000-2010	2000
Seychelles' Climate Change Strategy	2009
Seychelles' Sustainable Development Strategy 2012-2020	2012
Seychelles' Intended Nationally Determined Contribution (INDC)	2015
Seychelles' National Capacity Self-assessment (NCSA)	2005
Seychelles' National Report to the World Summit on Sustainable Development	2002
National Budget 2019	2018
National Budget 2020	2019
National Budget 2021	2020
National Budget 2022	2021
National Budget 2023	2022

Annex 2: Overview of state entities with strongest climate links (mitigation and adaptation) based on 2018 budget (GCCA, 2019a). (List is not in order of significance.)

Government entity

Civil Aviation, Ports and Marine
Fisheries
Land Transport
Seychelles Investment Board
Education
Public Utilities Corporation (PUC)
Environment
Seychelles Fisheries Authority
Infrastructure
Local Government
Health
Finance and Trade

Agriculture
Meteorology
Seychelles Agriculture Agency
Blue Economy
National Parks
Tourism
Employment
Disaster Risk Disaster Management
Seychelles Energy Commission
Investment
Foreign Affairs
Economic Planning