# Master's dissertation

# Environmental Governance: Urban Community-driven Conservation Endeavors in the Cape

Master Of Science in Environment, Society and Sustainability

*Dissertation Thesis*

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## Plagiarism Declaration

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## Abstract

Conservation of ecosystems on all scales is important, especially in light of the Anthropocene. The Cape is an important site for biodiversity and is home to many people and ecosystems. The ecosystems in urban environments influence the well-being of communities and provide essential services. Conservation in the urban is part of a complex socio-ecological system, and governance is an important factor in ensuring effective decisions are made and appropriate management actions taken. Although there are clear guidelines for conservation on a national and provincial level, it is less clear for civic and urban efforts. This research aims to establish how local conservation endeavors are governed in the urban Cape and how this governance aligns to policies in South Africa. The purpose is to provide insights into gaps in information and policy. Three cases of community driven conservation endeavors were identified for exploration in the urban areas of the Cape Floristic Region. This research uses the framework for environmental governance by Bennett and Satterfield (2018) to uncover the rich material of urban green space conservation, which is presented against the backdrop of relevant policies. It is important to determine how these spaces are governed on the ground, and if this framework is a useful tool to extract and use information on this scale. Based on the framework for effective conservation governance, data was collected through semi-structured interviews with eight people involved in the identified endeavors. The interviewees included members of the municipalities, endeavor managers and civilian volunteers. A policy analysis of environmental governance in South Africa was done to determine the guidelines in which these endeavors should operate, and to identify the objectives that the cases are meeting. Data from interviews was used to uncover the governance modes, common themes, and effectiveness of local environmental conservation. Urban conservation fulfills many social and environmental goals when governed effectively. These conservation endeavors create outputs which align with important national goals, and the Sustainable Development Goals for life on land and sustainable cities and communities. Community support and good relationships in local government proved to be the most critical to effective governance. These cases do not operate within clear policy guidelines, and their governance modes differ depending on the local socio-ecological context. These findings support the need for bottom-up governance, community led conservation and strong relationships between civic society and government to meet social and environmental goals in the urban.

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## Section 1: Introduction

The effectiveness of conservation is a pressing global concern. Climate-related impacts, and immediate socio-economic development challenges warrant the need for multi-disciplinary approaches to conservation on all scales (Bennett, 2016). Globally, the emphasis on the need for wise management of the natural environment is because it's decline will impact human well-being and ultimately our future on this planet (Allsopp et al., 2019). The Convention of Biological Diversity (CBD) Aichi Target 11 requires that protected area networks be "effectively and equitable managed" (CBD, 2010), yet the implementation and management of a conservation initiative is not a guarantee of ecological or social success (Bennett, 2016). Conservation on all scales is important, as environmental pressures can have global and local impacts and threaten ecological systems. This is certainly true of the Cape Floristic Region (the Cape) in South Africa, a globally unique biodiversity hotspot and conservation priority (Allsopp et al., 2019). The effective conservation of natural systems and their biodiversity and ecosystem services requires guidance from well-grounded research. Current work in this area is indicating that new ways of governing in relation to the environment can have important implications for the practice (Armitage et al., 2012; Bennett and Satterfield, 2018). Governments are also no longer the most important source of decision making in the environmental field and new actors are playing critical decision-making roles, and novel mechanisms and forums for decision making are becoming important (Armitage et al., 2012). Understanding emerging conservation governance arrangements and how they influence conservation practice is imperative. Governance, in this case, refers to the way in which society comes together to make decisions about biodiversity and natural resources, and includes the systems of rules and arrangements, multilevel actor-networks, principles, and processes established to steer societies toward shared objectives (Armitage et al., 2012; Bennett, 2016; Bennett and Satterfield, 2018; Haase et al., 2014; Huang et al., 2018). This greater awareness of key ideas and new concepts of conservation governance can help conservation managers, scientists and communities participate more effectively in the governance process (Armitage et al., 2012, 2020), for the benefit of both society and the environment.

In cities, biodiversity is continually threatened by rapid urban growth which drives the conversion of natural habitat to urban land-uses (Huang et al., 2018). Although under pressure, urban biodiversity provides growing populations with important ecosystem services and has a

positive influence on the well-being of urban communities (Thi et al., 2022). Land governance can play a key role in mitigating the negative impacts of urban-caused habitat loss and improve understanding of how governance limits or expands the effectiveness of conservation to prevent biodiversity loss from urban expansion (Huang et al., 2018). Green spaces within urban settings have become increasingly difficult to conserve in their natural state using conventional methods and it is important to consider bottom-up and novel conservation approaches and governance modes, such as community conservation approaches and civic engagement (Büscher and Dressler, 2012). This involvement of communities in conservation has been shown to be especially significant in developing countries (Nkambule et al., 2016) such as the South Africa. In the Cape of South Africa there are many local projects which are meeting requirements of conservation efforts, but there is a lack of research on their governance modes and effectiveness. This research has a focus on these novel, small-scale modes and explores these in three cases with the aim to draw attention to the relationships among individuals, organizations, and conservation objectives, as well as highlighting the common themes and interests among a diverse range of conservation actors (Alexander et al., 2016). These modes of engagement are explored against the backdrop of relevant formal governance policy and unpacked in this study to establish the most relevant tools for these projects. Although governance is one of the most important factors for ensuring effective environmental management decisions and conservation actions, there has been a relative paucity of guidance to frame the evaluation and design of systems of environmental governance (Bennett and Satterfield, 2018). Bennett and Satterfield (2018) designed a practical and adaptable framework for investigating environmental governance, which is used in this research to specifically look at case studies of local urban conservation endeavors in the Cape and their different modes of environmental governance.

### 1.1 Rationale

The Cape is an important site for biodiversity and there are clear guidelines for conservation on a national and provincial level. It is less clear on how this is done and regulated in local or private efforts. In a hotspot for biodiversity, that is also facing concerning climate change predictions, this study presents urban cases of conservation that are being led bottom-up by the people. These three cases are all somewhat different, allowing for comparison, presenting a response to the call for comparative work in the field of biodiversity conservation (Bennett and Satterfield, 2018). These cases are both usefully similar, (e.g. urban, small scale and involved

with community) and each one is unique regarding their governance contexts and particular conservation goals. This study does not look for deviations specifically through the comparison, but rather uncovers the rich textured material of local conservation of urban green space, which is presented against the backdrop of the national conservation policy framework. As civic engagement around conservation is so diverse and complex, the survey for and evaluation of these cases is based on the framework set by Bennett and Satterfield (2018) to characterize systems of environmental governance on small, urban scales and make the information usefully comparable.

The framework by Bennett and Satterfield (2018) is a convincing way to determine how effective governance is and it is interesting to see how this works in the context of these unique cases in South Africa (Bennett and Satterfield, 2018). As governance is arguably one of the most important parts (Armitage et al., 2012; Huang et al., 2018) of conservation, and it is known that bottom up driven and community conservation is needed in the urban, determining how these sites are governed can bring to light their effectiveness. This study also determines if this framework is a useful tool for conservation governance research in this context.

### 1.2 Aim and Research Questions

This project aims to establish how local conservation endeavors are governed in the urban and determine where this overlaps or aligns on the national and provincial level of environmental governance. The study will explore the following three research questions:

1. How are these community conservation endeavors governed in an urban setting?
2. How aligned is this governance to national and provincial policies and management plans?
3. Is this effective governance according to the framework?

### 1.3 Study Sites

The cases for this research have been chosen based on their location in the Cape Floristic Region (the Cape), and because they are all located in urban areas. The cases are all small projects in comparison to other national or provincial endeavors and rely on community involvement. Although bound by these similarities, these cases are different in terms of their

setting, how they were founded, who benefits from them and their ecologies. Another aspect of these cases similarity is how little information regarding their governance is readily available. It is important to note that the inquiry into the governance systems is an exploration, rather than a full analysis, of the governance systems in place and their effectiveness in terms of biodiversity conservation.

Jan Marais Park is in the heart of the town in Stellenbosch, Western Cape. It is a small, protected area, established in 1919, and a municipally owned conservation endeavor. The park provides a multifunctional space for conservation, art, and recreation, with walkways, ablutions, sculptures, and lawns for picnics. The park also provides space for indigenous birds and plants to thrive in an urbanized space.

Scarborough is a residential area located on the periphery of the Cape Metropolitan Area, is surrounded by the Cape Point Nature Reserve, and is known as a residential area of limited extent (Stephens, 1998). The town was designated as a conservation village in 1996, defined as "a residential area of limited extent, surrounded by a conserved natural landscape, committed to reverse past environmental damage and to avoid future environmental impacts". Scarborough presents a case of urban conservation adjacent to a nature reserve, and studies have highlighted the importance of incorporating the needs of local communities into the planning, management, and protection of more formal reserves (Stephens, 1998).

Princess Vlei, also known as the Greater Princess Vlei Conservation Area, is the gateway to a massive urban wetland system that runs through the Cape Flats and into the sea (Neumann et al., 2011). Princess Vlei has historical value to residents as it was one of a few nature spaces available to black South Africans, and was something of a sanctuary, during Apartheid. It was severely neglected by authorities and became degraded as roads and other infrastructure have been built around it (Ernstson, 2013). Despite its neglected state, residents and other citizens campaigned against commercial development at the site and have been embarking to restore the natural vegetation at the wetland. The vlei provides habitat for endemic and endangered species, nurtures biodiversity and builds community. The restoration plan by the Princess Vlei Forum represents one of the biggest community-led endeavors in the Cape Floristic Region and aims to restore 20% of the land (Princess Vlei Forum, 2023).

## Section 2: Literature Review

Protected areas and other types of biodiversity-focused management tools play an important role in safeguarding and restoring biodiversity, which in turn enhances the resilience of ecosystems and builds a defense against climate change (Huang et al., 2018). Conservation and its effectiveness are a global concern, especially in developing countries where climate related impacts and socio-economic challenges are most prevalent (Armitage et al., 2012). The concern that conservation is ineffective is leading to increased monitoring and evaluation of management, governance, ecological and social considerations as part of a broader move toward adaptive management and evidence-based conservation (Bennett, 2016). This research is based on three prominent threads in literature: the need for good governance for conservation endeavors to be effective, the growing body of research on the importance of biodiversity conservation within cities, and how community conservation is effectively driving many projects across the globe (Armitage et al., 2012; Berkes, 2007; Sukhdev et al., 2013). These globally relevant threads are discussed in relation to the study site, the Cape, as a biodiversity hotspot (Figure 1) (Holmes et al., 2012).

Biodiversity conservation is an activity with several approaches and over the past century, conservation has largely relied on national parks controlled by central governments and adopted as the main, or in some cases only way, to carry out conservation. Some argue that top-down approaches, mostly represented by nationally managed reserves, can alienate people and the indigenous knowledge-practice complex needed to ensure sustainable management (Gbadegesin and Ayileka, 2000) and there is an emerging interest in novel and bottom-up approaches where communities are engaged in conservation efforts (Armitage et al., 2020). With more people living in towns and cities the future has become an increasingly urban one and although urban futures come with a better supply of basic services, economic growth and innovation, there are costs to the sustainability and resilience of urban areas as well as the lived experience of urban citizens. Much of the world wildlife and biodiversity exists outside of protected areas, and in the Cape, many urban places fall within important biodiversity spots, making the need for urban conservation efforts critical (Holmes et al., 2012). There are studies that show the implementation of a conservation initiative is no guarantee of ecological success or benefit to humans, and this is leading to increased monitoring and evaluation of

management, governance, ecological and social considerations (Bennett, 2016). In the current biodiversity and humanitarian crisis, it is critical that every effort counts.


**Figure 1:** Diagram indicating the relevant fields of literature which frame this research.

## 2.1 Landscape Biodiversity Governance

The reasons for promoting conservation are varied, and under the view of the Anthropocene the categories of values on biodiversity include extracted natural resources, services from ecosystems, information as scientific knowledge, as a source of aesthetic beauty, and human well-being (Baldauf and Lunardi, 2020). Mitigating the effects of environmental impacts and improving the effectiveness of conservation depends largely on landscape governance which can improve biodiversity (Huang et al., 2018). Many conservationists favor strictly protected areas, or a land sparing approach, but even if a significant proportion of protected areas are set aside, the surrounding landscapes will be profoundly altered (Fischer et al., 2014). There is diminishing conservation value inside reserves as the surrounding matrix is more and more hostile. The complexity of climate change impacts on ecological processes therefore necessitates flexible and adaptive conservation strategies that cross traditional disciplines and

occur over a range of scales (D'Aloia et al., 2019). This is also the reason that conservation efforts should include areas affected by human activities and fragmentation which where possible could increase conservation and network connectivity and help maintain biodiversity and ecological processes (D'Aloia et al., 2019). As these complex socio-ecological systems are unique and vary between one another, there is a growing trend of involving various stakeholders and novel governance modes to ensure their effectiveness (Bennett et al., 2019).

Landscapes are complex social-ecological systems and are the result of and the medium for interactions between humans and nature (Leventon et al 2019). There are a range of landscape services and landscape governance processes includes many actors, with possible diverging values, aims and conceptions of that landscape. The term governance implies that governments are not the only actors in landscape governance, and other actors participate or even initiate the governance process (Armitage et al., 2012). Governance, in this case, refers to the way in which society comes together to make decisions about biodiversity and natural resources, and includes the systems of rules and arrangements, multilevel actor-networks, principles, and processes established to steer societies toward shared objectives (Armitage et al., 2012; Bennett, 2016; Bennett and Satterfield, 2018; Haase et al., 2014; Huang et al., 2018).

Traditional, government-led approaches to decision making can perhaps not create the conservation outcomes that are desired due to the complexity and multiscale reality of these problems, and no one actor will be able to resolve these on their own (Armitage et al., 2012; Dudley et al., 2018; Folke et al., 2005). This is why new ways of governing are important to ensure that governments are not the only decision-making authority, and that decision making accommodates diverse views, networks, and partnerships among different actors, and includes opportunities for shared learning (Armitage et al., 2012). Across a wide spectrum of environmental problems, hybrid forms of governance are emerging that combine the state, markets and civil society, some examples include co-management, public-private partnerships, and private-social partnerships (Armitage et al., 2012; Bennet et al., 2019; Straka et al., 2018).

## 2.2 Urban Ecology and Conservation

Urban areas will expand at an unprecedented rate over the coming decades, which drives the conversion of natural habitat to urban land-uses and can significantly degrade biodiversity (Grimm et al., 2008; Huang et al., 2018). Urban biodiversity is researched under the umbrella

of urban ecology which is an interdisciplinary field that guides the development of these goals, and studies the ecological patterns and processes of urban ecosystems (Grimm et al., 2008; McPhearson et al., 2016; Richter & Weiland, 2011). Urban ecology promotes human well-being by facilitating knowledge of urban processes and providing avenues to promote urban sustainability and resilience while also protecting urban biodiversity (Lafrenz, 2022). Although the understandings of urban ecology and sustainable development conservation in cities can be based on similar theory, there are diverse solutions for sustainable development and unique practices for conservation in different settings. The major motivations for urban biodiversity conservation include benefits to nature and humans, such as preserving local biodiversity and protecting important species, creating steppingstones or corridors for natural populations, understanding, and facilitating responses to environmental changes, connecting people with nature, providing ecosystem services, and improving human well-being (Dearborn and Kark, 2010). Ecosystem services, the benefits that humans receive from the ecosystem, from water regulation and protection of soil erosion to the provisioning of wild foods and pollination, as examples, are also essential in an increasingly urbanised world, and many of the ecosystems which provide these services exist within urban areas. Given that urban land use and it's footprint will continue to expand worldwide, the future of maintaining diversity and function of biological communities within and near cities seems dire, but intensified conservation efforts to preserve existing natural or semi-natural habitats or to reconstruct habitats within or near cities may alleviate some of these biological changes (Grimm et al., 2008). Although conservation is rooted in an incompatibility between biodiversity and a heavy human presence, urban ecology sees the merging of these two ideas as indispensable and that human-occupied landscapes can be ecologically valuable without being wild or pristine (Dearborn and Kark, 2010).

In the local context of South Africa, urban ecology and biodiversity is incredibly relevant especially considering the country’s wealth of and endemic biodiversity. South Africa is faced with expanding cities and unique ecosystems, which are continually interacting, and it is important to investigate the relationships between urban residents and ecosystems in the city (Goodness and Anderson, 2013). Urban green spaces are a necessary component for delivering healthy, sustainable, and liveable conditions and there is rich literature on the physical, psychological, and social benefits of urban green spaces (Lafrenz, 2022; Seymour, 2016). In many cases, urban green spaces of high social value may not always correspond to biodiversity and ecosystem service priorities identified by government or scientists, and it is interesting to

understand how the potential of these sites is reached while negotiating possible political and power dynamics. Despite understanding the importance of green spaces, they are under pressure from urbanization processes, and it should be a priority to maximise natural areas and their multifunctionality for their health and wellness benefits, as well as their ecological and ecosystem services (Lafrenz, 2022; Seymour, 2016). This is where citizens and formal institutions can overlap and drive legitimate and useful systems for conservation which can direct the path towards a built environment that is balanced with rich biodiversity (Goodness and Anderson, 2013). There are a number of benefits for studying conservation and biodiversity on an urban scale: the perception of nature by city dwellers can foster positive relationships and protection; as urban areas condense many environmental problems, solving problems in towns will also aid in solving problems at larger scale, and, social problems interacting with the environment are also condensed in the urban, and there is an opportunity to jointly solve environmental and social problems in urban areas (Barot et al., 2019). The growing interest in promoting urban sustainability, resilience and livability is clear in various Sustainable Developments Goals (United Nations, 2018), specifically number 11 ‘make cities and human settlements inclusive, safe, resilient and sustainable’. Creating healthy, habitable, urban living spaces will determine the quality of life for the growing number of existing and new urban dwellers.

### 2.3 Community Based Environmental Governance

A significant challenge, and opportunity, facing conservation of the environment is that it is not only an ecological, but a social issue and communities do have an important role to play in maintaining environmental health and conservation (Berkes, 2007; Brooks et al., 2013). Conservation researchers and practitioners continue to seek viable alternatives to strict protectionism, and it is increasingly argued that projects must achieve not only ecological but also economic and social goals (Berkes, 2007; Brooks et al., 2013; Kremen and Merenlender, 2018). The establishment of protected areas for conservation has often relocated people and created barriers, but local community conservation has made strides away from the ‘fortress conservation’ approaches and towards community-based natural resource management (Nkambule et al., 2016). The CBD, which South Africa is a signatory too, recognizes community-centered approached to conservation as important elements of a post-2020 global biodiversity agreement and there is also abundant research on the importance of community conserved areas, which are governed, managed, and conserved by local people (Berkes, 2007).

A variety of approaches fall under the umbrella of community-based conservation (CBC) which are all diverse but united by the aim to combine elements that link conservation with development, engage local communities as active stakeholders or to devolve control over natural resources (Brooks et al., 2013). Formal partnership with local communities, such as community-based management (CBM) or co-management arrangements, represent a promising alternative to increase local governance, decentralize decision making, strengthen surveillance systems and reduce conservation costs (Somanthan et al, 2009). The original definition of community-based conservation by Western and Wright, "includes natural resources or biodiversity protection by, for, and with the local community" which means community conservation includes a wide range of activities, but the central idea is the coexistence of people and nature (Berkes, 2007; Western & Wright, 1994). The definition of community-centered conservation emerges with recognition that these initiatives can be led by diverse actors or combinations of actors, including indigenous rights holders and organizations, governments, civil society, and the private sector (Armitage et al., 2020). South Africa does have laws that recognize communities to establish and manage conservation areas but how these projects are governed and recognized by national policies is unclear. Even though community run, and private conservation projects do exist in and around the Cape, there is a gap in research in how these projects are governed and in what way these projects are aligning with formal conservation efforts, even if not governed traditionally. It is unknown if these projects are using formal policies as a guideline, and the additional knowledge about their governance and could provide insight into policy and practice for current and future endeavors.

It is known that locally managed conservation areas can provide benefits in many ways, such as fostering multifunctionality and resilience, and in the urban setting the social and physical impacts of green spaces is well researched (Brooks et al., 2013). Non-traditionally managed conservation areas are also not always secluded and may adopt a land sharing versus a land sparing approach to conservation. Dedicated and ongoing efforts on the part of civil society present many opportunities to protect and enhance local biodiversity in communities; these movements can be partnered with the work of local government and other organizations to fill action gaps and to provide some of the most creative, resilient, and self-sustaining structures of environmental management (Anderson and Goodness, 2013). To determine how effective these structures are, it will be necessary to monitor and evaluate progress and it will also be essential for research to demonstrate the tangible benefits and importance of community driven conservation for biodiversity and ecosystem services. Due to the lack of research into novel

and local conservation modes, there is a need to document and share real world examples that demonstrate community conservation, how they are governed and their effectiveness.

## 2.4 Biodiversity Conservation in the Cape

The Cape Floristic Region (the Cape) is the smallest yet richest Floristic Region in the world and Cape Town is recognized as a city of global biodiversity significance (Anderson et al., 2014; Cowling et al., 1992; Holmes et al., 2012; Myers et al., 2000). The process of urbanization over the last 350 years in the Cape has contributed to erosion of the biodiversity of the region, which is unique and hosts 11 nationally recognized endangered vegetation types (Rebelo et al, 2011). Urban ecology studies in the Cape have largely focused on nature conservation concerns as urban areas lie in a biodiversity hotspot and include a national park within its boundaries (Cilliers & Siebert, 2012, Holmes et al., 2012). The natural environment of the Cape provides a multitude of cultural and provisional ecosystem services such as the tourism industry and opportunities for the urban poor, but also presents significant hazards in the form of flooding and fire risks (Sukhdev et al., 2013). Although the Cape is unique in this way, there are still many biodiversity and ecosystem issues that are unique to the biome, historical development, cultural heritage, and social structure (Wilkinson et al, 2013). Conservation targets for national vegetation types indicate that all lowland area vegetation types are poorly conserved, fall below conservation targets and insufficient remnants remain to conserve representative biodiversity (Rutherford and Mucina, 2006). These lowland areas are also under threat from development, and mostly fall under the management of local government, and one is administered by the provincial authority, CapeNature (Wood et al., 2019). In the urban, the scale, number and connectivity of smaller reserves is also important, and currently these do not meet identified conservation goals (Goodness and Anderson, 2013). South Africa is a signatory to international instruments to reduce biodiversity loss and has a good legislative and policy framework to conserve biodiversity, yet implementation actions are slow, with limited national and provincial support to conserve the Capes unique and irreplaceable biodiversity (Holmes et al., 2012).

There is a reliance on national policies to deliver biodiversity management and conservation through national parks, and similarly from provincial governments (Seymour et al., 2020). As a result of this, conservation practices in South Africa are largely top-down approaches, and communities are often left out or excluded from decision making and governance processes

Conservation is predominantly controlled by the national government and provincial conservation endeavours, which includes predominantly big areas with strict regulations and access. Imaginative collaborations between citizens, government, and other organizations to address biodiversity and environmental management have proven beneficial in Cape Town and complement formal conservation areas. Small remnant patches in urban areas can contribute to conservation of remaining biodiversity and restoration efforts by communities may prove important (Goodness and Anderson, 2013).

The situation in the Cape highlights the problems with urbanization and biodiversity conservation, but also presents an opportunity to use remnant patches as conservation sites and spaces for community engagement and use. In many instances restoration of urban biodiversity is the only route to meeting conservation goals, and it is likely that the demand for ecosystem service delivery and biodiversity restoration will grow as the urban population does. A horizon scan on South Africa's biodiversity suggested that science alone is not sufficient to address biodiversity issues, and changes in social, economic, educational, and political factors are needed (Seymour et al., 2020). The current governance of landscapes in South Africa does have adequate plans and agreements, but current paradigms of conservation have, in some cases, been perceived as carrying negative connotations of being socially unjust, disrespectful to people and utopian. For remaining biodiversity to be effectively governed, we must start to look at how bottom-up approaches are governed by communities, and how these novel and seemingly informal strategies work.

## 2.5 Framework for Effective Conservation Governance

Increasing attention is being paid to environmental governance as the overarching means to address environmental problems and the aim of environmental governance is to manage individual behaviours or collective actions in pursuance of public environmental goods and related societal outcomes (Bennett and Satterfield, 2018). Bennett and Satterfield (2018) argue that there is still a severe lack of comprehensive and useful guidelines that can be used to frame the evaluation, design, and analyses of environmental governance systems. There is also a recognition of the need for greater attention to understanding the myriad of systems in environmental governance, as there is often a lack of clarity about the difference between governance and management in research, where management refers to resources, plans, and actions and governance is to manage individual behaviours or collective actions in pursuance

of public environmental goods and related social outcomes. Considering this, they designed a practical and adaptable framework (Figure 2) which can be applied to the design, evaluation, and analysis of environmental governance.

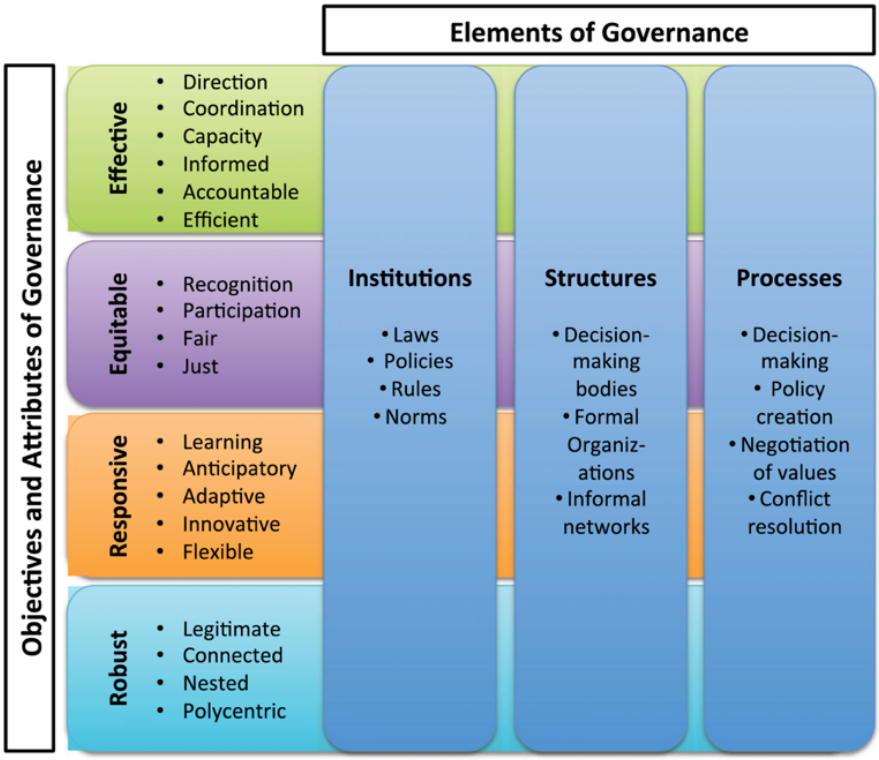


**Figure 2:** A practical framework for understanding the objectives, attributes, and elements of environmental governance (Bennett and Satterfield, 2018). The objectives each have attributes which exist across the three elements of governance. In this study, the framework is adapted to unpack locally governed urban conservation endeavors.

This framework for the analysis of environmental governance focuses on the capacity, functioning and or performance of the institutional, structural, and procedural elements of governance. The authors also state that this framework can be used in different social and political contexts, for diverse environmental problems and modes of governance, and at a range of scales (Bennett and Satterfield, 2018). This framework will therefore be used in this research to better understand the environmental governance of three different cases, which have differing social contexts and diverse ecologies. The evaluations and deliberations guided by using this framework could also support efforts to design and improve the capacity, functioning and performance of environmental governance. Systems of environmental governance require a continual process of learning and regeneration, and it is interesting to gain an understanding

of how cases of urban and locally led conservation endeavours are governed and how this is aligned to national and provincial guidelines. Because these cases occur at a small scale, and have complex relationships, using a framework creates a basis for analysis, reflections, and comparison. The framework also helps to bring out the main themes and similarities across cases, and across their individual elements. The framework is used in the study as the guiding tool for developing interviews and surveys to extract information. It is also a good tool to use when understanding policies and government actions, and where these actions and plans deviate from what is understood as good governance. In cases where governance modes are complex and unique, this research also aims to determine whether this framework is a useful tool at this scale.

# Section 3: Research Methods

## 3.1 Introduction

The methods for conducting this research are presented in relation to their relative objectives. The first objective, to establish the governance approach used in urban green space conservation endeavors, was met by a series of interviews based on the framework for effective conservation governance by Bennett and Satterfield (2018). The second objective, to cross-examine the case studies using the framework, involved using qualitative data from interviews to contrast and compare the cases, and establish how they meet the framework for effective conservation governance. The final objective is to reflect on the case studies against larger governance perspectives and determine where and how governance deviates from national framework and management plans for conservation in the cases. This objective was met with a policy analysis, and using this to see where overlaps and gaps were present in the governance of the cases.

## 3.2 Research Methods

### 3.2.1 Policy Analyses

A policy analysis was done on an international, national, provincial, and municipal level. The analysis drew on published and grey literature to present the policy and legal frameworks in which nature protection and green space governance must operate in South Africa, and specifically the Cape. This policy document analysis is a recognized qualitative research method and involves the systematic review and evaluation of documents in relation to a set research question (Bowen, 2009). A policy analysis is defined as "the evaluation and study of the formulation, adoption and implementation of a principle or course of action intended to ameliorate economic, social or other public issues" (Simon, 2016). This analysis assisted in outlining and defining the goals and objectives of policies and to identify their expected outcomes. The analysis was done to gain more understanding and information on the processes, structures, and institutions in place for conservation on national, provincial and local government levels. This information was used in conjunction with case findings to determine which policies are relevant, which are used, and where gaps may lie when governing conservation on a local level. Because the cases studied operate within two different municipalities, the relevant policies and plans from each were analyzed.

### 3.2.2 Case Studies

Sites were selected from among a limited pool of civic-involved, local scale environmental conservation initiatives. The three cases were selected for the fact that they all involve conservation of green space in the urban, are locally run, were accessible and had responsive leadership willing to participate in this study. The sites were chosen based on their location within the Cape Floristic Region, and their small scale compared to traditional conservation sites. The cases were all operated on municipal land, with a clear involvement of structures besides local government. Participants were selected based on their involvement with the endeavor and politicians, municipal employees, organization leaders, community volunteers and general workers were interviewed.

Interviews are a common qualitative research method and include a specific form of conversation where knowledge is gained through an interaction between the person gathering the data and controlling the discussion, the interviewer, and the person responding, the interviewee (Kitchin and Tate, 2013). Structured interviews relate to cases where there is a set of questions created in advance with a limited set of responses, and semi-structured interviews make use of pre-determined open questions so that the interviewer can explore themes or responses further (Rubin and Rubin, 2011). Structured interviews were designed and based on Bennet and Satterfield (2018) and other literature. The interview (Appendix A), which was the same for all participants, covered questions about the structures, institutions, and processes of the case, and how these are effective, equitable, responsive, and robust. The interview also included general background questions about the cases history, culture, social context, and general goals and aims. The survey was designed by breaking down the framework by Bennett and Satterfield (2018) and building up straightforward questions. The questions looked for qualitative data and included open ended questions, as well as agreeing or disagreeing on certain statements. The semi-structured part of the interview had open questions for a general discussion to take place and to obtain any other information that the participant found useful or interesting. The interview was the main tool for case context descriptions and data source for determining governance modes.

Interviews commenced in February 2023 and were completed in April 2023. A total of eight interviews were conducted with people involved with governance of the three case study sites.

Interviews were conducted with three members of the Scarborough Environmental Group, including the informal manager. A municipal manager, park worker and involved community member were interviewed at Jan Marais Park. Two interviews were conducted for Princess Vlei, both interviewees are members of the community, the Princess Vlei Forum and also work for the City. Interviews were conducted face-to-face where possible, and online when not. Interviews lasted approximately one hour, and were audio recorded with permission from the interviewee. During these interviews questions were asked about the general background of interviewees in relation to the project, and then asked about specific themes in relation to the endeavors' governance. Interviewees were asked about the key elements of governance, the institutions, structures, and processes involved, and if they meet the objectives proposed by Bennett and Satterfield (2018). Institutions included the laws, policies, rules, and norms followed by the endeavors. Structures included the decision-making bodies, the organizations involved and informal networks. Processes include how decisions are made, policy and plan creation, negotiation of values and aims, and conflict resolution (Bennett and Satterfield, 2018).

Case studies and their context descriptions were done with information from interviews and other sources such as community group websites and other grey literature. The predominant source of data was from engagements with the identified participants involved in each case. In this research, it was effective to interview a small number of participants who are directly involved in the governance of the projects, as the information sought is specific to how these endeavors are managed, and how their processes and structure's function. The qualitative data from the interviews was used in an exploration for conservation governance modes and as a part of the case contexts to evaluate these conservation programs and allow for comparisons between the cases.

### 3.2.3 Evaluation of Governance

Building on the framework by Bennet and Satterfield (2018) the mode of governance of cases was evaluated, and key themes identified and compared. Central findings and messages from the research were presented and similarities and differences highlighted in a table. The governance for the cases was examined in terms of what structures exist, how they are similar or different, as well as how these interact to meet governance objectives, to be effective, robust, equal, and responsive. The national and provincial policy analysis was used to determine what space governments are supposed to be operating within, and how actual governance deviates

or supports this. The analysis was used as to determine where gaps in policy lie for the governance of these cases on the different levels of government. Key themes and messages were identified from the rich case studies, and used to discuss governance and conservation of urban green spaces in the Cape.

### 3.3 Considering Ethics

As this research entailed soliciting people's views and perceptions, ethical clearance was sought from the University of Cape Town. The Faculty of Science Ethics Committee approved the application for research ethics clearance with the approval code FSREC 092 – 2022**.** Prior to beginning research in the form of interviews and a survey, formal consent was sought from each participant (Appendix A). The project proposal, consent form, survey, implications and uses in research was presented to participants. Any concerns and questions raised by participants was addressed and answered as a part of this process. Due to the small sample size and the local nature of the study sites, anonymity is difficult, and measures have been taken to protect this.

### 3.4 Limitations

The key limitation of this study was that the data collection occurred in a short period of time, as well as over three sites. The timeframe, which was a function of the nature of this short dissertation thesis, limited the ability to form relationships with each case, and therefore to access more participants.

# Section 4: Policy and Legal Framework Analysis

## 4.1 Introduction

As discussed in the literature review, the theories and approaches to environmental management and conservation are well understood. Environmental management covers a broad space, and the legislative framework guides this practice at a national and local government level. To meet the global SDGs and other national mandates, appropriate policies and plans are needed to form the backbone of governance by determining how national and local governments must operate. There are many SDGs impacted by environmental management and conservation of urban spaces, such as life on land (SDG 15) and sustainable cities (SDG 11). The aim of this chapter is to analyze the policies and legislative framework which guide urban environmental management and conservation in South Africa. The discussion of the policies focuses on the main aims, laws, and a brief overview of the applicable content about the study. This analysis includes policies of the Western Cape, City of Cape Town Municipality and the Stellenbosch Municipality which are related to environmental management, development and conservation in the urban.

**Table 1:** List of reviewed documents and policies which relate to conservation and open space governance in the Western Cape and Cape Floristic Region. These policies are discussed based on their level of government (N = National, P = Provincial, M = Municipal).

| Government | Document | Abbreviation | Description |
|---|---|---|---|
| **N** | National Environmental Management Act 1998 | NEMA | Created a fundamental, over-arching legal framework to ensure that environmental rights are adhered to by all spheres of government as well as private entities within South Africa, as set out in the Constitution. |
| **N** | National Environmental Management: Biodiversity Act 10 of 2004 | NEM:BA | Put in effect to establish the South African National Biodiversity Institute (SANBI) and provide for the management and conservation of South Africa's biodiversity within the Framework of NEMA. It allows for bioregional plans and for legislative management plans for maintaining biodiversity in ecosystems. |

| | | | |
|---|---|---|---|
| **N** | National Environmental Management: Protected Areas Act 53 of 2003 | NEM:PAA | Aims to provide protection for areas that are ecologically viable and representative of South Africa's natural assets. This allows certain areas to be protected with a range of different options, special nature reserves with high protection, flexible agreements regarding management, subject to a process of public participation. Any land, private or communal can have formal protection and the management authority can be assigned by the minister to any suitable landholder, individual or organ of state. |
| **N** | National Biodiversity Framework 2019 | NBF | Aims to coordinate and align the efforts of the many organizations and individuals involved in conserving and managing South African biodiversity in support of sustainable development. The Biodiversity Act specifies that the NBF must provide for an integrated, coordinated, and consistent approach to biodiversity management, identify priority areas for conservation and reflect regional cooperation issues concerning biodiversity management in Southern Africa. |
| **N** | National Biodiversity Strategy and Action Plan 2015 | NBSAP | South Africa's long-term strategy for ensuring sustainable management, use and conservation of biodiversity. |
| **N** | National Biodiversity Assessment 2018 | NBA | Provides headline indicators and a spatial assessment of ecosystems and species. |
| **N** | National Protected Areas Expansion Strategy 2016 | NPAES | Long-term strategy for guiding cost-effective expansion of the countries protected area estate. |
| **P** | The Provincial Biodiversity Strategy and Action Plan 2015 -2025 | PBSAP | A project of the Western Cape Provincial Department of Environmental Affairs and Development Planning (DEADP). |
| **P** | Western Cape Biodiversity Spatial Plan Handbook 2017 | | Output of the PBSAP. Provides stakeholders with strategic and practical guidance to build resilience of our ecological infrastructure. Contains most recent and best quality spatial biodiversity information. |
| **P** | The Western Cape Climate Change | WCCSRS | Accompaniment to the Western Cape Climate Change Response Strategy: |

| | | | |
|---|---|---|---|
| | Response Strategy Implementation Plan 2022 | | Vision 2050. Intended to accelerate the provinces climate response actions. |
| **P** | CapeNature Strategic plan 2020 | CNSP | Reflects impact, outcomes, and outputs which CapeNature will endeavor to achieve from 2020-2025. |
| **M** | City of Cape Town Local Biodiversity Strategy and Action Plan 2019 | LBSAP | Lays out the biodiversity actions required by the City to implement the approved strategies from the Biodiversity Strategy. |
| **M** | Cape Town Environmental Strategy 2017 | | Strategy from the CoCT to protect and manage natural and cultural resources in a way that optimizes economic opportunities and social well-being. |
| **M** | The Cape Town Bioregional Plan 2015 | | Comprises a biodiversity profile for the bioregion, the Biodiversity Network and management guidelines. Spatial plan showing terrestrial and aquatic features that are critical for conserving biodiversity and maintaining ecosystem functioning. |
| **M** | CoCT Climate Change and Action Plan 2020 | | Details the actions required to fulfil the Climate Change Strategy, and includes specific pathways, work areas and a framework for action to support achieving the vision, principles, and desired outcomes. |
| **M** | Stellenbosch Environmental Management Plan 2014 | SEMP | Municipalities environmental plan, which comprehensively covers all types of conservation projects, stakeholder, and municipal responsibilities. Spatial analysis of Stellenbosch, and guidelines for the implementation and management of all categories of areas. |

### 4.2 International

South Africa is a signatory to several international instruments that are designed to guide behavior of states. For example: the 1982 World Charter for Nature, the 1992 Rio Declaration on Environment and Development, the Convention on Biological Diversity (CBD) and the IUCN Countdown 2010 (Balfour et al., 2016). These agreements establish the terms that are used in South African legislation including sustainable development and biodiversity, but they

are non-binding agreements. Although the CBD is nonbinding, the tenets are embodied in South African legislation.

### 4.3 National: South Africa

South Africa has a well-developed suite of policy and legislation for the management, conservation, and sustainable use of the environment and biodiversity (SANBI, 2019. At the National level, the 1996 South African Constitution outlines and establishes basic environmental rights and assigns power and functions. The Constitutions Bill of Rights states that all South Africans have, "the right to an environment that is not harmful to their health and wellbeing; and to have the environment protected for the benefit of present and future generations." (Government of South Africa, 1998). This constitutional provision has resulted in several pieces of legislation that have direct implications for environmental management and biodiversity conservation.

The National Environmental Management Act 107 of 1998 (NEMA) is the main structure that establishes principles and procedures for environmental management, assessment, and governance (Government of South Africa, 1998). NEMA aims to, "provide for co-operative, environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-operative governance and procedures for coordinating environmental functions exercised by organs of state; and to provide for matters connected therewith.". NEMA states that, "Environmental management must place people and their needs at the forefront of its concern, and serve their physical, phycological, developmental, cultural and social interests equitably", showing that environmental management is directly impacted by the relationships people have with the environment, and that this is vitally important for successful environmental outcomes. Another important statement; "Decisions must take into account the interests, needs and values of all interested and affected parties, including recognizing all forms of knowledge, including traditional and ordinary knowledge", conveys the idea that in terms of the environment, there is more than one way to understand and perceive problems and solutions, and those directly impacted or involved should have a platform and space to share knowledge and use alternate modes to improve and protect environmental health. NEMA recognizes the importance of integrated and transparent governance, participation of all stakeholders and promotion of community empowerment and education (Government of South Africa, 1998).

The Protected Areas Act 57 of 2003 (NEM:PAA) and the Biodiversity Act 10 of 2004 (NEM:BA) both address environmental management and conservation. NEM:PAA provides guidelines for the types of protected areas, the purpose of them, how they are declared as well as the management authorities and management plans (Government of South Africa, 2003). Protected areas in South Africa are defined as parts of the landscape that are formally protected by law in terms of the NEM:PAA, and managed primarily for the purpose of biodiversity conservation. The NEM:PAA provides for any land, including private, communal, or municipal land, to be declared a formal protected area, and allows for co-management of such a protected area by the landowner(s) or any suitable person or organization. Conservation areas are those areas of land not formally protected by law, but informally protected by the current owners and users, and managed at least partly for biodiversity conservation. Conservation areas are therefore not considered formally protected areas as they are not gazetted in terms of the NEM:PAA and do not allow for long-term security of tenure (Government of South Africa, 2003). In terms of conservation governance, NEM:PAA provides guidelines for management plans and management authorities.

NEM:BA is the national framework which provides guidelines for biodiversity planning and management plans, and is not subject to the declaration of a protected area. One of the purposes of NEM:BA was to establish the South African National Biodiversity Institute (SANBI), which conducts research, monitoring, and reporting on South Africa's biodiversity, as well as manages the National Botanical Gardens. Objectives of this act are to provide for the management and conservation of biological diversity in South Africa, to give effect to ratified international agreements relating to biodiversity, and provide for co-operative governance in biodiversity management and conservation Government of South Africa, 2004) This act provides responsibilities for SANBI, such as monitoring the status of the republics biodiversity, determining conservation statuses of all species and ecosystems, including invasive species Government of South Africa, 2004). The Biodiversity Act requires the minister to adopt the national Biodiversity Framework (NBF), with the purpose of coordinating and aligning the efforts of many organizations and individuals involved in conserving and managing South Africa's biodiversity in support of sustainable development. NEM:BA provides guidelines for the National Biodiversity Framework, bioregional plans, and biodiversity management plans, which must be prepared in terms of NEM:BA.

NEMA, NEM:PAA and NEM:BA, along with international agreements and guidelines, create the groundwork for the tools used on a national level for conservation and environmental planning. These outlines and tools include: (1) NBSAP (Government of South Africa, 2015), which provides a framework and plan for conservation and sustainable use of South Africa's Biodiversity, (2) NBA (SANBI, 2019), which outlines the threat status and protection levels of ecosystems within the country and provides a frame for the development of provincial and local spatial biodiversity assessments and plans, (3) NPAES (Government of South Africa, 2016), which provides an action plan for acquiring and aggregating land for conservation, and (4) NBF (Government of South Africa, 2022) which sets out priority biodiversity actions for the country. The overall purpose of the NBF is to coordinate and align the efforts of the many organizations involved in conserving and managing South Africa's biodiversity in support of sustainable development. NEM:BA specifies that the NBF must provide for an integrated, coordinated and consistent approach to biodiversity management, identify key priority areas for conservation action and establishment of protected areas, and reflect regional cooperation issues concerning the above (Government of South Africa, 2022). The NBF is also a requirement of the CBD, and outlines how South Africa will fulfil the objectives of the CBD, and contribute to the global sustainability agenda. The NBF is a combination of national policies, and highlights the most important aspects of biodiversity and conservation under one document. The NBF has the six following strategic objectives: (1) management of biodiversity assets, (2) investment in ecological infrastructure, (3) mainstreaming biodiversity considerations into policies, strategies, and practices, (4) mobilizing people to adopt sustainable practices, (5) development of an equitable and suitably skilled workforce, and (6) development of effective knowledge foundations, including citizen science, which support the management, conservation, and sustainable use of biodiversity.

The NBF identifies a set of interventions, or accelerators, that can be used for implementation of high-level biodiversity priorities. These priorities include expanding the network of conservation areas and strengthening environmental literacy through citizen science programs, landscape initiatives and promoting behavior change, especially through the engagement of youth (Government of South Africa, 2022). The NBF highlights key features of the NBA, the major pressures on South Africa's biodiversity, and covers all important information provided in NEM:BA, NBA, NBSAP and NPAES (Figure 3). National legislation is further implemented at a provincial and municipal levels, and according to the Biodiversity Act, the NBF may

determine the norms and standards for provincial and municipal conservation environmental and conservation plans. The NBF is used by "institutions whose core business is biodiversity conservation and environmental management (organs of state in national, provincial and local spheres, government led programs, NGOs)" (Government of South Africa, 2022).

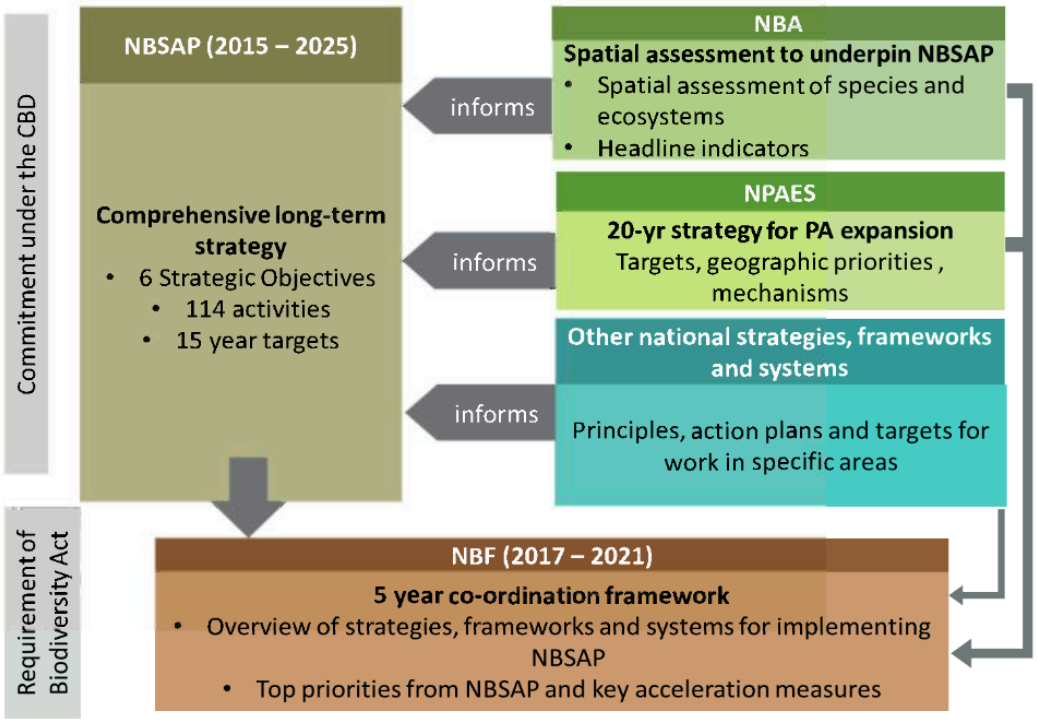


**Figure 3:** Informants of the revised National Biodiversity Framework (South Africa's National Biodiversity Framework, 2021). The NBF is a coordinated framework which is informed by the NBSAP, NBA, NPAES and other national strategies, frameworks, and systems. The NBF is a framework which combines strategy for international commitments, such as the CBD, and national strategies into one source which includes top priorities and key acceleration measures.

### 4.4 Provincial: Western Cape

The provincial agency for the environment in the Western Cape is the Department of Environmental Affairs and Development Planning (DEA & DP). An entity called CapeNature was established as a DEA & DP parastatal, responsible for biodiversity conservation in the Western Cape. It is governed by the Western Cape Nature Conservation Board Act 15 of 1998 and is mandated to, "promote and ensure nature conservation, render services and provide facilities for research, training, and generate income" (CapeNature, 2020). CapeNature is involved in helping to establish biodiversity stewardship agreements with private landowners, with options for differing legal categories, such as contract nature reserves, biodiversity agreements and conservation areas. The relevant plans and strategies for conservation in an urban setting include the Provincial Biodiversity Strategy and Action plan (PBSAP), the

Western Cape Biodiversity Spatial Plan Handbook, the Western Cape Climate Response Strategy, and the CapeNature Strategic Plan.

The PBSAP is a ten-year strategy that aligns with the National and Provincial medium term strategic frameworks, as well as the NBF. It integrates South Africa's obligations under the CBD into the provincial context. The PBSAP is a strategic framework that prioritizes and coordinates the collective efforts of the DEA & DP, CapeNature, relevant government departments, municipalities, and the local community to ensure that biodiversity and ecological infrastructure in the province is optimally conserved, sustainably utilized and that benefits are equitably shared (Western Cape Government, 2016). The overarching goal of the PBSAP is, "by 2025 management, consolidation and expansion of all the categories of the Western Cape Provinces network of conservation areas, promotion of new biodiversity mainstreaming and conservation initiatives; enabling of an inclusive and sustainable biodiversity-based economy; and active participation of citizens, progressively contribute to the attainment of biodiversity conservation, economic and development vision of the Western Cape province" (Western Cape Government, 2016). The PBSAP presents the background of national and international policies and agreements, and emphasizes that South Africa's policy framework has more than responded to the international policy agreements, and that the focus is now clearly on implementation of these national policies and laws. The PBSAP identifies the following challenges which constrain the ability to implement: (1) limited number of skilled people, (2) rapid turnover of key skills and inability to retain institutional memory and (3) new demands from new policies and laws (Western Cape Government, 2016).

The Western Cape Biodiversity Spatial Plan Handbook represents the provincial systematic biodiversity planning product, and is the core output for the PBSAP, which is aligned to the Aichi Targets for the UN CBD and the NBSAP. This handbook provides stakeholders with strategic and practical guidance to ensure that planning and decision-making build the resilience of our ecological infrastructure. The main purpose is to ensure that the most recent and best quality spatial biodiversity information can be accessed and used to inform land use and development planning, environmental assessments, and authorizations. This spatial plan defines land use activity descriptions, and designates urban and conservation activities as separate, leaving no middle ground for the two to be combined (CapeNature, 2017. In provincial plans there is no activity description for an urban conservation endeavor. The CapeNature strategic plan also aligns with the PBSAP, and certain goals are put forward in

terms of percentage land protected and employment rates, but there is no new information than the plans which it has been drafted from.

The Western Cape Climate Change Response Plan (WCCCR) is focused on reducing climate risks and increasing resilience, and puts forward attainable actions and plans. This response strategy acknowledges and encourages actions which are directly linked to conservation in an urban setting, such as community resilience, ecosystem-based adaption (expanding natural systems in urban environments, removal of alien vegetation, management of ecosystems and conservation estate), fire management and coastal management (Western Cape Government, 2022). This strategy a just transition through public sector, private sector, and civil society collaboration, and highlights the need for good governance, public finance, red tape reduction for the private sector, community resilience, and skills development (Western Cape Government, 2022). These provincial strategies and plans form the foundation for the development of municipal and local plans, and link national policies to the Western Cape, its specific ecosystems, and vulnerable areas. The WCCCRS guides governance on a local and urban level and is informed by all the above national and provincial policies. The case studies in this research fall within the Western Cape province, but within two municipalities, whose plans and strategies will be further discussed.

Heritage Western Cape (HWC) also plays a role in the management of resources in the province, and is guided by the Heritage Western Cape Strategic Plan (Western Cape Government, 2016). HWC ensures and implements the identification, sustainable and integrated management, and conservation of heritage resources. HWC is not a political organization, but is appointed by the Minister of Cultural Affairs, and established in terms of the National Heritage Resources Act. Provincial Heritage Site status means that resources ae protected by the regulations of the National Heritage Resources Act (1999), and cannot be altered in any way without official approval from this body.

### 4.5 Municipal

Although all tiers of government are implicated in NEMA (Section 28), the biodiversity legislation is primarily implemented at national and provincial levels (Holmes et al., 2012). At the municipal level, the leading strategic tool for management and implementation of projects is the Integrated Development Plan (IDP), which is essentially the business plan for the city.

However, none of the seven focus areas of the IDP includes management or conservation of the natural environment as a key element. Municipalities are responsible for land-use planning, which can greatly influence biodiversity conservation potential across municipal areas (Holmes et al., 2012).

### 4.5.1 City of Cape Town

The City of Cape Town (CoCT) is a signatory to the Durban Commitment in 2008, and is a pioneer member of the ICLEI Local Action for Biodiversity (LAB) program. The CoCT has an Integrated Metropolitan Environmental Policy (IMEP), and auxiliary Biodiversity Strategy and a Local Biodiversity Strategy and Action Plan (LBSAP). The City agency is the Environmental Resource Management Department (ERMD), which contains a biodiversity Management Branch (BMB). The Biodiversity Network (BioNet) is Cape Town's first comprehensive systematic biodiversity plan. The BMB works in conjunction with CapeNature to secure biodiversity stewardship agreements with public and private landowners, and has worked with communities to stablish creative methods of land management (Goodness and Anderson, 2013)

The City of Cape Town LBSAP is a guiding strategy, complemented by specific actions and adopted by local governments to achieve optimal and realistic governance and management of biodiversity and ecosystem services (Wood et al, 2019). An LBSAP is the local equivalent of the NBSAP, and these consist of plans that have been formally recognized by the CBD. The LBSAP a repeat of the NBSAP and PBSAP, with some more detailed and specific information about biodiversity, species, and threats in the Cape, but with little information about implementation of these plans. Despite there being few action strategies, the guiding principles of the plan do relate to urban conservation, such as (1) promotion of biodiversity as an asset in all communities, (2) equitable access to biodiversity areas for all, (3) social upliftment and economic development through conservation and restoration of biodiversity, (4) open, transparent and responsible governance and (5) recognition of the role of biodiversity and functioning ecosystems in climate change mitigation and adaptation (Wood et al, 2019). The Cape Town Bioregional Plan comprises a framework for all City departments to align their environmental functions and responsibilities, with the purpose to inform and guide planning, environmental assessment, and natural resource management by a wide range of sectors whose policies and decisions impact biodiversity (City of Cape Town, 2015). This plan provides

information on biodiversity to guide forward planning and future development, and its recommended users are government departments and agencies whose decisions and actions impact biodiversity and the natural environment, but whose core business and expertise is not biodiversity conservation. This plan does not include relevant information for the governance and management of small or urban environmental endeavors.

The Cape Town Environmental Strategy applies to all directorates and departments within the City of Cape Town, and the core principle is that the environment of Cape Town is a shared and common asset that is the joint responsibility of all departments to manage and protect in a manner that fulfils social, economic, and environmental needs of the city and its communities (City of Cape Town, 2017). The vision of the strategy is to enhance, protect and manage Cape Town's natural and cultural resources for long term prosperity, in a way that optimizes economic opportunities and promotes access and social well-being. The plan provides a definition and explanation of sustainability in the context of social, environmental, and economic governance. Long-term desired outcomes are stated, such as (1) well managed rivers and wetlands which are free form pollution, accessible to all, provide recreation and contribute to economy, (2) all citizens have access to a safe, well maintained, green recreational space, (3) optimizing the use of water wise and indigenous vegetation, (4) waste minimization, large scale composting, and (5) all citizens know how to live in a more sustainable way, and make environmentally and socially responsible choices (City of Cape Town, 2017). The strategy includes principles which aim to collectively enable the City to achieve its sustainability vision and outcomes, and include equity and accessibility, economic and social benefits, resilience, ecosystems approach, preventing and mitigating environmental impacts, resource efficiency, environmentally sensitive and low impact urban design and educated and empowered citizens (City of Cape Town, 2017). This strategy is aligned with Cape Towns Integrated Development Plan, the Economic Growth Strategy, and the Social Development Strategy, which emphasizes the notion that sustainability and environmental health are intrinsically linked with economic and social factors. The strategy also notes the national and provincial legislation which it is bound to, and specifies national legislation and CoCT by laws, policies and strategies which are relevant to this plan. The strategy includes a separate framework document to guide the implementation of this strategy, which is informative to any reader. The implementation framework has four strategic focus areas and four underlying themes in the focus areas, and goes on to state the lead departments, supporting departments, descriptions, and status of the relevant plans for each theme (Figure 4).


**Figure 4:** Strategic focus areas (SFA) and cross-cutting themes of the City's Environmental Strategy (City of Cape Town, 2017). This diagram clearly shows that each SFA has an impact on the main themes of the strategy, and that they are needed to operate in tandem for successful outcomes.

The City of Cape Town Climate Change Action Plan (CCAP) builds on lessons from previous policies and plans and, within the realities of the local context and the need for a just transition, aligns with the ambition of global commitments. The purpose of this plan is to detail the actions required to fulfil the Climate Change Strategy, and includes pathways, work areas and a framework for action to support achieving the vision, principles, and desired outcomes (City of Cape Town, 2020). Notable pathways to deliver outcomes include (1) leadership and governance, (2) sustainable urbanization and (3) promotion of climate-responsive individual and institutional choices and actions. Mechanisms for action include strategic focus areas (SFAs) and cross-cutting work areas (CCWAs) (Figure 5).


**Figure 5:** Strategic Focus Areas and cross-cutting work areas for outcome delivery (City of Cape Town, 2020). The cross-cutting work areas impact all SFAs, and emphases the need for good governance and research, economic opportunities, collaboration and enhancing human and ecosystem health.

The SFAs cover a range of mitigation and adaption-based measures (Figure 5) and main goals and actions of each are indicated in the document. SFA include goals such as; proactively reduce heat impacts on the city through urban greening (Goal 2), increase water supplies through alien monitoring and removal (Goal 4), reduce fire risk and impacts on communities (Goal 9), circular economies and waste diversion from landfills (Goal 22) and to develop and implement a green infrastructure program that supports climate change response, protects biodiversity and enhances ecosystem goods and services (Goal 35). It is clear to see, from these goals, that any environmental endeavor by communities in urban areas contributes to the CCAP, and this plan provides informative background and useful information for anyone involved in these types of endeavors.

### 4.5.2 Stellenbosch Municipality

Stellenbosch Municipality has one overarching Environmental Management Plan (SEMF) which is a municipal strategic environmental management policy that responds to and complies

with relevant statutes and directives (Stellenbosch Municipality, 2014). This plan covers a range of functions, and includes a summary of the inherent natural capital of Stellenbosch municipality, environmental management directives and a users' toolkit to inform the implementation and use of the SEMF. The SEMF is a supplement to the Stellenbosch Spatial Development Framework (SSDF), and serves as a policy for ensuring environmental sustainability, aligning land-use activities in accordance with objectives, and is a strategy towards enhancing the well-being of the people and the environment of the municipality (Stellenbosch Municipality, 2014). The planning-related legislative context for the SEMF is provided by the South African Constitution Act 108 of 1996, the Spatial Planning and Land Use Management Act, and NEMA. The SEMF covers the ecological, social, and economic domains of sustainability, and recognizes the importance of addressing all land-use domains in an integrated and holistic manner. This is an extensive and detailed document, with many spatial analysis and maps of Stellenbosch, and clear descriptions and categorizations of different conservation and protected areas.

The SEMF includes Jan Marais Park as a Local Authority Nature Reserve, which is one of eleven public conservation areas that, in total, cover 34,6% of the municipality (Stellenbosch Environmental Management Plan, 2014). The plan describes environmental threats of urban development, the state of the municipality's biodiversity, as well as air, soil and water quality statistics and maps. The land-use classification used is based on UNESCO's biosphere reserve zoning model, and provides three broad categories: (1) core conservation area, (2) conservation-focused buffer areas and (3) a transition area (Stellenbosch Municipality, 2014). The chapter for managing conservation areas is research focused, and draws on research outside of the mandated legislation, giving a versatile and interesting background to human-nature relationships in an urban setting and holistic management of ecological systems (Stellenbosch Municipality, 2014). The plan breaks down different categories of buffer areas, such as Jan Marais Park, and gives objectives for these, for example to "create a continuous network of natural resources throughout the municipality that maintain ecological processes and provide ecosystem services" (Stellenbosch Municipality, 2014).

This is a well-designed and informative plan, and is the single main strategy used by the municipality for environmental management. Strategies and guidelines are given for each aspect relating to the environment within the municipalities, which reference recent research and recommendations. The plan includes a chapter on good governance, and provides a model

for effective governance of the Stellenbosch municipality. The last chapter of the plan comprises a host of procedural directives, or 'toolkits', that provide guidance for the planning and implementation of key concepts, approaches and strategies presented in previous sections. Toolkit D2, community-based environmental governance, identifies critical success factors, and states that "community-based environmental management is therefore a creative approach to solve environmental problems using consensus-based solutions through the collaboration of communities and governments in order to identify needs and take actions that will improve quality of life" (Stellenbosch Municipality, 2014). Figure 6 is a useful diagram which illustrates the management framework for community-based environmental management projects and a comprehensive guide on the different types of stakeholder relationships, agreements, and responsibilities.

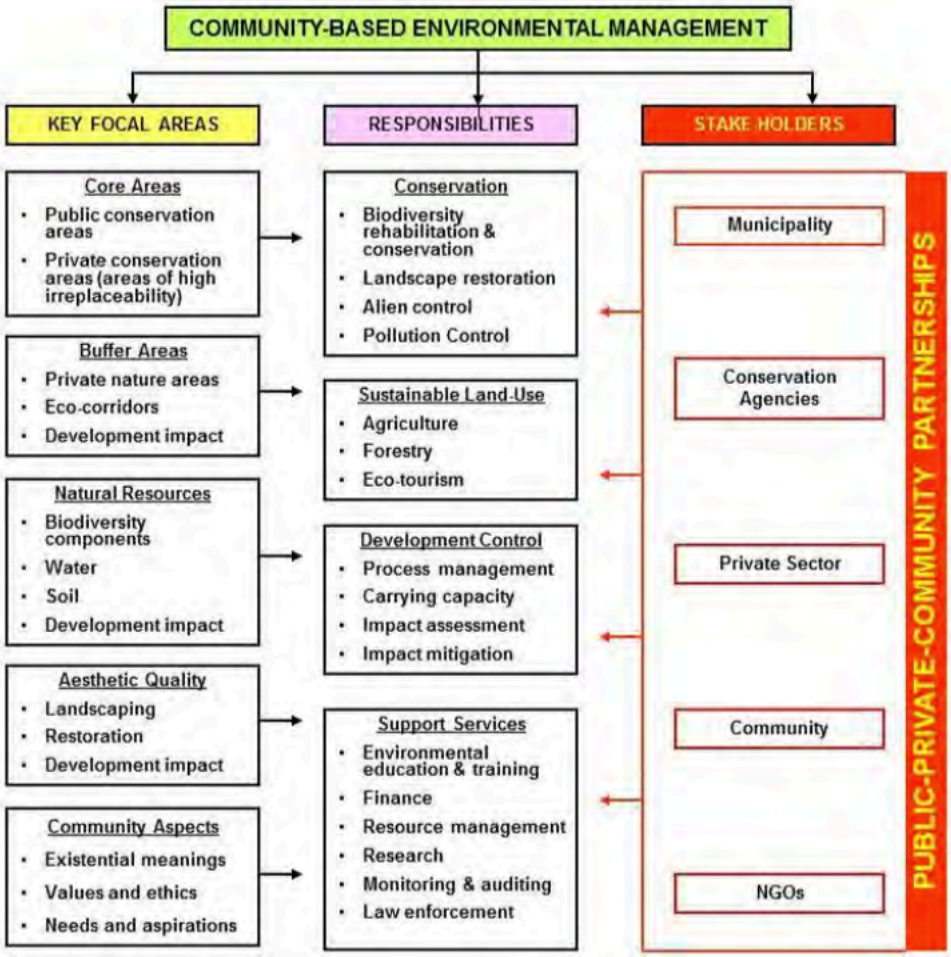


**Figure 4:** Conceptual framework for community-based environmental management from the Stellenbosch Environmental Management Plan (Stellenbosch Municipality, 2014). This framework clearly indicates the key focal areas, responsibilities and stakeholders involved in community-based environmental management. It recognizes that public-private-community partnerships need to exist for effective management of environmental resources.

# Section 5: Findings

## 5.1 Study Sites Overview

Each case study was scoped through literature, grey literature, desktop research and in the interview and survey process. The details of the study sites, as relevant to the central question of this thesis around urban conservation governance, are outlined below in boxes 5.1.1 to 5.1.3 Following these case overviews, a synthesis is presented of the overarching results emerging from the three cases as relevant to the central question of how these cases are governed, and how this relates to existing policies and government practices. First the cases are presented, followed by a comparative summary and finally, the findings are presented as main themes and commonalities between the cases. The findings are then discussed in section 6.

### Box 5.1.1 Scarborough Environmental Group: Community based governance

Scarborough is a residential suburb which borders the Atlantic Ocean, neighbors Baskloof Private Nature Reserve, and shares a boundary with the Cape Point sector of Table Mountain National Park (Scarborough Environmental Group, 2023). A common theme discussed with interviewees is that Scarborough "attracts different people who are naturally conscious about conservation and environmental health". Scarborough was designated as a conservation village in 1996 and is led by a "small group of dedicated community leaders who have seen the need for restricting urban growth in this conservation worthy region" (Stephens, 1998). It was not until 2018, when Cape Town faced a water crisis and 'Day Zero', that a formal organization, Scarborough Environmental Group (SEG), was developed to bring the community together and head environmental and conservation projects. A group of residents pooled funds to purchase water tanks to put around the municipal owned community center, and was the start of SEG emerging. This center has been used for markets, preschools, community-based activities, and as the Scarborough Environmental Group (SEG) "home base" to start projects and bring the community together. The question that SEG aims at answering is "how are we going to put measures in place to protect our community", which results in actions to protect biodiversity, encourage conservation innovation, and maintain environmental health. It was noticed that people had different interests in projects, such as composting of dog waste from the beach which a group of people took on. When this initiative was a success, the community started incorporating their food waste, and today are composting 5 tons of organic waste each year. These initiatives are examples of problems which the community identified and responded directly to with the resources and knowledge that already existed.

The SEG group is a volunteer-based organization with no formal plan, but has led many successful environmental and conservation projects which are practical and directly have a positive effect on the community and surrounding ecosystems. Initiatives of SEG include alien tree removal from within Scarborough and surrounds, Oyster Catcher bird and nest monitoring, indigenous tree protection, regular beach cleanups, eco bricking and eco schools. The group also encourages the community to grow indigenous and water wise plants, and has transformed the community center into a lush space with a medicinal garden, worm bins, bee houses and "chill zones" for people to relax and enjoy nature. SEG fosters a mindset to find solutions from within the community when there are challenges. Over time, these initiatives have impacted problems such as baboons rummaging through waste, alien plant invasion, beach pollution, water scarcity and a decline in local bird populations. SEG is run entirely on community donations and mainly through the SEG-STAR program, where members pay a fee of R1100 per year, which includes access to a range of benefits and facilities. Around 12% of the community has joined the program, but this allows over 80% of the residents to have access to the initiatives. SEG employs someone fulltime to manage the composting facility, and this has resulted in a business which sells compost. One person also receives a stipend for helping with Oyster Catcher management and conservation. The volunteer time element is not measured, but almost all members of the community use the facilities, and they are expecting an increase of paying community households. This area is accessible to everyone, with no fences or blockages to the community center, or SEG facilities.

**Box 5.1.1 (Continued)**

The key players in the projects implementation and governance are community members. The main goals included: "living in harmony with and in a healthy environment, education about environmental health and aiming for behavioral change". One of the co-founders takes an unofficial leading role of the group, but the responsibility for plans and projects goes to the individual who proposes it, along with the core team's support. The SEG group assists with communication and information sharing, funding where possible, and has a general approach aimed at "helping out". People choose to be involved, are not forced, or required to, and tend to sign up based on the SEG's explanations and motivations for the important role of people in achieving its goals. National and local policies and plans are used to inform, motivate, and govern SEG. SEG sees itself as being aware of relevant plans, but also implementing and providing alternative solutions to those offered by the City. SEG is aware of regulations according to NEMA, and uses these acts to make decisions, educate and to give projects validation. SEG works closely with SANParks, and "they see us as someone out there helping them, but they lack communication within the community, and we assist with raising awareness". In terms of environmental governance, Scarborough as a conservation village is governed by the community, SEG and supporting initiatives, with some input from SANParks and the municipality; "SANParks sends people to us about questions or ideas, and we also don't have to ask for permission from them or the municipality to put up signage or start initiatives".


**Figure 5. SEG and Scarborough Conservation Village.** (a) The "Farmacy" is an indigenous and medicinal plant garden that is available for all Scarborough residents to use and look after. (b) The Bio-Centre is operated by SEG, on municipal land next to the community center. This center is where all operations take place from and is open access to all residents. (c) A whiteboard documenting Oyster Catcher nests, eggs and areas which have been marked on the beach for their protection. (d) The biocentre has composting facilities, and in this picture the vegetable boxes and main gathering area are shown. This also includes a library and compost toilet. (e) One of SEGs main goals is environmental awareness and education, and the bio center offers a space for learning, and workshops for children and adults. (Photo credits: Inca Horn)

**Box 5.1.2 Jan Marais Park: Top-down governance with shared decision making.**

Jan Marais Park is a municipally owned nature reserve in the town of Stellenbosch, which falls under the Cape Winelands district. In 1915 Jan Marais passed on money to the Stellenbosch Municipality for the establishment of the park. The park has been proclaimed as a municipal nature reserve, and formally as a local nature reserve (Stellenbosch Municipality, 2014). The park covers 23 hectares in central Stellenbosch and consists of mostly natural veld, with a 4-hectare curated botanical section. The park is managed as a nature reserve by the Environmental Implementation Department, who are responsible for the overall upkeep, including its safety, general maintenance, and management. Certain members of the community have played a prominent role in governance, development of the park and helped to provide a variety of cultural services. Specific projects are given financial support by the Het Jan Marais Nationale Fond, but there is a process for acquiring funds which community members have taken upon themselves. Many of these projects have been headed by a professor of ecology from the university, who is also a resident of the town. They have been instrumental in the development of the botanical section of the park, informing the municipality, and personally funding certain signs and sculptures. Renting out the event space also contribtes to funds for the park, and is managed by an events manager within the municicpality.

The municipality employs people to maintain the gardens, and provide security, and the general management overlaps with other reserves within the area. The park has an environmental management plan which is written in accordance with NEMPA and CapeNature policies, as it is a recognized nature reserve. From a municipal perspective, the park does not have as many social challenges, such as crime and dumping, as other areas that they manage, and the socioeconomic characteristics of the town have a big influence on the ease of management. The park has no entrance fees and there is no need for compliance in terms of financial cheques and balances. The community group, which is made up of residents neighboring the park, collaborates with the municipality and have a vested interest in the park's governance and are key players in the project's implementation. The park is a fire hazard to the neighboring communities, which has encouraged their participation and inclusion in decision making. They are involved in general maintenance and support, and provide notification to the municipality about upkeep needs, such as broken fences or overgrowth, and sometime take it upon themselves to fix these. Some community members have applied for money from the fund to hire a worker for the botanical garden, as well as provide cuttings from their gardens. The community and municipality have a good relationship, and are both open to suggestions such as funding being spent on irrigation. The municipality budgets for labor, and not for plants or signage, and everything extra in the park has been donated or privately funded. The community care and impact is reflected in the many cultural ecosystem services, and they help to inform and encourage the municipality to make decisions in the right direction. Although, as a nature reserve, alien vegetation should be removed, the pine trees have remained to provide shade. The park is notably cooler than the rest of Stellenbosch on a hot day, and remains a haven for many birds, small animals and especially community members.

The park significantly conserves two types of veld, Swartland Alluvial Fynbos and Swartland Alluvial Renosterveld, both of which are deemed important for conservation. More than 150 indigenous plant species are to be found in the undisturbed areas, as well as grysbok, tortoises, sugarbirds, and many other small animal species. The main goals of the project are to create a safe and well maintained green space for people to connect with and enjoy nature, and to encourage people to look after their own environment. The park has many users, including residents of Stellenbosch, and other communities from around the Cape who have identified the park as a peaceful and safe space to enjoy nature. The planted section of the park has a playground, a shady lawn for picnicking and events, a small vlei, fifteen sculptures, and infrastructure such as toilets. There is an outside gym, picnic tables and benches, a poem garden, labyrinth, water access, and well-maintained paths through shady forest sections and drier renosterveld. The park is used by runners, picnickers, events, dog walkers, students for research and many other civic society groups. The university has a good relationship with the park, and serves as an asset and learning space for students in the biodiversity and conservation fields, allowing for a walking distance space for practical work and resources for research. There are many things that make the park unique, as it is safe and well maintained for use, is a biodiversity hot spot in a busy town, and has an interesting cultural history. People can visit an area that replicates what is in the mountain and around Stellenbosch, but with the added use of the garden area and other facilities. The park has an eco-school, which closed during the pandemic in 2020, but had a snake awareness program for schools, and an outreach programs to involve children with the park. Interviewees note that there seems to be many more people from the lower income surrounding communities who regularly use the space than higher income or residents close to the park. Creches come during the week from as far as Kuilsriver, and a disabled school has come every Tuesday for the past 6 years. Despite the high biodiversity and positive environmental impact in this urban space, this park also serves as a historical reminder of Stellenbosch's Afrikaans culture.

**Box 5.1.2 (Continued)**


**Figure 6. Jan Marais Park.** (a) The park offers a large shady lawn for events, picnics and activities. It is maintained by the municipality. (b) One of the many signposts, designed by a community member, describing the different types of vegetation, and providing interesting information along the paths. (c) The eco-center, which contains a library on conservation, and an educational space. The center has a snake exhibit, which was closed, but they hope to reopen. (d) An area of the park with recreational facilities which is used by many members of the community. (e) A sculpture which was bought and donated by a community member. It depicts a tree inside a human head, and represents how humans and nature are intrinsically connected. (Photo credits: Inca Horn)

## Box 5.1.3 Princess Vlei: Co-governance

Princess Vlei is a municipal owned wetland area, that is co-governed by the City of Cape Town's Parks and Recreation Department, and the Princess Vlei Forum, a community group. The vlei has long been valued by the community, and was named after a Khoisan princess who was allegedly abducted while bathing in its waters (Ernstson, 2013). During apartheid it was one of the few natural areas that people of color could visit, and although loved by the people, it was severely neglected by authorities and became degraded. In 2014 residents and environmentalists campaigned to save the vlei from commercial development of a shopping mall on the site, and won a huge victory. Since then, the Princess Vlei Forum has been working with the City of Cape Town to restore the biodiversity and transform the 100-hectare area into a world class heritage site. The vlei has unique cultural and natural heritage features, such as memorializing Khoi culture, generational memories, a place for baptism, community connection and an outdoor classroom. From an ecological point there is environmental degradation and concerns about the water body health in general, as the vlei provides a habitat for endemic and endangered species, nurtures biodiversity and plays a crucial role in urban water resource management. Wetlands are important for conservation and are one of the most critically endangered ecosystems in the Cape Floristic Region (Neumann et al., 2011), and this vlei is situated in the middle of an urban area. The vlei has many uses, such as conservation education, leisure, water activities, community center, cultural space, baptisms, dog walks and even fishing. The heritage of the space plays an important role, as well as the safety and access for the community to recreational facilities.

## Box 5.1.3 (Continued)

The Forum and the City have a partnership, with a memorandum of understanding between the two groups. The forum is made up of community members and the City of Cape Town, and before the formation of this partnership there was no relationship that existed. The City was responsible for maintenance of the space, which led to a lot of neglect, but together with the forum, funds have been invested in restoration work, such as planting indigenous species and a deep clean of the area. This relationship is starting to close the gap between what the community want, and the management that the city has capacity to provide. The community goals are to have more conservation, and interaction with the environment, improved infrastructure, and for the vlei to be managed as well as some of the others within the vicinity. The City, realizing it could not invest proactively in the capital that was needed for a site with this level of biodiversity, took a step back to give the community a space to do the work and invest their own resources. The ecological and social goals of the vlei coexist, are both equally important and the community is seeing the benefit of that. With upgrades and investments more people are being attracted to the vlei from different groups who engage with the space differently. The benefits are a result of engagement with the community, and a constructive relationship with the City and Forum. The Forum has technical expertise on board in conservation, developing policy and management plans, and their involvement in creating a blueprint has allowed the city to take a step back. This development of plans and policies has been an important step for all stakeholders to be on board and integrate ideas and plans from civil society. An interviewee says that "structures between the community and city gives space for healthy conflict and for the partner organization to be involved without so much red tape". Regular meetings are held which has created trust and encouraged working together, this has been a win for the community as a whole and the City as an authority.

One of the challenges with the governance of the vlei is the rules and regulations from water policies and parks and recreation. Currently the City takes sole responsibility for the cleaning and maintenance of the water body, but this is a challenge as it operates within the Department of Parks and Recreation and does not have the capacity to deal with the maintenance of a water body. The neighboring vleis are managed by the Environmental Department, and there is concern about the uniformity of policy and managing these highly biodiverse spaces. The forum and City are working to have the management of the water body moved to the environmental management department, as the vlei is an important space to manage for a sustainable future of culture and environmental health. The vlei has been nominated as a heritage site, which has helped with the protection and long-term conservation. One of the goals from both parties is to be able to reconnect with cultural heritage, and not just see the vlei as a water body, but merge culture and conservation where this symbiosis benefits both and ensures long-term sustainability of the vlei.


**Figure 7. Princess Vlei.** (a) The water body of the vlei is used for many activities, and is an important site for children to connect with nature and learn about biodiversity and ecosystems. (b) The vlei is being regenerated by the community and city with tree planting drives which include the community and other organizations. There are experts from the community forum and the city who work together on the regeneration and long-term sustainability of the vlei. (c) The Princess Vlei Forum is passionate about education around nature and its importance to the health and heritage of surrounding communities. One of the main goals of the partnership between the city and the forum is to provide a safe space for learning and for people to connect with nature and their cultural heritage. (Photo credits: Princess Vlei Forum).

## 5.2 Presentation of Cases

In this section the three case studies are presented in terms of their governance structures, which indicates the similarities and differences in the settings in which they operate (Table 2).

**Table 2:** Case attributes and governance structures

| | Scarborough | Princess Vlei | Jan Marais Park |
|---|---|---|---|
| **Land ownership** | CoCT Municipality | CoCT Municipality | Stellenbosch Municipality |
| **Area (hectares)** | 65 | 98 | 23 |
| **Fund acquisition** | Community SEG-Stars program and other donations | Municipality funds, parks and recreation, private funds from forum | Municipality, Het Jan Marais Fond, Community members |
| **Aims** | Environmental health, conservation, and public awareness | Access to safe green space, restoring ecology, culture, and heritage | Environmental awareness, access to a safe green space, connection to Afrikaans culture. |
| **Community Group** | Scarborough Environmental Group | Princess Vlei Forum | Jan Marais Belangegroep (Jan Marais interest group) |
| **Governance Structure** | Bottom up and community based | Co-governance with municipality and community | Top-down with shared decision making |
| **Access** | Free access for everyone | Free access for everyone | Free access for everyone |
| **Socioeconomics** | Middle to high income | Low to middle income | Middle to high income |
| **Vegetation type** | Fynbos | Wetland | Renosterveld |
| **Main policy framework** | NEMA | CoCT Parks and Recreation | Stellenbosch Environmental Management Plan |

## 5.3 Urban Conservation: Elements of Governance

To understand environmental governance is to understand how decisions related to the environment are made, and whether the resultant policies and processes lead to environmentally and socially sustainable outcomes (Bennett and Satterfield, 2018). This section presents findings from the three cases and focuses on the elements, objectives, and attributes, of environmental governance as identified by Bennett and Satterfield (2018). The elements of governance include the functioning of the structural, institutional, and procedural elements. The objectives, to be effective, equitable, responsive, and robust, can each be broken down into a set of attributes. These attributes and elements were specifically questioned during interviews and the findings of these discussions are presented here. This section is a presentation of all findings, and section 6 will consider the main themes identified in the form of a discussion.

### 5.3.1 Structures: Community and Municipal Relationships

Structures refers to the formalized bodies, organizations, and informal networks of actors that perform different functions in the governance of an environmental endeavor. Formalized bodies include the decision-making arrangements and co-management bodies, and organizations include the government, private sector, and civil society organizations. Informal networks of actors include anything that embodies governance capacities, like efficiency and participation, and perform functions such as producing rules, decisions and enabling actions. The organizations involved in the governance of these urban conservation cases includes the municipal departments which are responsible, and a community or civil society organization. Formalized bodies and informal networks are prevalent, and differ from case to case. One common structure in all cases is that there is a clear community organization, whether informal or formal, and serves as the main source of civic interactions and co-management with a government body. The relationships between, sizes and formality of organizations differ in all cases, but embody efficiency and participation. In some cases, the community and municipal relationships are clear, such as Jan Marais Park and Princess Vlei, and although SEG has a less formal relationship with the municipality, this relationship still has an impact on decision making and enabling actions. In cases where the municipal and community relationships are more formal, decision making, and impact seems to be more efficient with the two groups working together with a mutual understanding and sharing of resources.

An important aspect identified in these governance structures is funding capacity and the skills that different groups can contribute. The relationships between the municipality and civil organizations creates space for private investments as well as opportunities for communities to fund projects that they deem important. This can be seen in the case of Princess Vlei, where a co-management structure has clearly allowed for private and municipal resources to work together and take actions such as indigenous tree planting, education, and cleaning initiatives. The impact of private investments, volunteering and skill sharing allows goals to be met that either are not on the municipal agenda, or are not being implemented effectively. In the case of SEG, the community works almost independently, with full decision making on fund allocation, while the other cases share this responsibility. The ability of SEG to work independently has allowed for unique projects to operate, but also limits their resources and collaboration with the municipality to compound actions for similar goals, such as beach clean-up efforts and alien tree removal. These relationships are all unique to the different social, ecological, and cultural dynamics that exist within each community and municipality.

When the structures of civil society and the government are clear, such as in the case of Princess Vlei, environmental governance becomes more effective, government is held accountable, and capacity is increased with volunteering and external funding. Communities help governments with direction and assist coordination within civil society and this is also evident in the case of SEG, for example, where they offer support to SANParks, a national government entity. The various networks between the state and civil society encourages participation, and for governance to be fair and just. Civil society organizations seem to be very focused on responsiveness of governance, and look at solving immediate problems through innovation and anticipatory learning. The capacity of these endeavors to operate is dependent on the structures, and when the community group is the main structure, there are less people and funds to work with, such as SEG which relies entirely on community funding and volunteering to support its operations. On the other hand, the skilled people, expertise, and different interests that come from the community is an important aspect which is not always available from a government side, and it is seems rare for people within the community to disagree with the way this structure operates. It seems that there are many problem-solving opportunities and alternative actions to do with risk identification and resilience which is overlooked by government structures, as they implement polices and do not necessarily go further than their mandated responsibilities.

### 5.3.2 Institutions: Polices and Plans.

Institutions are the formal and informal rules that shape human interactions and guide, support or constrain actions. Formal rules include the constitutions, laws, and policies, while informal rules include cultural context, social norms, and power structures. In the three cases of urban community-driven conservation governance, the formal rules differ in terms of departments responsible for the land and their policies. The cases all operate on municipal land, but have unique histories and different reasons for the emergence of the endeavors. Two cases operate within the City of Cape Town, with Princess Vlei subject to the rules of parks and recreation, and SEG on general municipally owned land. Jan Marais operates within the Stellenbosch Municipality, which has different departments, policies, and operations to the CoCT. The formal rules give the government responsibility over the land, but only for a certain level of management and capacity, and in all cases, this includes general maintenance and management according to the policies it is guided under. The informal rules are what makes each case unique in terms of their goals, mission, and outputs.

One similarity across all cases is the agreement that the spaces should be multifunctional, with not just the aim of maintenance or biodiversity conservation. By incorporating the communities' cultural values, the conservation benefits are enhanced in a way that benefits everyone who is involved. This can be seen in Princess Vlei, where cultural values such as heritage, baptisms and community gatherings are recognized, and the actions taken to include these have had a direct positive effect on biodiversity in the area. Management plans guide operations of Jan Marais Park and Princess Vlei, and SEG does not operate within a plan, which seems to create less burdensome bureaucracy in decision making. Operating without formal rules or relationships has a benefit in that there is less time and resources spent on decision making, but the disadvantage is that the informality can make the sharing of funds, skills and resources between the government and community difficult. The laws and policies in which these spaces operate seems to be unclear in general, which is reflected in the different forms of institutions and decision making within their community and municipal relationships. There is a common theme in which community institutions keep the government accountable, and remind them of the policies and laws they should be operating within. When there is clarity within management plans and formal relationships between stakeholders exist, accountability is increased, and the opposite occurs when there are no clear laws or plans to follow. This

relationship between formal and informal rules and norms aids in the equitability, effectiveness, responsiveness, and robustness of governance in all cases.

In all cases, the emergence of the endeavor has been because of a cultural or historical aspect, such as land and money being donated many years ago, or cultural importance being a drive for the spaces management and protection. This cultural background creates a common purpose for protecting the space which drives the community and directly impacts the environmental health and conservation opportunities. In each case the cultural context and community relationships play a large role in fund acquisition, decision making and the type of relationship with the relevant government structure. The cultural context of Jan Marais Park is unique, as money was donated for its operations over 100 years ago, and has specific guidelines that state the funds should be used towards creating a safe natural space for the community to enjoy, which also preserves Afrikaans heritage. This shows that norms of the informal network of residents impacts which objectives are set and how they are met.

### 5.3.3 Processes: Meeting Goals

Governance processes include the implementation of institutional mandates, negotiation of values, conflict resolution, law making, policy formation and policy application. These processes play a role in how decisions are made and implemented. As discussed in the policy analysis in section 4, South Africa has a good set of policies and plans for environmental management, and this follows down into governance on a municipal level with both the CoCT and Stellenbosch Municipality having identifiable plans. All cases differ in terms of how much power each stakeholder or institution has on making decisions. Princess Vlei is co-managed where decisions are made together and must be agreed upon, Jan Marais is municipally managed, with an open relationship and input from the community, and in SEG, although land is owned by the municipality, most of the decision are made by the community run organization. Although the main aims and goals of the cases are similar, which can be seen in Table 2, they all make decisions and meet these goals through different processes. The common aims of these endeavors, from a community and government perspective include access to a safe green space, ecological restoration, environmental awareness, and social benefits. In all cases the process of community involvement and skill sharing has closed implementation gaps of the municipality, and enhanced the social and cultural benefits of these spaces. It seems that in all cases, the community agrees upon common values and there is little conflict within the

community about decisions, and this is seen in SEG where common community values are what drives the entire endeavor and its operation. Decision making processes and general communication between stakeholders does differ between cases, from informal conversations and phone calls to formal monthly meetings. In the case of  Princess Vlei, there are formal meetings within the forum and the municipality, and in the case of SEG, there is informal, but effective communication through the likes of WhatsApp groups. Although these cases operate within very different cultural, spatial, and environmental realms, they show how institutions and structures can come about to create different processes with a similar result. One case has a history of conflict, including protesting and civil action to protect the space, as seen in Princess Vlei, while another has had a very organic formation throughout time, such as SEG. The communities recognize the social and environmental health benefits equally, while the government is focused on fulfilling mandates in terms of maintenance and following plans. The combination of communities recognizing benefits, and the organizational capacity of municipalities is what enhances environmental governance and makes social and cultural benefits at the center of decision-making values and actions to fulfil policy requirements. Although different, these processes allow for the objectives of governance to be met in a unique way that is specific to the different social and ecological needs.

# Section 6: Discussion

This project set out to use the environmental governance framework by Bennett and Satterfield (2018) as a tool to explore the governance of three urban community-driven conservation endeavors. Through this, this research aimed to establish how these local projects are governed, how this aligns with, or draws on the national and provincial tools of environmental governance, and what can be learnt about local environmental governance success that can inform current and future endeavors, and perhaps local environmental policy. The discussion will focus on findings from the three cases, and the identified common themes in governance, differences in governance, policy disconnect, and ultimately consider the effectiveness of the framework used.

## 6.1 Common Themes in Governance

In this section the main themes that emerge in relation to the governance of these urban and community-driven conservation endeavors will be discussed. The three common themes identified through the analysis of the interviews and case material are community input, government responsibility, and meeting important goals. This discussion picks out findings that are common to all cases as well as closely related to the objectives and attributes that make environmental governance successful.

### Community Input

A central finding of this research is that, across all three study sites, community engagement is an important and powerful part of environmental governance in the urban, but that it must be organized to be effective. A community can be defined as "an entity socially bound by a common cultural identity, living within a defined spatial boundary and having a common economic interest in the resources of the area" (Barrow and Murphree, 2001). This research found that even if the community has the right skills, expertise, and drive, they need to have some form of organization to have an impact on fund allocation, skill sharing and decision making. Community organization was critical to project success, for example, facilitating stakeholders to come to an understanding around agreed common values and goals, and in attending to conflict resolution. All case study participants noted the importance of community organization for the success of these cases. One member of the municipality noted that "the

community group was instrumental in communication with the wider community" when they organized a controlled burn in Jan Marais Park, and that "the group helps to communicate with the community because they are homogenous in their values". Community organization allows for effective communication with the municipality that comes from a shared baseline understanding of community needs and values. This research also demonstrates the importance of relations with local government, and community organization with the emergence of a single voice and agreed goals, facilitates this relationship.

While in general organization was shown to be critical to success, this research also found that community organization depends on differing contexts, with each case having their own specific goals and needs, different cultures, and socioeconomic starting points. Urban areas are complex socio-ecological systems (Ernston et al, 2010), and have different risks, problems, ecologies, and ways of doing, which will all impact how the community operates and the type of input they want to give. Previous studies have recognized that innovative collaborations between citizens and government, with a focus on community-based conservation, can be successful (Alexander et al., 2016; Brooks et al., 2013; Huang et al., 2018; Kremen and Merenlender, 2018; Sukhdev et al., 2013). In these cases, an individual, or core group, champions for the environment and the social benefits that the endeavor can offer. A core group of champions can be seen in the formation of the Princess Vlei Forum and SEG, and individual champions exist in the community members from Jan Marais Park. This structure of having a dedicated individual or small group of people seems to be essential for communication within and beyond the community, and serves as a source of inspiration and drive for the endeavor to become robust over time. In the case of Jan Marais Park, one community members input has created the groundwork for others to follow, and has inspired a new generation of community leaders to act and collaborate with the municipality.

Often these people championing for a cause are doing so from both an environmental and social perspective, which allows the views and values of government and residents to find an overlap and come together to make decisions and resolve conflict. These community groups and leaders can build partnerships, motivate stakeholders, establish shared visions, and communicate effectively with local government, which has been documented in previous studies (Straka et al., 2018). In the case of Princess Vlei, the drive to save the vlei was social as well as ecological, due to the important heritage that the site holds, and the previous neglect of the important vlei ecosystem. One interviewee describes a community leader of Princess Vlei as "ready to fight

for the vlei and the conservation community everywhere" and acknowledges the "interesting dynamic where people who are involved in the city, and passionate about conservation, are championing in a high-level way". This social and ecological approach aligns with an agreement in the CBD that ecosystem management and human well-being should be integrated, recognizing that conservation and livelihood needs are complementary goals, and this proves true in the urban too (Berkes, 2007). Previous studies have identified that communication, education, and public awareness are important tools for conservation success and effective environmental governance in the Cape (Anderson et al., 2014; Holmes et al., 2012) and this research shows that these community conservation endeavors are successful in developing and implementing these tools. Education and public awareness form a foundation of these cases goals, which is shown in the fact that each one has an education agenda and actively work to create public awareness of the environment, and strive to make their wider community aware of the benefits of a healthy environment.

### Government and Policy

Local government is probably the most critical to the formal governance in each case, as they hold responsibility for the land on which each of these projects are run. Other forms of governance and policy levels are evidently less important, but variably so. While policies and plans are just one element of governance, they are recognized as important to understand as they form the backbone of legal operations, implementation and work that government is legislated for. Important aspects of policy are considered by management when useful to the project, rather than as a form of overall guidance. As the cases take the form as parks, community center land and land donated to the municipality, this means that they do all fall under government responsibility. Although the municipalities are responsible for urban green space upkeep, they are not all legislatively responsible for biodiversity conservation or environmental health. Jan Marais Park is the only case that is recognized as a nature reserve, and as an important hotspot of biodiversity within the town of Stellenbosch. The Cape Town Environmental Strategy (CTES) does have the core principle that the "environment is a shared common asset and is the joint responsibility of all departments to manage and protect in a manner that fulfils social, economic and environmental needs" of the city and its communities (Cape Town Environmental Strategy, 2017). This principal resonates in all these three cases which have similar goals and structures, but are managed by different departments, for example one is managed by the general municipality, while another is managed by parks and recreation

whose focuses are both not conservation and environmental health. These social and ecological outputs of the cases also align with the goal of the CTES, and they focus on promoting access to safe natural spaces and social wellbeing. For example, the Princess Vlei Forum, along with the municipality, have invested money into infrastructure at the vlei, like a board walk, to improve access for residents and make the space safer. One municipal member from the Princess Vlei Forum noted that the partnership between the City and civil society is "a relationship which is invaluable in the sense that one cannot do without the other if we want to ensure the long-term sustainability of the vlei". The Stellenbosch Municipality, with the support of the community, has also hired security guards for Jan Marais Park to ensure safety for users, and one interviewee said that "it is important that people use the space and know that it is here for them to enjoy nature".

Community groups and stakeholder relationships seem to evolve from a risk or problem identified, and there is no clear pathway of plans or policies to start these endeavors, they are complex and organize organically. These endeavors emerge as opportunistic at the start, and this is not something captured in any formal policy. There is a need to embrace opportunistic conservation moments, especially where this brings in willing people (Knight and Cowling, 2007). One case evolved from a mass donation, another from a community's desire to be a conservation village, and lastly from a conflict between government and the community. Although policies do indicate the importance of social and ecological benefits of conservation, these community-driven cases seem to be operating on their own unique paths. For example, when the CoCT and the Princess Vlei Forum developed a memorandum of understanding, there was no clear pathway in policy, and they needed to look at similar endeavors to draw up their own plan. In a previous study, similar problems were recognized for conservation in the Cape, which are that governments are slow to implement policy, initiatives are inadequately funded, and local governments are not yet recognized as important implementation partners (Holmes et al., 2012). This study reinforces that local governments are critical to urban environmental governance and conservation success, despite which departments are responsible for the management of the land (Boon et al., 2016). More synergy is needed between national and local policies to show awareness of the different types of governance, as each cases community and municipal relationships are different and complex. The governments approach also needs to consider that there is not one plan that will be appropriate for all local conservation endeavors.

## Meeting Goals

In an urban or densely populated setting, a biodiversity agenda is not enough to meet certain goals and there must be social considerations for a conservation project to prosper (Anderson et al., 2014). These case studies suggest that these types of endeavors do meet social needs and in doing so speak to a wider global agenda for sustainable development. Although important for urban biodiversity conservation, these three cases meet a range of national and local sustainable development goals on a small and local scale (Figure 10), such as SDG 11 and 15 (life on land and sustainable cities and communities) (United Nations, 2015). On a social level the endeavors support cultural needs, serve as educational spaces, community gathering, environmental awareness, creates job opportunities and safe spaces to enjoy and connect with nature. On an ecological level the actions taken support environmental health, conserve species, reduce environmental risks, support clean waterways and act against pollution. For example, SEG is contributing to a range of goals (Figure 4) such as waste reduction, alien species control, conservation of endangered species, job creation and new economic opportunities and environmental education.

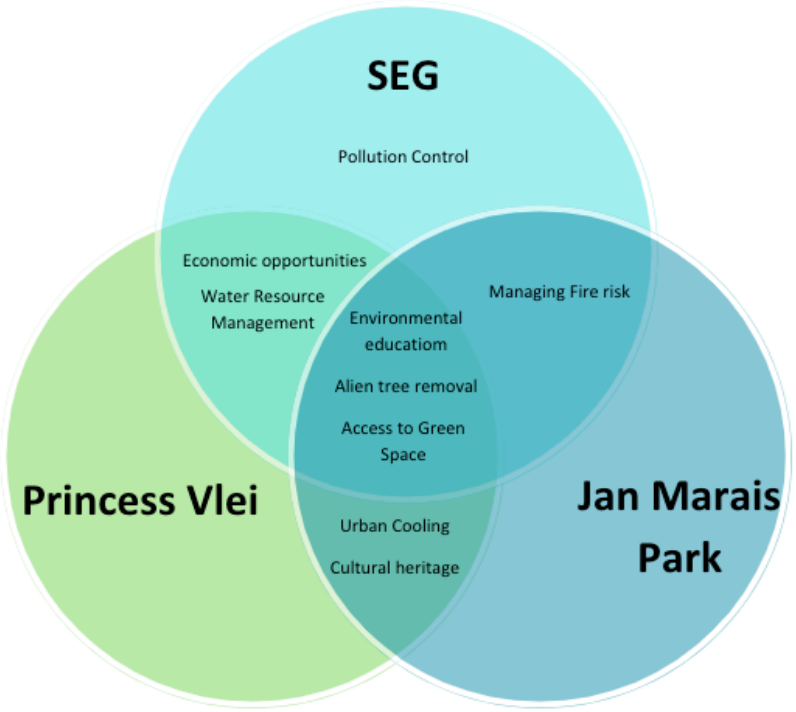


**Figure 8:** A Venn diagram showing the common goals met from relevant policies by the three cases.

Good environmental governance in this context not only supports environmental health, but also directly unlocks jobs and improves social wellbeing, which are both focuses of national sustainable development goals (City of Cape Town, 2020; Western Cape Government, 2022. These case studies show that relying on biodiversity conservation to achieve objectives set out by NEM:BA is not enough, and social value should be a primary motivation for conservation in the urban. When these projects have focused on direct social needs and risks to the community, the conservation of biodiversity has come organically and seems to be more robust when the community has a vested interest in the decisions made and actions takes to meet goals. These cases present an opportunity to jointly solve environmental and social problems in urban areas.

### 6.2 Differences in Governance

While ideologies and outputs of the three cases overlap, interestingly the modes of governance differed in all of them. As presented in the findings, the governance of all three cases is complex and unique, and has emerged as a function of each case's history, culture, and social setting. The relationships between community and municipality range from formal and documented co-governance, to informal and organic modes of governance. Accountability and implementation are two attributes which are clearly impacted by these relationships (Bennett and Satterfield, 2018). Formal modes of governance, such as in Princess Vlei, allow communities to hold governments accountable and support implementation, while an informal mode, such as SEG, allows operation without clear plans and policies. Funding is an aspect of governance which is fundamental to the functioning of these endeavors. When a project is mostly community governed, funding comes from within the community, allowing for free decision making and transparency of funds. This also creates a barrier to the growth of projects without municipal funds and labor inputs. When projects are mostly municipally managed, there can burdensome bureaucracy for fund acquisition, and these cases show that communities must work hard to initially be involved in decision making and fund distribution. Projects that have clear community and government relationships, such as Princess Vlei, which has a memorandum of understanding, achieve a balance of private investments because communities can make decisions, as well as municipal labor and investment input, which presents something of an ideal. Different projects have different proximities to formal governance structures with similar associated benefits and losses, as a function of where they lie on that continuum. Governance networks can facilitate coordinated action and shared opportunities for learning

among policy makers, communities, and scientists (Alexander et al., 2016). These cases share many similarities (e.g. all are urban communities in the Cape). However, there are also many differences regarding their respective governance contexts (e.g. culture, history, rules and norms). Despite their variable contexts, the value of a balanced partnership with local government is equally important.

### 6.3 Policies Disconnect

The policy overview in this study shows that South Africa has a good suite of environmental policies and development plans however, there is a disconnect on a local level when it comes to implementation and support for urban green space conservation that involves communities. Municipalities operate under the Integrated Development Plan, which is the leading tool for management and implementation of projects, but none of the seven focus areas of the IDP includes management of conservation as a key element. The IDP also does not engage with biodiversity legislation and policy (Holmes et al., 2012) even though municipalities are responsible for spatial and land use planning, which can greatly influence biodiversity conservation potential. The National Biodiversity Framework (NBF) also fails to recognize the role of local government in biodiversity conservation implementation, and the NPAES does not prioritize threatened ecosystems, but rather looks at cost effective expansion to meet biodiversity conservation mandates (Holmes et al., 2012). Conservation on a local level is also not adequately funded, which reinforces the need for policies that make it easy for communities to bring in private funds and investments. All the cases in this study operate within different local policies, and upon their implementation have each had to develop their own set of rules and plans without a clear guideline for operation. The different community, space and ecology dynamics do make each cases' governance unique, but they have underlying similarities which do not seem to be accounted for in any of the policies that were analyzed. It is complex because these endeavors are fulfilling objectives of numerous policies across a matrix of government, which makes it difficult to pick one as an overarching guide to their governance. On a national level these cases align with the NBF, which prioritizes expanding conservation areas, engaging youth, citizen science programs and landscape initiatives (Government of South Africa, 2022). On a provincial level they meet goals of the PBSAP such as "promotion of new biodiversity and conservation initiatives and active participation of citizens" (Western Cape Government, 2016). These cases align with the Western Cape Climate Change Response Plan, which is a strategy that encourages actions linked to conservation in an urban setting, such as community

resilience and ecosystem-based adaption (expanding natural systems in urban environments and removal of alien vegetation) and highlights the need for good governance, public finance, red tape reduction and community resilience (Western Cape Government, 2022). On a local level the cases support the guiding principles of the LBSAP, which include "promotion of biodiversity as an asset to all communities, equitable access to biodiversity areas for all, social upliftment and economic development through conservation restoration of biodiversity, transparent and responsible governance, and recognizing the role of biodiversity and functioning ecosystems in climate change mitigation (City of Cape Town, 2019). These cases are also adding tangible actions to long-term desired outcomes of the Cape Town Environmental Strategy, such as (1) managing wetlands so that they are free from pollution, accessible and provide recreation, (2) providing citizens with access to safe, well maintained, green recreational space, (3) optimizing use of water wise and indigenous vegetation, (4) waste minimization and large scale composting, and (5) teaching citizens to live in a more sustainable way and make environmentally responsible choices (City of Cape Town, 2017). These cases also directly contribute to the SFAs and goals of the Climate Change Action Plan (Figure 5), such as proactively reduce heat impacts on the city through urban greening (Goal 2), increase water supplies through alien monitoring and removal (Goal 4), reduce fire risk and impacts on communities (Goal 9) and promote circular economies and waste diversion from landfills (Goal 22). Although these cases are contributing to a range of goals across levels of government, there is no clear thread through the policy literature that clearly positions, and facilitates, these evidently socially and ecologically relevant community-driven urban conservation endeavors.

In some cases, policies create more blockages to action than support. This is why some groups choose to operate independently when they can, and in other cases politicians and municipality members are actively working to change the departments which are responsible for these spaces to improve capacity and implementation. This can be seen in the case of Princess Vlei where the community has helped to municipality to recognize that it does not have the capacity within the current department, and there is a drive from the municipality to move responsibility to the Environmental and Biodiversity Management Branch. It is also difficult for municipalities to hand over responsibilities of their mandated land without formal plans and memoranda, and there is no document that exists to guide this hand over and the associated necessary agreements. Local community run endeavors draw on various aspects of relevant policy as and when needed, but in turn deliver on wider national or even global mandates. When the social value is the primary motivation for conservation in the urban, resources are improved,

governance is more effective and good management unlocks many social benefits and opportunities. Despite their successes they then fall in something of a policy void, with little policy and governance support directed at these types of projects. This is a missed opportunity, because if better supported, they could continue to operate effectively, or even grow and spread to other communities to deliver more social and environmental benefits. It is known that biodiversity problems require engagement with social, economic, and political factors, and strategic communication, education and engagement with civic society and policy makers is considered vital for addressing emerging issues in South Africa (Seymour et al., 2020). This is clearly stated in the overarching policy for environmental management in South Africa, NEMA, which says that "Environmental management must place people and their needs at the forefront of its concern, and serve their physical, psychological, developmental, cultural and social interests equitably" (Government of South Africa, 1998). These cases are fulfilling the objectives of this statement, and this study confirms findings from previous studies that a stronger commitment from all levels of government is needed for effective implementation of environmental management and conservation on a local level. Co-governance of urban conservation also opens a door for private funding and resources such as skills and voluntary labor to the benefit of both society and the environment (Holmes et al., 2012).

### 6.4 Effectiveness of Framework.

The framework for effective conservation governance by Bennett and Satterfield (2018) proved to be a useful tool in this research to understand the elements and objectives that make up environmental governance. The framework served as a guideline for important attributes to look for in the local conservation projects, and made it easy to daylight which objectives were and were not met. All attributes were relevant to the three cases and overall, this framework was a useful tool for interview design, evaluation, and analysis of environmental governance of the cases. The authors state that this framework can be used in different social and political contexts, for diverse environmental problems and modes of governance, and at a range of scale (Bennett and Satterfield, 2018), which proved to be true in this study. The framework was comprehensive and clearly recognized the social and cultural values that are needed for effective environmental governance, which was important in this study. The framework was ideal for understanding these local conservation efforts in the urban and highlighted the fact that effective ecological outcomes are not the only factor to consider when understanding environmental governance. The framework acknowledged that implementation is also a social

process that is informed by science, and the economic, social, and human dimensions must be explored to govern the environment effectively. Systems of environmental governance require a continual process of learning and regeneration, and it is interesting to gain an understanding of how these cases of community-led urban conservation endeavors are governed. The relationships between community and municipality range from formal and documented co-governance, to informal and organic modes of governance which are complex and unique, and this framework was useful in examining these cases and bringing to light their rich diversities.

## Section 7: Conclusion

There are many urban conservation projects that are community governed and driven, which can have progressive social, ecological, and economic impacts. There is rich literature on the importance of effective conservation and the framework by Bennett and Satterfield (2018) proved to be a useful tool to interrogate and understand governance modes and effectiveness of the studied cases. Community endeavors tend to operate outside of formal government and policy, but are important in meeting social and ecological needs. In this study, light is shone on how urban community driven conservation endeavors draw on various aspects of relevant policy as and when needed, but in turn deliver on wider national and global sustainable development mandates. Community endeavors are highly effective, but only under specific circumstances and when they are organized with good internal and external relationships. Local government is the most critical external party to the formal governance of each case, as they hold responsibility for the land on which these endeavors operate. In government, gaps do exist in finding effective mechanisms to translate the conceptual ideas of policy into practical action. A greater understanding of how local efforts are governed from the bottom-up could benefit formal policies and practices lead by governments and help with their implementation. This research and survey design, informed as it was by the framework by Bennett and Satterfield (2018), could be used in future to evaluate effective governance in South Africa, with its diverse ecologies and social contexts. The overall effectiveness of these cases shows that a biodiversity agenda is not enough for conservation projects to prosper in the urban, and there must be social considerations and community involvement for them to thrive. Despite their successes, these community driven endeavors are a missed opportunity, because if better supported, they could continue to operate effectively, or even grow and spread more social and environmental benefits to other communities. Most importantly, this project highlights that it is essential to consider the local context and priorities of those who most directly interact with natural resources, so that conservation efforts in the urban can be successful, ecologically, culturally, and socially.

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# Appendices

## Appendix A: Consent Form for Interviewees

**DEPARTMENT OF ENVIRONMENTAL AND GEOGRAPHICAL SCIENCE**

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**Informed Voluntary Consent to Participate in Research Study**

**Project Title** Urban Community Conservation: How Formal Governance Structures and Policies Inform Local Conservation Endeavours

**Invitation to participate, and benefits:** You are invited to participate in a research study conducted with urban and local conservation endeavours. The study aim is to establish how local conservation endeavours are governed, and how this overlaps on the national and provincial level. You are invited to share information and your perception of the endeavour you are involved in, which will be one of three case studies involved in this research. I believe that your experience would be a valuable source of information, and hope that by participating you may gain useful knowledge.

**Procedures:** During this study, you will be asked to participate in an interview, including a survey and an opportunity to share any other interesting or relevant information. The survey will include questions about governance of the endeavour you are involved in. These questions will ask about the institutions, processes and structures involved in the functioning of the conservation, and how effective, equitable, responsive and robust these are.

**Risks:** There are no potentially harmful risks related to your participation in this study.

**Feedback**: You will receive feedback about the results of this research in the following manner: A summarised document of the research as a whole, and any observations made for your particular case study.

**Disclaimer/Withdrawal:** Your participation is completely voluntary; you may refuse to participate, and you may withdraw at any time without having to state a reason and without any prejudice or penalty against you. Should you choose to withdraw, the researcher commits not to use any of the information you have provided without your signed consent. Note that the researcher may also withdraw you from the study at any time.

**Confidentiality**: All information collected in this study will be kept private in that you will not be identified by name or by affiliation to an institution. Confidentiality and anonymity will be maintained as pseudonyms will be used.

**What signing this form means:** By signing this consent form, you agree to participate in this research study. The aim, procedures to be used, as well as the potential risks and benefits of your participation have been explained verbally to you in detail, using this form. Refusal to participate in or withdrawal from this study at any time will have no effect on you in any way. You are free to contact me, to ask questions or request further information, at any time during this research.

I agree to participate in this research (tick one box) ☐ Yes ☐ No _____ (Initials)

| _____ | _____ | _____ |
|---|---|---|
| Name of Participant | Signature of Participant | Date |
| _____ | _____ | _____ |
| Name of Researcher | Signature of Researcher | Date |

## Appendix B: Interview and Survey Questions

### Interview Questions for Conservation Participants

Interviewer: Inca Horn

Conservation project name:

Participant:

Relation to project:

Date:

Section 1: General Interview

1. Why did this conservation project come about?
2. Who were the key players in the projects development (stakeholders)?
3. Who are the key players in the project's implementation?
4. What are the main goals of the project?
5. Who is responsible for plans and projects?
6. How many people are involved in the project?
7. How is the community involved?
8. Who are the organizations and actors and how are they linked?
9. What bridging organization are present?
10. How is communication and respect encouraged with the community?
11. How is the project funded?
12. How many people are directly employed?
13. Who has access to this area?
14. What national policies or strategies has this project used as guidelines?
15. How do the institutions present overlap in functions and interests?
16. How does this governance system face with crises?

Section 2: Survey Questions

*Please choose one of the following in response to the following statements*

*1- Strongly disagree.*
*2- Disagree.*
*3- Neutral.*
*4- Agree.*
*5- Strongly agree.*

Effective:

1. There has been a greater biodiversity of species.
2. There is an increase in ecosystem services and environmental health.
3. The goals and aims are clear.
4. A coordinating body is present.
5. Capacity, skills, and resources are sufficient and actively developed.
6. Conflict resolution and leadership is present.

7. Diverse knowledge types are used for planning and management decisions.
8. Governors are held accountable for performance.
9. Time and costs are efficient.

Equitable

1. Decisions are made in an inclusive way, and with respect for diverse perspectives, values, cultures, and rights.
2. Spaces are present for participation and ensure representation and engagement of different stakeholders.
3. Plans and actions represent interests of different groups.
4. Endeavour increases quality of life or well-being of users and stakeholders.
5. There is a fair balance of costs and benefits for different groups.
6. There are laws and policies which protect local rights.
7. Reparations or compensation are made for past damages.

Responsive

1. Process exists to produce knowledge and inform decision making.
2. Information documented and shared effectively.
3. Plans and steps are taken to prepare for and prevent unexpected risks.
4. Processes exist to revisit and evolve policies, institutions and change actions.
5. Management plans are adapted to reflect changing social-ecological context.
6. Innovation and experimentation are encouraged and monitored.
7. The governance system and management can adjust and work in different contexts.

Robust

1. The project is supported at all scales, from national to local.
2. Institutions are transparent and perceived as legitimate.
3. The endeavor is connected by networks of organizations and actors.
4. The community is supportive.
5. Tasks are assigned at appropriate levels.
6. The lowest levels of management have decision making authority.
7. How are decisions shaped and adapted to different local sub-contexts?
8. Decision making takes place in multiple places (1-5)
9. Decision making takes place at multiple scales (1-5)
10. There is a common goal between all stakeholders.