

**Leadership for the institutionalisation of climate change considerations in
local government:**

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Declaration

I declare this dissertation is my own unaided work. It is being submitted for the Degree of Master of Science at the University of Witwatersrand, Johannesburg. It has not been submitted before for any degree or examination at any other University.

Signature: 

Date: 22 August 2024

Abstract

The climate crisis presents a unique and complex challenge for climate change leadership and governance and broader developmental challenges, particularly in cities (Meijerink & Stiller, 2013; Dewulf et al., 2015). With nation-states largely failing to meet the ambition required to avert the climate crisis, cities have emerged as climate leaders. The role of individual actors within city governments in driving such change is, however, not well understood. How are these leaders able to motivate climate change to be a key policy issue? What kind of leadership might be best suited to champion the institutional reforms needed to embed climate change considerations into city planning and decision-making effectively? How do the governance systems enable leaders, and what barriers do they encounter? With the recognition of the dualistic interaction between leaders and the formal government institution, the research seeks to uncover how leadership behaviours are shaped by formal governance and government institutions and the strategies leaders employ to influence the process of institutional change within the context of climate change response in South African cities. A deeper understanding of these interactions can support climate leadership development, strengthen climate governance, and help overcome the significant barriers to implementation that currently exist within cities (Parnell & Robinson, 2012). As cities are major contributors to climate change, highly exposed to its impacts, and have a proven track record of taking action, they serve as an interesting site of study to explore the leadership implications of climate change institutionalisation.

To answer these questions, this study drew on leadership and institutional change theories and adopted a critical realist approach that sought to uncover deeper insights, with a particular focus on examining the structures and systems that shape the political and governance realities of South African cities. Fifteen semi-structured, theory-led interviews were conducted with government officials, practitioners, and researchers, all with direct experience working in or with city governments. The interviews were analysed using thematic analysis.

The research revealed that successful climate change governance required ‘champions’ that possess *technical knowledge, multidisciplinary, interconnected thinking*, and political astuteness. Technical expertise alone is, however, insufficient and leaders must navigate bureaucratic complexities, communicate effectively, and engage in broad, meaningful collaborations. The study emphasises the importance of leaders being able to position climate change as a developmental issue intertwined with socio-economic priorities rather than only engaged with as an environmental concern.

The study sheds light on the complex and often fraught relationship between political leaders and technocrats. Given the organisational constraints inherent in local government, the default approach to institutional change is often incremental. A compelling finding from the study is that incremental approaches, if targeted strategically, can drive more transformative change, known as continuous transformation. To examine such dimensions the conceptual

model used for the study, the Three Spheres of Transformation Model, proved useful in guiding the research and organising the findings but required adaptation to reflect the complexities of South African city governments. The model was redrawn to capture the intersectionality that emerged from the research findings. Building on these insights, the recommendations aim to support city officials, politicians, and climate change practitioners to drive continuous climate change transformation.

Keywords:

Climate change, leadership, governance, cities, institutional change.

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Preface

Publications

- Text from this dissertation has been incorporated into a journal article titled *Stories from the South: The interplay of climate science, 'action' and the implications for development*. The article was written by Professor Coleen Vogel and I and is in review by the Oxford Development Studies Journal.
- I served as an embedded City Adviser to Johannesburg Metropolitan Municipality between 2018 and 2021. The purpose of my secondment was to support the development of the City's [Climate Action Plan](#) from conceptualisation to Council approval.

Presentations

- Initial findings from this research were presented at the *Early Career Researchers Conference: Perspectives on Climate Change in Africa*, hosted by the University of Cape Town's African Climate and Development Initiative in March 2023.
- My research was also presented at various Global Change Institute (GCI) forums. In October 2021, I received the Bob Scholes award for the best group presentation on the topic of *Agency, institutions, and governance*. As a result, I was invited to present my research to the GCI's Board of Directors.

Political Leadership Masterclass

- This research helped to identify the need to build climate leadership capacity amongst Deputy Mayors and shaped the content of C40 Cities Inaugural Political Leadership Masterclass. In 2023, while serving as a Senior Manager for Inclusive Climate Action and Mainstreaming at C40 Cities, I led the conceptualisation and delivery of the event with representatives from 11 African cities - Accra, Addis Ababa, Cape Town, Dar es Salaam, Durban, Johannesburg, Lagos, Nairobi, Sedibeng, Tshwane and West Rand. A photo from the event is below and the full press release can be found [here](#).



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Sincere thanks to the interviewees for generously offering their time and speaking so candidly, sharing their wealth of knowledge and experience.

I am immensely grateful for the opportunities to work directly with municipalities across the country and the continent over the past ten years. I have met many incredibly passionate climate champions, wholeheartedly committed to this cause and desperate to see a change. My decision to pursue this topic and my understanding of the complexities of grappling with climate governance within local government has undoubtedly been shaped by the countless conversations I have had with climate change practitioners and municipal officials willing to impart their knowledge. Special thanks to Hastings Chikoko (formerly C40 Cities) for his encouragement and mentorship over the years and for being a stellar example of a bold, visionary climate leader.

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List of abbreviations

ANC African National Congress

COP United Nations Climate Change Conference

DA Democratic Alliance

IDP Integrated Development Plan

IPCC United Nations Intergovernmental Panel on Climate Change

UNFCCC United Nations Framework Convention on Climate Change

Chapter 1: Introduction

1.1. Introduction

The causes and impacts of climate change cut across several traditional policy domains (Braunschweiger & Pütz, 2021; Pörtner et al., 2022). As such, the need to integrate climate change response measures into existing sector policies has become a priority both at a national and local level (Rauken et al., 2014). Some scholars have argued that climate change integration is the only solution to bring about the transformative change needed to tackle the climate crisis (Mickwitz et al., 2009). While climate change integration requires collective efforts from the public sector, private sector, and civil society, this study specifically focused on leadership within local authorities operating within selected South African cities.

As the world continues to urbanise, local authorities and the communities they serve bear the greatest burden of climate-related disasters. At the same time local authorities also carry the responsibility of decoupling economic growth from carbon emissions in a manner that protects the livelihoods of their communities and ensures that benefits are equitably distributed (United Nations, 2015). Enabling societal change of this scale requires significant institutional change within local government (Bulkeley & Betsill, 2013). The importance of both leadership and institutions has long been recognised in the environmental governance domain despite the limited application of such theories to help explain climate change governance (Beunen & Patterson, 2016). The research presented here aims to address this apparent gap by understanding the role of effective leadership in institutionalising climate change considerations into city planning and decision-making in South Africa.

Since the emergence of climate change on urban policy and research agendas in the 1990s and 2000s, the focus has primarily been on technical and managerial solutions to reduce greenhouse gas emissions and adapt to an altered climate, with the leadership and governance changes required to drive such change often receiving little attention (Wright et al., 2012; O'Brien et al., 2023). Several researchers have recognised the need for new forms of leadership to tackle the world's most intractable challenges and have theorised the personality traits and behaviours of effective leaders. Transformative leadership (Gardner et al., 2010; Dinh et al., 2014), integrative leadership (Hernandez et al., 2011), and complexity leadership theory (Uhl-Bien & Marion, 2009) are just a few of the theories that have emerged (discussed further in **Chapter 2**¹). Even with this broad research arena on leadership, scholars have had little to say on climate change specifically (Guthey et al., 2018; Harrison & Kaesehage, 2019) and even less on city-scale climate leadership (Hofstad and Vedeld 2021).

There has also been extensive research on policy entrepreneurs, policy change, and institutional change, with several researchers focusing specifically on climate change

¹ References to chapters and sections within the dissertation are bolded for emphasis.

(Garschagen, 2013; Beunen & Patterson, 2016; Kalafatis & Lemos, 2017). The interplay between actors and institutional structures has also become a topic of scholarly interest; there is a “...tremendous need and untapped potential to draw on these wider traditions of institutional scholarship within environmental governance” (Beunen & Patterson, 2016, p. 2).

Despite the growing emphasis on the importance of climate change institutionalisation, much of the literature is theoretical. There have been few in-depth studies on best practices and the links and implications for effective leadership (Juhola, 2010; Pasquini et al., 2013; Ayers, 2014; Rauken et al., 2015; Robinson, 2019), a gap more glaringly significant for cities, especially Global South cities. Climate change’s leadership and governance implications also remain under-researched and under-discussed (Dewulf et al., 2015), particularly concerning local government and particularly in the Global South (Parnell & Robinson, 2012). As such, the link between leadership and successful climate change institutionalisation is poorly understood and has been recommended for further study to explain the reasons behind the inadequate implementation of climate policies (Nunan et al., 2012; Meijerink & Stiller, 2013). A survey of 292 cities globally, for example, found that 66% of cities had climate action plans in place or had initiated pilot projects, but only 22% were implementing projects at scale. It concluded that “Mayors and other city leaders should focus on changing underlying systems to embed climate considerations in the nuts and bolts of city operations” (Bloomberg Associates, 2021, p.2).

Further investigation is, therefore, needed to understand how this recommendation can be pursued in different contexts. This research contributes to understanding the South African context where city governments face multiple intersecting challenges, such as service delivery backlogs, rapid urbanisation, high levels of poverty and inequality, climate and environmental risk, and economic sustainability (Ziervogel, 2019). In South Africa, existing resources and capacity constraints create challenges for integrating climate change into municipal planning (Pasquini et al., 2015) but also serve as a critical motivator for doing so as integration promotes collaboration, resulting in improved human and financial resource efficiencies (Lebel et al., 2012) and improved developmental outcomes (Mogelgaard et al., 2018). Given this policy imperative, the institutionalisation of climate change has been noted as a priority by South Africa’s national government, with section 7a of the 2022 Climate Change Bill² (Parliamentary Monitoring Group, 2024) requiring all organs of state to ensure that climate change considerations are mainstreamed into decision-making.

Throughout this dissertation, I draw on my personal experiences having worked closely with city governments in South Africa for the past ten years. My experiences are used to interpret the literature and findings. My positionality is a key methodological consideration and is discussed further in **Section 4.8**.

² At the time of submitting this research for examination, the Climate Change Bill has not yet been formally signed into law.

A concise introduction to climate change institutionalisation and its implications for city leadership and governance are provided in this opening chapter. **Chapter 1** begins with the rationale and problem statement, where the unique nature of climate change is explored, highlighting it as a super wicked problem (**Section 1.2.1**) and a process of socio-institutional change (**Section 1.2.2**). The following section touches on the failure of nation-states to effectively address the climate crisis and the potential role of cities as climate leaders (**Section 1.2.3**).

Following this introduction, the research aim and objectives are presented, outlining the specific goals of the study (**Section 1.3**). The scope of the research is then defined, specifying the study's boundaries and focus (**Section 1.4**). Lastly, the dissertation outline is presented and provides an overview of the subsequent sections, offering a roadmap of what to expect in the following chapters (**Section 1.5**).

1.2. Rationale and problem statement

The climate crisis presents a unique and complex challenge for leadership and governance (Dewulf et al., 2015; Meijerink & Stiller, 2013). To unpack why this is, the research adopted an understanding of climate change as a super wicked problem (Levin et al., 2012). Navigating the inherent complexity and uncertainty of the challenge demands leadership capable of driving processes of socio-institutional change. With the recognition of the dualistic interaction between leaders and the formal, government institution, the research sought to uncover how leadership behaviours are shaped by the institution and the strategies leaders employ to influence the process of institutional change within the context of climate change response in South African cities. A deeper understanding of this interaction can support climate leadership development, strengthen climate governance, and help overcome the significant barriers to implementation that exist within cities (Parnell & Robinson, 2012).

1.2.1. Climate change as a super wicked problem

One of the key issues that make 'effective leadership' difficult to identify and implement is that climate change is a complex, wicked challenge. Climate change is an existential crisis, the greatest humanity has ever faced (Ripple et al., 2021; Stollberg & Jonas, 2021; Pörtner et al., 2022; Ripple et al., 2023). Given the multiplicity of challenges associated with the climate crisis, it has earned the title of a 'super wicked problem', defined as intractable challenges occurring at the interface of human and environmental interaction, characterised by the fact that enacting solutions can and often do create a plethora of new problems due to the presence of multiple, interconnected, and competing interests (Sun & Yang, 2016). The reasons for this are discussed in more detail below.

Despite the broad scientific consensus on the causes of climate change and the risks of inaction, climate change is still characterised by uncertainty, ambiguity, and complexity

(Buurman & Babovic, 2016). There is a certainty that the climate has already warmed by 1.1 degrees Celsius (Pörtner et al., 2022); however, the timing and degree of future impacts remain uncertain, mainly hinging on our ability to reduce emissions and drastically build resilience to climate impacts. The higher our global greenhouse gas emissions, the greater the chance of the worst-case scenarios becoming a reality. Thus far, observed impacts have proven to be far worse than projected (Haasnoot et al., 2020; Trisos, 2020; Pörtner et al., 2022).

The complexity of climate change stems from its multiple causes and interactions across natural and social systems. Impacted socio-ecological systems behave in non-linear ways that are not fully understood (Pelling et al., 2015; Pörtner et al., 2022). The costs and benefits of climate impacts are also unevenly distributed (Zahran et al., 2008; Cai et al., 2010; Scoville-Simonds, 2020; Deveci et al., 2022), and desired outcomes are subjective, with what may be seen as an opportunity for some might be considered problematic for others (Jones, 2019). Due to the complexity and existing knowledge gaps, proposed solutions may also result in unintended negative consequences and heightened injustices (Huiteima et al., 2016).

Climate change also cuts across several scales. Impacts manifest differently at a regional, city, neighbourhood, and even household level, depending on the exposed population's vulnerabilities and ability to sense and respond to hazards, risks, and impacts (Pörtner et al., 2022). Climate change is also identified as both a global and a local issue because a collective global effort is required to reduce emissions; however, the impacts are felt locally. There are also important equity considerations at an international level, with industrialised countries having an ethical obligation to the developing world as they are responsible for the largest share of historical emissions (Meyera & Roserb, 2017; Pörtner et al., 2022). Climate change as a governance, biophysical, socio-ecological, and cultural matter, therefore, requires considerable cooperation between different levels of government, policy sectors, and public and private parties (Willems & Baumert, 2003; Huiteima et al., 2016) and across regions and nations, spanning political boundaries.

Climate change is also *time-sensitive*. There is a small window of opportunity for us to act, a window rapidly narrowing, failing which the worst impacts will be unavoidable and irreversible (Pörtner et al., 2022). Failing to address it promptly means facing increasingly limited and costly solutions as time goes on (Levin et al., 2012; IPCC, 2023).

One critical constraint to global, national, and local climate change governance is that no central authority or singular solution to address the challenge exists. In addition, even if public authorities were to align their responses perfectly, much of the action needed falls beyond the bureaucratic domain, as explained above (Levin et al., 2012). Cooperation is therefore needed not only among states but also across different sectors and actors at multiple political levels (**Section 1.2.3.** below).

Given the collective responsibility of climate change, those seeking to solve the climate crisis have also contributed to the problem. There are no discrete antagonists and protagonists as

in the case of other environmental issues or policy concerns (e.g., deforestation, wildlife poaching, drug abuse). Individuals can make better decisions (O'Brien, 2021) to reduce their carbon footprints but likely will still contribute to the crisis as the systemic nature of the challenge makes it difficult to reduce one's emissions completely (Levin et al., 2012).

Lastly, super wicked problems are characterised by being perceived as long-term, which results in solutions being discounted in the short term (Weaver et al., 2023). Given the cumulative nature of climate impacts, immediate intervention is required to prevent the worst impacts, many of which are only projected to manifest around mid-century. Solutions in the short term may be costly and deprioritised given the uncertain future benefits compared to more immediate concerns.

"Super wicked problems are confounded by the tendency of our political institutions to make decisions that give greater weight to society's immediate policy interests and to delay required behavioural changes, often by the use of ostensible commitments to reduce greenhouse gas emissions that have little or no immediate effect" (Levin et al., 2012, p. 128).

This partly explains why various climate commitments are being made, but actions to implement such commitments are woefully lagging (Bloomberg Associates, 2021, Pörtner et al., 2022; Boehm et al., 2023), often most notably in the Global South. This is further exacerbated by practical considerations, particularly the belief that the cost of disincentives, such as the price of technological solutions, will diminish over time. Given the short-sightedness inherent in the political and policy system, democratic processes and institutional reform must purposefully consider the longer term. "To overcome the tragedy of super wicked problems, we need to nurture a policy process in which our long-term interests gain sway over our short-term interests" (Levin et al., 2012, p. 129).

Framing climate change as a super wicked problem moreover underscores the need for a unique leadership approach that can manage the complex and systemic nature of climate change and the magnitude of the multifaceted challenges it presents. This research is premised on the idea that conventional leadership styles and problem-solving approaches may not be suitable for a range of reasons: climate change transcends traditional policy domains (Kok & De Connick, 2007; Archer et al., 2014; Brown, 2018), climate change spans a range of multi-scalar issues (Corfee-Morlot et al., 2009; Kern & Alber, 2009; Di Gregorio et al., 2019), climate requires balancing short-term interests with long-term sustainability goals (Verkerk, 2020), and critically, climate change urgently requires fostering collaboration across diverse stakeholders and collective action to achieve a vision of societal transformation (Broto & Westman, 2020) while simultaneously manoeuvring through politically contested and bureaucratically laden city governments (Broto, 2020; Bulkeley, 2022).

Framing climate change as a super wicked problem also emphasises that climate change response goes beyond isolated policy measures and technical solutions, encompassing

broader shifts in societal norms, values, and institutions (Conradie, 2020; Weaver, 2023). This is further explored in the next section.

1.2.2. Climate change response as a process of socio-institutional change

Responding to climate change, as described above, requires transforming existing social, economic, and political systems to promote sustainability and resilience (Adams et al., 2021). While climate change is often framed as an environmental problem, given the far-reaching socio-economic impacts, it is, in fact, a political, systems, and developmental challenge (Sun & Yang, 2016).

Given the complexity of climate change, achieving systemic change requires us as humanity to reimagine and restructure our patterns of production and consumption and how we interact with the natural environment, govern ourselves, and safeguard those who are most vulnerable to the impacts of climate change (IPBES, 2019; Pörtner et al., 2022). Climate change response can, therefore, be viewed as a process of socio-institutional change rather than a sector-specific technical fix (Mdluli & Vogel, 2010; Taylor et al., 2014). Only through socio-institutional change can we foster new norms and behaviours and establish innovative governance structures that can effectively facilitate climate change institutionalisation (Aylett, 2013; Archer et al., 2014; Säumel et al., 2019).

At a city level, based on the literature and my personal experience, the *socio-institutional context* is critical to understand. It is characterised by several factors: legislative and regulatory requirements (Pieterse et al., 2021), organisational structure (Göpfert et al., 2020), the roles and responsibilities of political, technical, and administrative staff, how performance is assessed (Vogel et al., 2021), decision-making structures that exist, the process of developing and then approving sectoral, spatial, and strategic plans (Pieterse et al., 2021), the budget allocation process, public participation processes, how projects are monitored for impact, and the intergovernmental relations between the different spheres of government (Pasquini et al., 2015). Strategies for effectively institutionalising and ‘governing’ climate change typically centre around these processes, an assumption that was tested and further explored in the current study (**Chapters 5 and 6**) (C40 Cities, 2019).

The recognition of climate change response as a process of socio-institutional change, acknowledges the fundamental shifts required at societal and institutional levels, thereby emphasising the need for systemically embedding climate change into all aspects of decision-making. This framing also shows that climate change integration efforts may be bolstered by drawing on broader traditions of institutional scholarship, as suggested earlier in the chapter (Beunen & Patterson, 2016). This raises the question of what kind of leadership might be best suited to champion the process of socio-institutional change needed to embed climate change considerations into city planning and decision-making effectively and to examine if conventional leadership theories are applicable in this context. The Three Spheres of Transformation (O’Brien & Sygna, 2013) was selected as the conceptual model for this

research because it connects the leadership dimensions of climate change (personal sphere) to the process of socio-institutional change (political sphere) and the practical results (practical sphere). This is discussed in more depth in **Chapter 2**.

As shown in this introduction, there is a clear case for studying leadership as it relates to climate change institutionalisation; however, there is still a need to explain why the focus of this inquiry should be on city leaders specifically. This question is answered in the next section, which argues that cities have showcased bold climate leadership, filling the gap left by the inaction of national governments.

1.2.3. Nation-states are failing, and cities are leading.

According to the United Nations Secretary-General António Guterres, the latest IPCC report is an “atlas of human suffering and a damning indictment of failed climate leadership” (United Nations, 2022, para.6). Fifty years have passed since the 1972 Stockholm Conference on Human Environment acknowledged the interlinkages between environmental, security, health, and development crises. Thirty years have passed since the United Nations Framework Convention on Climate Change was adopted. Despite 193 states, as well as the European Union, ratifying the Paris Agreement in 2015 and committing to pursue efforts to limit global warming to 1.5°C, it is clear that global responses are wholly inadequate. Based on the policies we have in place and the poor implementation of such policies, we are on track for a global temperature rise of about 3°C above pre-industrial levels by the end of the century. Current commitments will increase emissions by 10.6% by 2030 compared to 2010 levels (Pörtner et al., 2022; United Nations Climate Change, 2022; Ripple et al., 2023).

The latest IPCC report’s condemnation of failed global leadership on climate, coupled with inadequate global responses despite international commitments, underscores the need to look beyond nation-states to solve the climate crisis in cities (Dodman et al., 2022). Cities have emerged as leaders in this space and earned a reputation for implementing some of the most ambitious climate actions, ranging from ecosystem-based adaptation to renewable energy projects (CDP, 2022a & 2022b). Cities are home to 54% of the global population, with projections showing that by 2050, two-thirds of the world’s population will be urban (United Nations, 2018). Globally, more than one billion people live in informal settlements that are particularly vulnerable to floods, extreme weather events, and heat risks (Satterthwaite et al., 2020). With cities taking up only 3% of the Earth’s land area while accounting for 75% of global greenhouse gas emissions (United Nations, 2020), the case for prioritising climate action in urban areas is evident, with some stating that the battle against climate change will be won or lost in cities (Sancino et al., 2022).

The important role cities can play is well documented (Bulkeley et al., 2009; Fuhr et al., 2018), with a long history of research on climate change at a local level, dating back to the mid-1990s. Early research primarily focused on the impacts of climate change, including heat (Kalkstein & Smoyer, 1993), water supply (Wolock et al., 1993), sea-level rise (Nicholls, 1995),

and flooding (Parker, 1995). Urban climate governance, policy, and planning emerged on the research agenda in the 2000s, initially focusing on case studies from Global North countries, such as Australia (Bulkeley, 2000; Bulkeley & Betsill, 2003), the United States (Betsill, 2001; Kousky & Schneider, 2003; Suarez et al., 2005), Canada (Smoyer, 2000), the United Kingdom (Allman et al., 2004; Bulkeley & Kern, 2006), and Germany (Bulkeley & Kern, 2006). Research on climate governance in Global South cities has lagged slightly, with limited case studies emerging, including several from Mexico (Romero-Lankao, 2007), South Africa (Holgate, 2007; Roberts, 2008), Ghana (Karley, 2009), Bangladesh (Alam & Rabbani, 2007), Japan and Brazil (de Oliveira, 2009). Since the early 2000s, the focus on cities and climate change has rapidly increased (for a good review, see Dodman et al., 2022).

Much of this research has focused on the challenges faced by Global North municipalities even though the need to respond to climate change is so much greater in the Global South (Pasquini et al., 2013), with 95% of the projected urban growth set to take place in the developing world (United Nations, 2020). There are multiple underlying reasons for the North-South divide on climate research, including the lack of investment in research and development and the practical challenges associated with accessing funding and publishing papers (Blicharska et al., 2017), further emphasising the importance of better understanding the role leadership can play in supporting climate change institutionalisation within Global South cities.

Cities are already demonstrating climate leadership on a global stage; however, the role of individual actors within city governments in driving such change is not well understood. Several critical questions requiring further exploration and understanding include: How are these leaders able to motivate climate change to be a key policy issue, and how are leaders enabling such policy to become institutionalised and implemented? How are they enabled by the current governance systems, and what barriers do they encounter? Cities significant contributors of greenhouse gas emissions. Cities are also highly exposed to climate impacts, and have a proven track record of taking action, they therefore serve as an interesting site of study to explore the leadership implications of mainstreaming.

Given the significance of cities and the unique leadership approaches required to embed climate change within city governance systems, the aim and objectives of this study were carefully crafted to address the aforementioned gaps in the literature and the previously raised questions.

1.3. Research aim and objectives

This study's central aim was to understand the leadership traits and strategies that facilitate the integration of climate change considerations into city planning and decision-making.

The research objectives were:

- Identify leadership styles suitable for institutionalising climate change, including personal attributes, motives, and different identities of successful climate change champions.
- Understand the political sphere of local government in South Africa, how it interacts with the personal and practical spheres, and what the implications are for climate change institutionalisation.
- Contextualise and tailor the Three Spheres of Transformation Conceptual Framework (O'Brien & Sygna, 2013) to reflect the realities of South African cities.

In the next section, the boundaries within which the research objectives were pursued are discussed.

1.4. Scope of this study

Given the complexity and transdisciplinary nature of climate change (Klenk & Meehan, 2015; Moser et al., 2019), the nuanced characteristics of South African cities, and the multitude of factors influencing both climate change response and city governance, it was essential to define the scope of the study to ensure that the research objectives receive focused attention. The focus was primarily on the leadership aspects related to the institutionalisation of climate change in city planning and decision-making. The geographic scope was limited to the Global South, specifically South Africa, acknowledging that the findings may not be applied universally. While some insights into provincial and national government were gained from the interviews, the scope of the study was limited to large, metropolitan municipalities. The social, political, and institutional context of South African cities were explored, but only so far as to elucidate the complexities city leaders are required to navigate as they strive to embed climate change considerations and what influence this context may have on leaders. Other factors influencing climate governance and climate response were not extensively explored, as the emphasis lay on examining the role of leadership in effectively enabling institutional change processes to support climate action implementation.

1.5. Dissertation outline

The dissertation is organised into chapters to address the research objectives systematically. Having introduced the study in this chapter, attention turns to a review of the literature. In **Chapter 2**, relevant theories relating to climate change leadership and institutional change are explored. In **Chapter 3**, the existing scholarship on climate change at a global, national, and local level is presented to contextualise the topic. The research design and approach are explained in **Chapter 4**, including methodological considerations. Key research findings are presented in **Chapter 5**, followed by the implications of the research, which are discussed in the subsequent chapter (**Chapter 6**). Finally, the conclusion chapter (**Chapter 7**) offers a summary of the key findings, contributions, and recommendations derived from the study. Through this structured approach, the dissertation aims to advance the understanding of how

leaders shape processes to institutionalise climate change in city government and how the characteristics of city governments shape the mainstreaming strategies leaders employ.

Chapter 2: Theorising Climate Change Leadership and Institutional Change

2.1. Introduction

Leadership and institutional change, as outlined in **Chapter 1**, particularly regarding climate change, remain understudied across the globe. In the South African context, in particular, there is a lack of empirical evidence supporting different theories and approaches needed to guide and influence processes aimed at institutionalising climate change and effective climate change leadership within local government. In this literature review chapter, the focus is not on climate change implementation, as this is too wide a spectrum. The chapter instead focuses on leadership types that may facilitate the institutionalisation of climate change in cities.

A large body of leadership theories and organisational change theories dating back several decades provide a foundational understanding of how institutional change occurs and the role of leaders in driving such change. This chapter explores these theories, focusing on those which may offer the greatest explanatory power before examining theories relating to climate change institutionalisation and climate change transformation. Leadership theories have evolved, but the transdisciplinary nature of climate change (cutting across sectors and various human and biophysical dimensions) necessitates a broader and wider understanding of leadership beyond traditional definitions and boundaries. A selection of relevant leadership theories that can provide insights into the leadership needed to drive climate change institutionalisation in cities is also examined in detail (**Section 2.2.**).

Approaches to climate change institutionalisation is a relatively new research domain that can be strengthened by drawing parallels with longstanding institutional change theories (**Section 2.3.**). Climate change mainstreaming dominates the discourse on climate change institutionalisation; however, critics have questioned its effectiveness in driving climate transformation (**Section 2.4.**).

The theories presented in this chapter provide an initial framing architecture to examine how cities can embed climate change considerations into their decision-making processes, policies, and practices. These theories are contextualised for South African cities in **Chapter 3**.

2.2. Leadership

Leadership is a complex and multifaceted concept that has been the subject of extensive research and discussion. In this section, a distinction is made between leadership and management (**Section 2.2.1.**) before summarising the key trends in the literature (**Section 2.2.2.**). The section ends with a discussion of the leadership theories that are most relevant to climate change (**Section 2.2.3.**).

2.2.1. Defining leadership and management

There is a plethora of research relating to leadership with countless classifications, definitions, and theories. Nearly half a century ago, Stogdill (1974, p.7) said, "...there are almost as many different definitions of leadership as there are people who have attempted to define the concept". This was echoed by James MacGregor Burns, who is famously quoted as saying, "Leadership is one of the most observed and least understood phenomena on Earth" (Burns, 1978, p.3).

These statements still hold true today. Notwithstanding that leadership theories have certainly evolved, a universally acceptable definition of leadership has not been reached. Some scholars have argued that not only is reaching a consensus about what constitutes leadership impossible but that such divergence is in the best interest of the field as it accommodates the interdisciplinary richness, contextual variability, and cultural diversity of leadership and encourages further exploration (Harrison, 2018). Despite the lack of agreement and the various definitions that have emerged over the past 70 years, what these definitions have in common is that leadership is typically perceived as a process of influence where a person or group influences others to work towards a common goal (Gardner, 1990; Northouse, 2010; Morse, 2014).

The definition involving a leader and followers is, however, not well suited to the transdisciplinary nature of climate change (Meijerink & Stiller, 2013) and the multi-level governance processes that influence climate action and how decisions are made within local governments (Taylor, 2017), a challenge discussed further in **Chapter 3**. Climate action requires more than hierarchical and linear modes of engagement (Kythreotis et al., 2019). In addition to such engagements, climate action requires cross-sectoral collaboration, intergovernmental coordination, and international cooperation; ultimately, an all-of-society response is also needed (Dodman et al., 2022). More generally, we live in a world characterised by shared power where the notion of a leader influencing followers has broken down (Adams et al., 2011; Morse, 2014). A broader definition of leadership: "bringing people together to make something different happen" (Cleveland, 2002, xv), may be more meaningful, most notably in the context of climate change transformation.

A critical debate in the literature has also centred on the commonalities and differences between leadership and management, with some scholars arguing that there is a key distinction between the two concepts. Management is concerned with efficiently and effectively using organisational resources to meet organisational goals (Daft, 2010). It involves exerting authority to ensure compliance from subordinates (Toor, 2008).

"Leaders are different from managers in that they think long term, grasp relationships to larger realities and organisations, reach and influence constituents beyond boundaries, emphasise intangibles of vision, values, motivations, and non-rational and unconscious elements, have the political skill to deal with multiple constituencies, and think in terms of renewal" (Beinecke, 2009, p. 7).

Ultimately, while management is concerned with efficiency, leadership is concerned with realising useful change (Kotter, 1990).

Public management research, as can be expected from the name, has placed emphasis on management – studying the effectiveness of organisational structures (Nicholl, 2006; Christensen et al., 2020), performance management systems and techniques (Rwelamila, 2007; Pattnaik & Pattnaik, 2021), public policy implementation (Howlett, 2019; Hudson et al., 2019; Kotnik et al., 2020), governance (Gjaltema et al., 2020), service delivery (Voorn et al., 2019; Henman, 2020), and decision-making (Laffont, 1991 & Tirole; Devas & Grant; 2003; Janssen et al., 2022). Leadership has received minimal consideration in the public management discourse (Ingraham & Getha-Taylor, 2004; Orazi et al., 2013; Van Wart, 2013; 2015; Kim & Yoon, 2015; Ashikali et al., 2021).

Where leadership studies in the public sector exist, they tend to be focused on *top-down* leadership, including a focus on Presidents and Prime Ministers in particular (George & Stern, 2019; Greenstein, 2019; Kesgin, 2020; Schneiker, 2020), with far less focus on Mayors (Handoyo, 2020; Springer et al., 2020; Karsten et al., 2021) and even less on public administration (Antwi-Boasiako, 2010; Wang et al., 2014; Fairholm et al., 2018; Dimitrijevska-Markoski & French, 2019). A review of the literature also found that the scarcity of research on these topics is also far more significant in the Global South and particularly Africa and that very little public management research has focused on city leadership with reference to climate change (Pollitt, 2015).

In the context of climate change governance, leadership, however, can provide the critical vision, strategy, and motivation needed to address climate change while management ensures the operational execution and implementation of those strategies. Both elements are interdependent and necessary for effective climate change institutionalisation within city governments, as is shown in **Chapter 6**.

2.2.2. The evolution of leadership theories

Leadership theories, as noted above, have significantly evolved over the past 200 years (Box 1). Key trends, are vital to take note of, as they set the scene for understanding the type of leadership that may be present in city governments, even though they may not explicitly link to climate change.

Several themes described in Box 1 remain highly relevant in contemporary leadership scholarship. The notion that leadership is not solely determined by inherent traits but can be developed through skills and learning continues to shape modern discussions on leadership development and training (Moldoveanu & Narayandas, 2019). The focus on adaptive leadership in various contexts, as highlighted by Situational and Contingency Leadership Theories, aligns with the current emphasis on flexibility and agility in leadership practices, especially in rapidly changing environments (Attar & Abdul-Kareem, 2020). Moreover, the acknowledgement of followers' expectations (Implicit Leadership Theory) and relationships

(Leader-Member Exchange Theory) remains pertinent, as leadership today recognises the importance of collaboration, engagement, and understanding followers' perspectives (Martin et al., 2018). The applicability of transactional and bureaucratic leadership styles may also vary, with contemporary leadership theories emphasising a more participatory and transformational approach to align with evolving organisational structures and employee expectations (Denhardt & Campbell, 2006; Ljungholm, 2014; Campbell, 2018).

Box 1: Key trends in leadership theories

Many leadership theories have been generated. A few major trends are:

- From Thomas Carlyle's **Great Man Theory**, proposed in 1847, to a greater focus on traits in the 1900s, early theories assumed that leaders are born with unique characteristics.
- By the mid-1990s, **Skill Theory** offered a significant shift away from assuming that leadership is hereditary; skills and abilities could be learnt, and as such, anyone able and willing to acquire the skills could be a leader (Harrison, 2018).
- **Behavioural Theory** looks at what leaders do in practice and how they behave towards their subordinates, marking a shift away from leader-centric theories (Wright, 1996; Northouse, 2010).
- This trend continued, and in the late 1990s, **Contingency Leadership Theory** placed more focus on the context within which the leader operated (Nawaz & Khan, 2016). This theory made a significant contribution, which is still very relevant today, highlighting the importance of leaders adapting their approach based on the circumstances (Harrison, 2018).
- **Implicit Leadership Theory and Leader-member Exchange Theory** offered a fresh perspective, emphasising the role of followers and looking into their expectations of the leader in the former and their relationship with the leader in the latter.
- **Transactional Leadership Theory** has been prominent since Burns first introduced it in 1978 (O'Shea et al., 2009). Transactional leaders accept and work within a system as it is; they are known to "play by the rules". Their leadership style emphasises "efficiency, planning, goal-setting, competency, structure and maintaining the organisation" (Beinecke, 2009, p. 6).
- **Bureaucratic Leadership** is a management style characterised by strict adherence to an organisation's rules, procedures, and hierarchical structures. Employees lack freedom in their roles. It is not recommended in dynamic and rapidly changing environments or in organisations pursuing ambitious goals (Mansaray, 2019).

2.2.3. Leadership theories most relevant to climate change

While most leadership theories are not directly relevant to climate change, some exceptions are highlighted in the literature: Complexity Leadership Theory (Meijerink & Stiller, 2013), Transformational Leadership (Dupont & Oberthür, 2016), Policy Entrepreneur Theory

(Mintrom & Luetjens, 2017; Tanner et al., 2019), Integrative Leadership Theory (Meijerink & Stiller, 2013; Crosby & Bryson, 2014), and Sustainability Leadership Theory (Meijerink & Stiller, 2013; Wang et al., 2014). These theories are discussed in greater detail below, drawing out the central aspects that may have relevance in a city context focusing on climate change (Table 1).

Table 1: Leadership theories relevant to addressing climate change in city governments

Leadership Theory	Description
Complexity Leadership Theory	Complexity Leadership Theory studies leadership within and of complex adaptive systems. It is important to note that complexity here does not mean “complicated” as per the traditional use of the term, but rather “conveys a sense of rich interconnectedness and dynamic interaction that is generative of emergence in and among CAS [complex adaptive systems]” (Uhl-Bien & Marion, 2009, p. 632).
Transformational Leadership	Transformational Leadership is concerned with how leaders can effect change by motivating followers to go beyond their self-interest to achieve organisational goals or objectives and align with the greater good. Transformational Leadership is predicated on leaders engaging followers based on values, beliefs, and goals. Interactions raise not only the motivation but also the morality of the follower as leaders seek to encourage the follower to transcend their self-interest in pursuing goals, resulting in greater social dividends (Nawaz & Khan, 2016).
Policy Entrepreneurship Theory	Policy Entrepreneurship Theory examines the role of leaders in shaping and influencing the policy-making process. It focuses on how leaders navigate the complex policy landscape, employ strategic decision-making, build coalitions, and utilise their authority to guide the development and implementation of policies. It emphasises the importance of leaders in setting agendas, promoting policy innovation, and effectively managing policy implementation to address societal challenges and achieve desired outcomes (Timmermans et al., 2014).
Integrative Leadership Theory	Integrative Leadership Theory, an established framework within leadership studies, explores the role of leaders in bridging diverse perspectives, interests, and stakeholders to achieve common goals and foster collaboration. This theory emphasises the need for leaders to integrate and synthesise different viewpoints, values,

	and knowledge systems to address complex challenges and promote collective decision-making. By employing integrative leadership principles, leaders can facilitate dialogue, build trust, promote inclusivity, and create a shared vision, thereby enhancing the ability of organisations and communities to work together towards sustainable solutions (Behrendt et al., 2017).
Sustainability Leadership Theory	Sustainability Leadership Theory examines the role of leaders in promoting and advancing sustainability principles and practices. This theory emphasises the need for leaders to integrate environmental, social, and economic dimensions of sustainability into their decision-making processes and organisational strategies. Sustainability leaders must demonstrate a deep understanding of sustainability challenges, engage stakeholders, foster innovation, and drive transformative change towards a more sustainable future. By embracing sustainability leadership principles, leaders can guide organisations and communities towards sustainable practices, responsible resource management, and long-term environmental and social well-being (Meijerink & Stiller, 2013; Suriyankietkaew et al., 2022).

The leadership literature, as described in Box 1, does not explicitly describe the type of leadership needed to advance a climate change agenda at a city level, the gap as motivated in **Chapter 1** that this research aimed to address. The exception to this is Hofstad et al. (2022) which focuses on leadership styles needed to promote co-creational leadership for urban climate transformation, informed by mostly by Scandanavian cities. In the absence of literature to help make the theoretical connections between leadership theories and climate change institutionalisation in South African cities, I refer to research focused on local government and lean on my experience working with South African cities on climate change to offer an interpretation (see my interpretation of lessons learnt and observed in italics below).

Given the complexities of local government and the interconnected and adaptive nature of urban systems, Complexity Leadership Theory is especially relevant in the context of advancing climate action in cities. Complexity Leadership Theory recognises the leadership contribution and meaningful change driven by organisational members who do not have formal leadership positions (Stiller & Meijerink, 2016). *In the city context, this may include city officials who are not managers, politicians who have not been assigned a specific portfolio, specialists, researchers, and consultants* . In addition, unlike many previously discussed theories that have been critiqued for being leader-centric, Complexity Leadership Theory places great emphasis on the *systems and structures* within which formal and informal

leadership interacts (Nooteboom & Termeer, 2013). Complexity Leadership Theory can also offer insights into how diverse stakeholders can collaboratively navigate the complex challenges of climate change by fostering shared governance, distributed decision-making, and innovative solutions (Meijerink & Stiller, 2013; Scholten et al., 2015). Complexity Leadership Theory as a lens also offers insights into the role of leadership in strengthening the adaptive capacity of multilevel governance networks and promoting bottom-up regional approaches to climate adaptation in the Netherlands and the United Kingdom (Scholten et al., 2015).

In addition to Complexity Leadership ability, Transformational Leadership is also becoming a key area of expertise that is urgently needed in cities and other climate change domains (Warrick, 2011; Katywa & Strydom, 2021; Azhar & Yang, 2022). *Transformational Leadership is highly relevant to city leaders working on climate change because it emphasises inspiring and motivating followers to transcend their self-interests and pursue collective goals.* By employing transformational leadership behaviours, such as articulating a compelling vision, fostering innovation, and promoting environmental consciousness, city leaders can effectively mobilise their communities, drive sustainable initiatives, and catalyse meaningful change towards climate resilience and mitigation (Kest, 2007; Kim & Yoon, 2015). Transformational Leadership has been found to correlate positively with environmental concern and sustainability practices within the workplace among public sector employees in Nigeria (Kura, 2016).

Policy Entrepreneurship Theory is also another much-needed leadership trait that helps to understand how city leaders mainstream climate change by providing insights into how leaders can shape the policy agenda, influence decision-making processes, and mobilise resources to prioritise climate change issues. This theory emphasises the role of city leaders in setting goals, engaging stakeholders, and effectively implementing climate change policies, enabling a better understanding of the strategies and mechanisms they employ to integrate climate change considerations into broader policy frameworks and practices (Zerbinati & Souitaris, 2005). Ken Livingstone, the former Mayor of London, is an example of a policy entrepreneur. At a time when nation-states were expected to lead on climate action, Livingstone advocated for the role of cities to receive greater recognition, shifting the framing of the problem. He had a vision to position London as a global leader and a green city. He implemented ambitious climate policies locally and galvanised mayors globally, which ultimately led to the establishment of the C40 Cities Climate Leadership Group (Mintrom & Luetjens, 2017).

Climate change also requires collaborative and inclusive approaches that involve various stakeholders, such as community members, businesses, government agencies, and non-profit organisations. Integrative leadership and transdisciplinary approaches (Klenk and Meehan, 2015; Pörtner et al., 2022) can help city leaders bridge divergent interests, perspectives, and knowledge domains, synthesising diverse viewpoints and fostering collective decision-making (Huang and Harvey, 2021; Hofstad et al., 2022). *These purposive, inclusive approaches can*

enhance the capacity to address climate change's interconnected social, economic, and environmental dimensions (my interpretation). An illustrative example is Oslo's climate budget. With the goal of achieving its emission reduction targets, the city's leadership established internal thematic working groups comprising representatives from municipal sectors and hosted dialogues with external stakeholders. As a result of the climate budgeting process, new procurement rules and urban planning requirements with climate criteria were introduced (Hofstad et al., 2022).

By examining the role of leaders in promoting climate-friendly policies, engaging stakeholders, fostering innovation, and driving transformative change, *Sustainability Leadership Theory provides valuable explanations and guidance on how city leaders can effectively lead and catalyse climate action efforts, leading to more sustainable and resilient cities*. A study from the United States, for example, found that city administrators play a significant role in leading sustainability efforts by involving citizens, improving technical knowledge, rallying financial support, and cultivating the managerial skills necessary to effectively implement sustainability initiatives (Wang et al., 2014).

Having examined some of the most salient leadership theories in the context of climate change, the focus now shifts towards understanding institutional change theories on a broader scale. By exploring institutional change theories, we can begin to have a more comprehensive understanding of the mechanisms and strategies needed to drive the scale of systemic change needed to confront the climate crisis.

2.3. Institutional change

"Institutions are the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction. In consequence, they structure incentives in human exchange, whether political, social, or economic. Institutional change shapes the way societies evolve through time" (North, 1990, p. 3).

Institutional change refers to the process of transforming the structures, rules, norms, and practices within organisations, governments or societies to adapt to new challenges, needs or opportunities (Beunen & Patterson, 2016; Myeong-Gu & Creed, 2002). The difficulty of effecting institutional change is central to several environmental governance challenges (Beunen & Patterson, 2016), including climate change. Despite a significant scholarly focus on institutions (Goodin, 1996; Hodgson, 2006; Tabellini, 2008; Peters, 2020) and different schools of thought or 'institutionalisms' emerging, for example, rational choice (Bevir, 2002), historical (Steinmo, 2008), sociological (González & Healey, 2005), discursive (Schmidt, 2008) and critical (Cleaver & De Koning, 2015), institutional change is not yet well understood (Beunen & Patterson, 2016). "There is tremendous need and untapped potential to draw on these wider traditions of institutional scholarship within environmental governance" (Beunen & Patterson, 2016, p. 13). Leadership is an emerging focus in institutional change scholarship, and the need to better understand the interplay between actors and institutional structures has been identified as a gap (Beunen & Patterson, 2016; Hwang et al., 2019). "Somewhat lost

in the development of an institutional perspective has been the lived experience of organizational actors, especially the connection between this lived experience and the institutions that structure and are structured by it” (Lawrence et al., 2011, p.52). The concept of institutional work, defined as follows, requires further investigation in the context of climate change governance:

“The efforts of individuals and collective actors to cope with, keep up with, shore up, tear down, tinker with, transform, or create anew the institutional structures within which they live, work, and play, and which give them their roles, relationships, resources, and routines” (Lawrence et al., 2011, p. 53) is known as institutional work.

This research sets out to better understand the institutional work undertaken to embed climate change in city institutions. Some of the key strategies employed by leaders are identified in **Chapter 5**.

The subsequent section probes and analyses two distinct paradigms of governing institutional change: institutional stability and radical institutional change (**Section 2.3.1.**). Following this analysis, the discussion transitions to examine how these conceptual framings find resonance within the climate change discourse (**Section 2.3.2.**)

2.3.1. Approaches to institutional change

There are two contrasting approaches to institutional change – institutional stability (Box 2), which is associated with incremental or gradual change, and radical institutional change, also known as transformative institutional change. Transactional and bureaucratic leadership styles promote institutional stability, whereas radical institutional change is championed by transformational leadership (Mansaray, 2019).

“Transformational change is often associated with change that is in-depth (fundamental, truly new, revolutionary), large scale (the whole system), and/or quick (a discontinuous jump, achieved in a relatively short amount of time), whereas incremental change is often portrayed as shallow, partial, and slow” (Termeer et al., 2017, p. 560).

Institutional stability

Institutional stability refers to preserving existing structures, norms, and practices within an organisation or society. It involves maintaining the status quo and resisting significant changes to the fundamental aspects of the institution. Stability is often preferred when the current system is considered effective, efficient, and able to cope with challenges adequately (Lammers et al., 2014). Institutional stability is associated with strong path dependence where current choices are limited by past decisions and institutional patterns are self-reinforcing (Rixen & Viola, 2015). For example, in city governments, budgets are often allocated based on historical spending patterns and priorities (Mbatsha & McIntyre, 2001). The characteristics of both institutional stability and radical institutional change are

summarised in Box 2 and Box 3, respectively; these characteristics are collated from a broad range of literature.

Box 2: Characteristics of institutional stability

- **Incremental changes:** When stability is the priority, any modifications or adjustments made are typically incremental in nature, focusing on fine-tuning existing processes rather than undertaking major transformations (Mahoney & Thelen, 2009; Van der Heijden & Kuhlmann, 2017).
- **Risk aversion:** Stability-oriented institutions may be risk-averse, as radical changes could be perceived as unpredictable and potentially detrimental to the organisation's functioning (Gerschewski, 2021).
- **Tradition and continuity:** Existing practices and traditions are highly valued, and efforts are made to sustain continuity in decision-making and operations (Hallet, 2003).
- **Resistance to external pressures:** Institutions with a stable orientation may be resistant to external pressures or calls for radical change, even in the face of emerging challenges (King & Carberry, 2020).

Gradual institutional change, on the one hand, can be brought about by replacing existing policies (or parts thereof) with new policies or clauses (displacement), introducing new rules alongside existing ones (layering), changing the impact of existing rules through inaction (drift or interpreting), and enacting policies in new ways (conversion) (Mahoney & Thelen, 2009). Layering closely aligns with climate change integration, as discussed in **Section 2.4**.

Radical institutional change

Radical institutional change, on the other hand (Box 3), involves a significant departure from existing structures, norms, and practices. It seeks to address pressing challenges by implementing transformative solutions and making fundamental shifts in the way institutions operate (Lorenzoni & Benson, 2014; Beunen & Patterson, 2016).

Box 3: Characteristics of radical institutional change

- **Transformational shift:** This approach aims to bring about profound and systemic changes, often requiring a reimagining of the institution's purpose, goals, and strategies (Massarella et al., 2021).
- **Crisis-driven or visionary:** Radical change may be driven by crises that highlight the shortcomings of the current system or by visionary leaders who perceive the need for transformative action (Ginzburg & Simonazzi, 2017; Madi Odeh et al., 2023).
- **High risk-high reward:** Implementing radical change carries higher risks, as there may be uncertainties about the outcomes. However, successful radical changes can yield substantial benefits and innovations (Maisyura, 2022).

- **Embracing uncertainty:** Organisations that pursue radical change must be prepared to navigate uncertainty and adapt to unforeseen challenges that may arise during the transition process (Scoones et al., 2020).
- **Alignment with exogenous demands:** Sometimes, external pressures, such as public demand, new legislation, or changing market conditions, may necessitate radical changes for the institution to remain relevant and effective (Brandt et al., 2019).

Continuous transformation

A third type of institutional change, continuous transformational change, has emerged in the organisational change literature. “Small-scale, incremental change and large-scale radical-transformational change will need to be rejected in favour of a third kind which lies between these two, and which is continuous” (Burnes, 2005, p. 84). Contrary to the assumption that small changes are inherently superficial, continuous transformational change posits that, over time, these incremental adjustments may accumulate, culminating in a substantial and impactful transformation. This perspective gains particular relevance in the context of interconnected and complex systems where a small change to one component can trigger a chain reaction, influencing the entire system (Termeer et al., 2017).

The concept of continuous transformational change has not yet gained widespread appeal, with calls for traditional transformational change dominating the climate change discourse (Bartlett & Satterthwaite, 2016; Amsunden et al., 2018; Romero-Lankao et al., 2018; Filho et al., 2022). As is shown in the next section, the conceptual framing of climate change institutionalisation mirrors the approaches that have emerged from the institutional change literature. Institutional stability is synonymous with climate change incrementalism, while radical institutional change is associated with climate change transformation.

From the general institutional change approaches described in **Section 2.3.1.**, attention now pivots to the specific approaches to climate change institutionalisation (**Section 2.3.2.**). While this section delved into the nuanced interplay between stability, radical change, and continuous transformation, the upcoming discussion applies these conceptual lenses to the distinct context of climate action.

2.3.2. Approaches to climate change institutionalisation

Navigating the complex landscape of climate action involves distinguishing between incremental, reformist, and transformative approaches. Incremental action may address specific climate impacts within defined locales; however, they “operate within existing power structures and maintain the status quo” (Pal et al., 2019, p. 4). Reformist actions may address the drivers of vulnerability; however, it does not challenge the underlying socio-economic structures that give rise to differentiated exposure. Transformative action addresses the root cause of vulnerability by fundamentally altering political and socio-economic systems and, therefore, could enhance social justice and socio-ecological well-being. Given the varied

contexts in which adaptation responses are needed, all forms of action are relevant to achieving resilience (Dodman et al., 2022).

Table 2: Summary of climate change institutionalisation approaches

Approach	Description	Example
Incremental	"...when it addresses the causes of problems but without fundamentally changing the social and political structures that drive it" (Dodman et al., 2022, p. 963)	Amendments to plans and regulations
Reformist	"...when it changes the features that cause problems but without fundamentally changing the structure" (Dodman et al., 2022, p. 963).	Natural disaster insurance schemes (Gillard et al., 2016). "...social protection measures may improve people's capacity to cope with climate impacts, but that improved capacity will depend on maintaining such protection measures" (Dodman et al., 2022, p. 966)
Transformative	"...when it addresses fundamental systems attributes and outcomes such as reducing inequality in political and socio-economic structures or enhancing well-being which change the situation completely" (Dodman et al., 2022, p. 963)	Democratising the energy system by promoting indigenous energy sovereignty (Broto et al., 2018).

Incremental action

Most observed adaptations to climate change fall within this category (Dodman et al., 2022). The merits of this approach have, however, also been significantly challenged: “It will not be sufficient to maintain or incrementally change the status quo, rather it will require radical and paradigmatic transformative changes” (Amundsen et al., 2018, p. 23). The argument regarding the transformative potential of incremental change highlighted in the previous section is echoed in the climate change literature: “Cumulative incremental changes may coalesce into what appears in retrospect as a transformational adaptation” (Kates et al., 2012, p. 7516; Termeer et al., 2017; Tàbara et al., 2018). In a city context, increasing the capacity of sewerage drains, for example, to adapt to flooding and replacing incandescent light bulbs with light-emitting diode bulbs to enhance the energy efficiency of municipal buildings are two examples of incrementalism. They do not radically alter mitigation and adaptation pathways but can begin to offer ‘spaces’ for actors to engage in such issues across various sectors.

Reformist action

Reformist action involves advocating for and implementing gradual policy changes, regulatory adjustments, and sustainable practices within existing systems (Dodman et al., 2022). Reformists recognise the urgency of the situation but believe that working within established frameworks and institutions can yield more achievable and politically feasible results (Geels et al., 2015). Pelling (2011), on the one hand, argues that incremental adjustments on their own do not exceed the system’s thresholds but can have a cumulative effect that shifts a system towards a transformative state over time. Some critics argue that reformist strategies might not be swift enough to avert the worst consequences of climate change (Bassett & Fogelman, 2013) and could serve as superficial remedies to evade more profound changes and, consequently, postponing transformation (Matyas & Pelling, 2015). On the other hand, proponents emphasise that these measures can build consensus, encourage broader societal engagement, and lay the groundwork for more ambitious changes in the future (Bassett & Fogelman, 2013).

Transformative action

Many scholars have argued that in the context of addressing climate change, the scale and complexity of the challenges necessitate transformative actions that go beyond incremental adjustments and demand fundamental shifts in existing structures, policies, and practices (Park et al., 2012; O’Brien & Sygna, 2013; Pelling et al., 2015; Fedele et al., 2019; Wilson et al., 2020; Filho et al., 2022; Vogel & O’Brien, 2022).

“Adaptation that seeks only to defend existing development status will not contribute to enhanced well-being and is not transformative, even if fundamental infrastructure engineering or legislative systems are changed to maintain the status quo in the face of increasing risk” (Dodman et al., 2022, p. 963).

Despite growing calls for transformative action, there is limited agreement on what exactly qualifies as transformational change, how to measure such change, what the results of such change should be, and how those who are implementing measures to facilitate adaptation can ensure that their efforts are directed towards changes that genuinely transform risks and protect vulnerable populations. To offer some clarity, Oxford Policy Management (Pal et al., 2019) has developed a conceptual framework (Figure 1) based on lessons learnt from their work in South Asia.

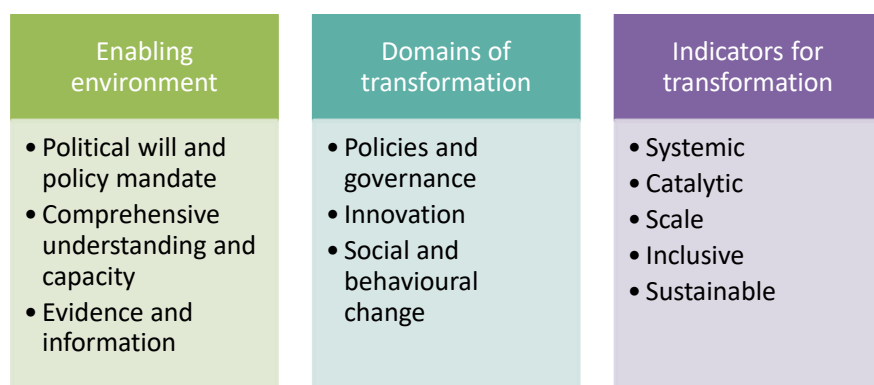


Figure 1: Conceptual framework for transformational adaptation

(Adapted from Pal et al., 2019)

Three factors create an enabling environment for transformative action at a national and sub-national scale. Firstly, the presence of political will and policy mandates to address adaptation gaps; secondly, a thorough understanding of risks, vulnerabilities, and adaptation options, together with the capacity to implement action; and lastly, robust evidence and research to reduce risks and uncertainties (Pal et al., 2019).

The framework's second component pertains to targeted areas of intervention for facilitating change, termed transformational domains. These domains serve as arenas within which initiatives can be strategically directed to achieve transformation. The first domain relates to alterations in public policies and governance enabled by legislative acts, national strategies, and action plans. These policy shifts can provide mandate and political legitimacy and attract funding. The second domain centres on innovation, emphasising the need for novel approaches that challenge the status quo and encompass both technological and process innovations. The third domain pertains to social and behavioural changes, addressing the root causes of vulnerability by challenging entrenched ideologies, structures, and power dynamics. These interventions are interconnected, exhibiting synergies and trade-offs, wherein shifts in one domain can impact another (Pal et al., 2019).

The final component of the framework identifies indicators for transformation. For an initiative to be transformative, it must embody all the characteristics listed in Figure 1. The

initiative must be systemic, moving beyond quick technical fixes to address the root cause of the vulnerability and engaging with the entire system, understanding how different parts relate to each other. This focus on system change is linked to the second characteristic, which is catalytic; because transformational initiatives address underlying systemic issues, they are likely to catalyse broader change. The third characteristic is scale; scale is often context-specific. However, it is important that initiatives cover a significant portion of the population; for example, small-scale pilot projects that are never scaled up cannot be considered transformational. The fourth characteristic is inclusivity; transformational initiatives must include poor, vulnerable, and marginalised groups. Lastly, the initiative must be sustainable; it must remain operational beyond direct implementation support and must continue to deliver benefits to targeted recipients long into the future (Pal et al., 2019).

Given its complexity, climate change transformation is not only related to governance levels and scales but also spans personal, cultural, organisational, institutional, and systems levels. Three Spheres of Transformation (Figure 2 below), based on original work by Sharma (2007) and represented as embedded spheres of action, explain how the different levels interact to affect climate transformations, as described in Figure 2 (O'Brien & Sygna, 2013). "The personal sphere includes individual and collective beliefs, values and worldviews that shape the ways that the systems and structures (i.e., the political sphere) are viewed, and influence what types of solutions (e.g., the practical sphere) are considered possible" (O'Brien & Sygna, 2013, p. 5). "The political sphere represents the systems and structures that define the constraints and possibilities under which practical transformations take place" (O'Brien, 2013, p. 6). "The practical sphere represents the core of transformation; this is where outcomes have an observable and measurable influence on climate policy goals such as mitigation, adaptation, or sustainable development" (O'Brien, 2013, p. 5). O'Brien and Sygna (2013) identify four transformations namely, transformational adaptation, transforming behaviours, social transformations and lastly transformations to sustainability, a discourse dominated by decarbonisation pathways.

To achieve the goals set out by the Paris Agreement, recognition of all three spheres of transformation is needed (O'Brien, 2018, p. 154). The model draws from adaptive leadership theory, which distinguishes between technical and adaptive problems. The approach to climate change has primarily focused on the practical sphere, which treats it as a technical problem requiring greater expertise, improved management, and better innovations. Climate change is, in fact, an adaptive problem; it requires a new way of viewing both the problem and the solution due to its complexity, the need for change across organisational boundaries, and a shift in values and beliefs. Treating climate change as a technical problem ignores the role of politics and power in legitimising certain forms of governance and validating social and organisational norms (evident in the political sphere). It also underestimates the human potential to drive systemic change towards what is deemed desirable (evident in the personal sphere) (O'Brien, 2018).

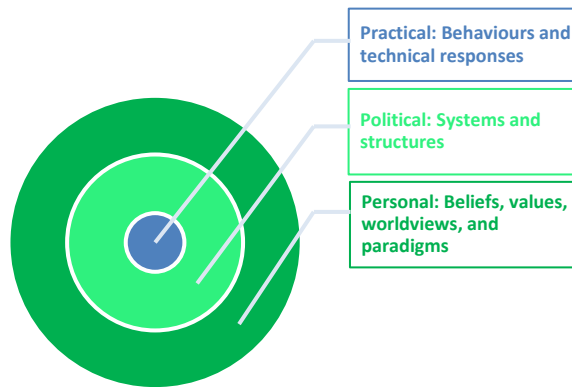


Figure 2: The Three Spheres of Transformation

(Redrawn based on O'Brien & Sygna, 2013)

The scope of research undertaken in this dissertation spans all three spheres of transformation (Figure 2). The personal sphere largely influences leadership styles, whereas leadership strategies relate to both the personal and political spheres. The political sphere determines institutional change, and the effects of climate change mainstreaming are demonstrated in the practical sphere, where plans are implemented.

It should be noted that the discussion concerning strategies for institutionalising climate change, whether adopting incremental or transformative measures, has predominantly been situated within adaptation literature (Moore et al., 2021; IPCCb, 2022). Furthermore, in recent years, the dichotomy between incremental and transformational change has been challenged, with scholars arguing that this distinction undermines the development of meaningful governance interventions needed to respond to climate change (Termeer et al., 2017).

One such governance intervention is climate change mainstreaming, a concept to which the current climate change institutionalisation discourse is heavily tied and anchored. In the next section, the pros and cons of climate change mainstreaming are discussed in detail.

2.4. Climate change mainstreaming

Climate change mainstreaming, also referred to as climate policy integration, has its roots in Environmental Policy Integration for sustainable development that seeks to integrate environmental issues into non-environmental policy domains, thereby moving it from the periphery to central decision-making regarding the design and content of sector policies (United Nations, 1987; Lenschow, 2002; European Environment Agency, 2005; Jordan & Lenschow, 2010; Van Asselt et al., 2015). The main distinction between climate change

mainstreaming and Environmental Policy Integration is the narrower focus on climate change. This approach has also been applied to other cross-cutting issues, such as gender and HIV/AIDS (Wamsler & Pauleit, 2016).

As mentioned in **Section 2.3.1.**, mainstreaming is similar to an approach known as layering in the institutional literature, the process by which new rules, regulations, and institutional arrangements are embedded within existing frameworks rather than radically altering the institution. Both layering and mainstreaming result in incremental shifts while preserving some aspects of the status quo.

In this section, climate change through policy integration and institutional layering (mainstreaming) are examined in-depth. The central debates regarding the merits of the approach are discussed (**Section 2.4.1.**) before moving to an exploration of the effective strategies for mainstreaming (**Section 2.4.2.**) and, finally, an analysis of the barriers impeding progress (**Section 2.4.3.**).

2.4.1. From integration to transformation – pragmatic or paradoxical?

Opinions on what really constitutes mainstreaming, if it has merit, how to achieve it, and the end results all continue to be diverse and, in some cases, divided. The approach is widely advocated by both research and governance bodies at an international, national, and local level (Wamsler & Pauleit, 2016; Wamsler et al., 2017). However, some scholars have warned that mainstreaming climate change into existing development paradigms is insufficient to drive transformation as it does not address critical systemic issues (Sovacool et al., 2018; Scoville-Simonds et al., 2020) and usually only promotes ‘surface’ interactions and implementation actions.

Critics have pointed to the paradoxical nature of climate change mainstreaming: “...the reference to climate protection spreads, but climate protection itself changes its meaning and becomes ambiguous. Institutions mostly rephrase existing activities and goals in terms of climate protection but, in reality, almost never change them according to the challenges of global warming” (Methmann, 2010, p. 346). “The paradox was predominantly experienced as tensions between actions being considered to address larger-scale effects of climate change over the medium and longer term, and the constraining nature of existing policy, knowledge, norms, practices, priorities and cultural paradigms that shape how and what climate actions are currently considered legitimate and legal” (Street et al., 2022, p. 2). Others have argued in favour of issue mainstreaming, which refers to making the link between climate change and development issues, but against budgetary and operational mainstreaming, as embedding climate finance within broader processes of development finance can depoliticise climate change, thereby undermining social justice (Scoville-Simonds et al., 2020).

Proponents of climate change mainstreaming argue that it can improve policy coherence by reducing duplications and contradictions across different sectors. Mainstreaming can address trade-offs, enhance synergies, and help avoid actions that may compromise sustainable

development (known as maladaptation) (Huq et al., 2006), ultimately resulting in greater resilience to current and future climatic events (Klein et al., 2008) and long-term prosperity (Kok & de Coninck, 2007; Jordan & Lenschow, 2010; Juhola & Westerhoff, 2011).

Mainstreaming, policy integration, and institutional layering are particularly important in a Global South city context where limited financial and human resources are further constrained by a lack of inter- and cross-sectoral actions. Integrating climate change into sector policies can, for example, help to save time and money by proactively incorporating climate considerations into urban planning, infrastructure design, and disaster preparedness, which reduces the need for costly retrofits, enhances efficiency, minimises climate-related damages and disruptions, and optimises resource allocation (Lasco et al., 2009). If successful, mainstreaming “changes the rules of the game and challenges ideas, attitudes, or activities that are considered mainstream or normal” (Wamsler & Pauleit, 2016, p. 72).

There are three intensities of integration: coordination, harmonisation, and prioritisation. Coordination avoids contradictions between sector policies. An example of improved coordination would be removing parking minimum requirements in land use plans thus disincentivising private car usage and promoting public transport usage. Harmonisation goes further to ensure that climate change objectives are equally as important as sectoral objectives, for example, ensuring that public housing is not located within a flood plain. Prioritisation refers to climate change objectives taking precedence over sectoral objectives, for example, the phasing out of fossil fuels (Persson et al., 2018). The literature does not draw a direct parallel between these intensities and transformation; however, based on my own interpretation, prioritisation is the only intensity of integration that holds the potential to be transformative as it can bring about a fundamental shift (**Table 2**).

There are several ongoing debates on the topic of climate governance and institutionalisation, particularly at the city level. There is no agreed-upon definition of climate change mainstreaming neither in policy practice nor in the scientific literature (Brouwer et al., 2013; Braunschweiler & Pütz, 2021) and a lack of scientific consensus on how to measure the effectiveness of mainstreaming and what exactly it seeks to achieve. Some scholars have argued that mainstreaming may have some disadvantages compared to a dedicated approach to climate change. Such an approach involves establishing new institutions or departments with a clear political mandate, their budget, and staff. There is a concern that mainstreaming may, however, reduce the political visibility of climate change, resulting in the climate change agenda being diluted and deprioritised over time. It may also perpetuate the narrative that climate change is a 'nice to have', compromising the perceived importance and urgency of climate action (Runhaar, 2018).

2.4.2. Climate change mainstreaming strategies

Notwithstanding the challenges to mainstreaming outlined above, there are several strategies for mainstreaming identified in the broader literature (Eggenberger & Partidario,

2000; Lafferty, 2002; Holden, 2004; Jacob & Volkery, 2004; La Trobe & Davis, 2005; Benson et al., 2007; Swart & Raes, 2015; Jordan & Lenschow, 2010; Nunan et al., 2012; Wamsler & Pauleit, 2016). A consolidated version, adapted to the research topic, is summarised in Box 4. In the research being articulated in this dissertation, the type of leadership that will support climate change institutionalisation and, therefore, the skills and approaches needed to successfully implement a range of the strategies described in Box 4 are examined.

Box 4: Mainstreaming strategies

- **Add-on mainstreaming:** Establishment of a project or programme that directly responds to climate change but is not linked to the implementing sector's core mandate (Wamsler & Pauleit, 2016).
- **Programmatic mainstreaming:** Integrating climate change into the implementing sector's operations, projects, or programmes by modifying their existing plans (Wamsler & Pauleit, 2016).
- **Managerial mainstreaming:** Modifying processes relating to human resources (organisational structure, roles, and responsibilities, job descriptions, institutional norms, and workflows) and financial management to better address climate change (Wamsler & Pauleit, 2016).
- **Inter- and intra-organisational mainstreaming:** Improving coordination, collaboration, and networking with internal and external stakeholders with the goal of enhancing climate action (Wamsler & Pauleit, 2016).
- **Regulatory mainstreaming:** Integrating climate change into formal and informal planning procedures, including plans, strategies, frameworks, regulations, policies, and legislation (Wamsler & Pauleit, 2016).
- **Directed mainstreaming:** Leaders adopting a top-down approach to ensure that climate change is prioritised by providing dedicated funding, promoting projects, addressing training needs, and allocating responsibilities to their subordinates (Wamsler & Pauleit, 2016).

These six mainstreaming strategies are complementary but have been found to correlate on different spatial scales. They can be interpreted as approaches that city leaders can adopt to integrate climate change considerations into different sectors and decision-making processes. Add-on and programmatic mainstreaming are most suitable at a project level. At an institutional level, managerial, intra-organisational, and regulatory mainstreaming strategies are most commonly employed, while inter-organisational mainstreaming is linked to a community scale (Wamsler & Pauleit, 2016). Regulatory mainstreaming is also relevant for inter-organisational coordination and collaboration across different levels of government, referred to as vertical integration (Nunan et al., 2012) – national, provincial, and local in the case of South Africa. In contrast, horizontal mainstreaming refers to coordination and collaboration across sectors at the same administrative level (Wamsler & Pauleit, 2016;

Braunschweiger & Pütz, 2021). In **Chapter 6** (Discussion), a clear linkage is made between leaders' leadership styles and mainstreaming strategies.

2.4.3. Barriers to mainstreaming and overall climate leadership

Several mainstreaming studies have also now begun to focus on the barriers to mainstreaming, underpinned by the assumption that overcoming such barriers may lead to greater implementation of climate actions. Barriers identified across different scales, range from the socio-cultural to the institutional level to the individual level (Mitchell et al., 2006; Pasquini et al., 2013; Wamsler et al., 2020) (Table 3). Several barriers allude to a lack of leadership or factors that compromise leadership; these are emboldened in Table 3. Despite the mention of these barriers, no in-depth studies explicitly focus on how leadership limits climate change institutionalisation, a gap this research aims to contribute towards. Furthermore, as very few studies have focused specifically on the South African context (Pasquini et al., 2013), little is known about which are the most prominent barriers and how they manifest in our context. Barriers are examined even further in the remaining chapters of this dissertation, exploring their underlying causes and investigating the strategies leaders employ to overcome the barriers to mainstreaming climate change in South African cities.

Some scholars (Wellstead et al., 2018; Biesbroek & Candel, 2020) have argued for a shift in focus towards empirical research aimed at "explaining observed outcomes by identifying plausible causal mechanisms" (Braunschweiger & Pütz, 2021, p. 3). Put more simply, looking beyond the barriers to achieving mainstreaming, better policy coherence, and effective institutional design would require researchers to undertake studies focused on better understanding and explaining the underlying reasons why mainstreaming interventions may fail or succeed and might hold greater value in supporting mainstreaming efforts than exploring the barriers themselves.

Given these issues that have been identified thus far all related to leadership in climate change, a few assumptions have been made in the current study. Firstly, this research assumes that strong leadership may help to overcome the barriers listed in Table 3. Secondly, it assumes that specific leadership approaches will be better suited to overcoming such barriers and aims to identify the personal characteristics of leaders who have succeeded in doing so. Lastly, it assumes that there are underlying reasons why city leaders may experience challenges when attempting to institutionalise climate change; these reasons will likely be linked to the governance context.

Table 3: Examples of barriers to climate response

(Sources: Mitchell et al., 2006; Pasquini et al., 2013; Uittenbroek, 2013; Cuevas et al., 2015; Runhaar, 2018; Robinson, 2019; Wamsler et al., 2020; Rogers et al., 2023)

Different levels of society	Examples of barriers to climate response
Individual level	• Lack of awareness and understanding of the causes, impacts, and urgency for action • Psychological barriers such as denial, apathy or helplessness • Lack of motivation (not able to perceive direct personal benefits of action or consequences of inaction) • Perceived as an environmental issue
Institutional level (including but not limited to cities globally)	• Climate change response is not a legal requirement/inadequate authority to take action • Climate change is not an immediate priority • Divergent priorities between municipal departments • Inadequate policies • Fragmented governance structures • Unclear roles and responsibilities • Siloed thinking and planning • Limited funding • Lack of political will, support, and commitment • Insufficient staff time or staff numbers • Insufficient staff expertise • Lack of data • Absence of national/federal or provincial/state leadership
Socio-cultural barriers	• Lack of public interest • Socio-economic interests linked to fossil fuel sectors • Difficult economic times • Cultural values and beliefs, which resist changes that challenge their traditional way of life • Social norms and behaviours that promote an aspiration to consume more and follow an unsustainable lifestyle • Absence of a trigger event

2.5. Conclusion

While strides have been taken to examine the intersection of leadership and climate change, a critical void remains in the literature as has been illustrated in this chapter. What is missing

is a direct link between these theories and tangible leadership strategies required to drive effective climate change institutionalisation within urban contexts. This gap emphasises the urgency for further research that bridges the theoretical knowledge of leadership with its pragmatic application in tackling the complex and urgent challenges posed by climate change.

The current study seeks to build on the well-established foundations of broader institutional theory and organisational change theory, and then borrowing some ideas that may help to better understand the type of leadership needed to institutionalise climate change considerations within city governments and enhance overarching policy coherence for effective city-led climate change action. The institutional change theories discussed in this chapter also offer a framework for understanding how structures, policies, and processes might evolve over time and the kinds of leadership that facilitate different rates and scales of change – whether through gradual steps, transformative shifts or a combination of both.

The examination of institutional change approaches and their applications to climate change institutionalisation in this chapter furthermore underscores the complexities and nuances involved in understanding the role leaders play in shaping institutions and how practical institutional change occurs, along with the barriers encountered along the way.

While the call for transformative action resonates across the climate change literature, a universally accepted definition of transformational change remains elusive. Persistent disagreements exist about the criteria that characterise an initiative as transformative or that hold transformative potential. The concept of continuous transformational change—emphasising the cumulative effect of small-scale incremental changes—also remains relatively unexplored within climate change discussions. Furthermore, the debate regarding the mainstreaming-transformation paradox requires further exploration in specific contexts.

More urgent a challenge is also trying to find robust ways of how to measure transformative outcomes, and how to ensure authentic transformation and social learning in complex transdisciplinary spaces (Klenk & Meehan, 2015; Huang and Harvey, 2021). This lack of clarity hampers the development of effective strategies for achieving meaningful, systemic change.

The discussion thus far in climate change leadership predominantly centres on the adaptation literature, and while important, this perspective might limit the broader consideration of climate change mitigation and mitigation-adaptation synergies. Exploring how incremental and transformative approaches apply to both mitigation and adaptation efforts could yield valuable insights.

While prior research on climate change policy integration, institutional layering, and mainstreaming has primarily focused on identifying barriers to mainstreaming, the underlying factors contributing to these barriers warrant deeper investigation, particularly where they may be overcome by ‘good’ leaders. Additionally, there is a need for more studies on practical

steps that city leaders can take to embed climate change considerations within their governance systems, with a keen focus on the role of leadership. This research seeks to address these gaps.

Further exploration of leadership theories within the local climate change context is crucial for deepening our understanding and informing effective leadership practices. In the next chapter, the attention will shift from theoretical foundations to the examination of contextual elements, namely, the global, national, and local dimensions of climate change science, response strategies, and mainstreaming efforts, that arguably anchor all actions for effective climate change leadership in multiple sites of action.

Chapter 3: Contextualising Climate Change Leadership and Institutionalisation in South African Cities

3.1. Introduction

In this chapter, the aim is to situate climate change leadership and climate change institutionalisation within the international and national context and explore the implications that climate science, climate responses, and climate change institutionalisation have on leadership and governance in South African cities. This sets the scene to help to understand better the role city leaders play in institutionalising climate change and the factors that help or hinder their efforts, including how they navigate a range of contextual settings when formulating and implementing climate policies, strategies, and adaptation measures.

The following literature review explores climate change from a global and a South African perspective. **Section 3.2.** focuses on the global scale, examining how cities have assumed a leadership role in confronting the climate crisis, the climate science that underpins collective global action, and the role of international governance and response in supporting city-led climate action.

In **Section 3.3.**, the focus shifts attention to the specific context of South Africa, highlighting the interplay of biophysical, social, and political factors that influence climate change response and leadership within the country. Moreover, this section offers an overview of the climate change policies and actions pursued at the national and city levels, along with a concise summary of the noteworthy research on climate change institutionalisation undertaken in South African cities. Finally, **Section 3.4.** critically assesses the relevance and applicability of leadership and institutional change theories within the specific context of climate change in South Africa. This examination sheds light on the potential insights derived from these theories and emphasises significant gaps in the existing body of research.

3.2. Climate change at a global level

It is crucial for local climate leaders to understand the global context of climate change because it enables them to grasp the interconnectedness of environmental, social, and economic systems that transcend geographical boundaries (Bulkeley, 2010). By understanding global climate dynamics, such as the impacts of greenhouse gas emissions, temperature rise, and sea-level changes on humanity and the earth system, local leaders can make informed decisions that align with broader international efforts (UN-HABITAT, 2016). Moreover, a global perspective allows local leaders to anticipate and respond to potential spill-over effects from other regions, such as climate-induced migration (Centre for Global Development, 2023) or disruptions in global supply chains (Ghadge et al., 2020). Understanding the global context empowers local climate leaders to also engage in meaningful collaborations, knowledge-sharing, and policy advocacy at various levels,

contributing to a coordinated and comprehensive response to the climate crisis (Veena, 2023).

3.2.1. Cities as climate change leaders

In a world facing unprecedented urbanisation rates, cities have emerged as key players in tackling the climate crisis, leading interventions in climate change adaptation and mitigation (Bulkeley, 2010; Taylor, 2017; Amundsen et al., 2018). In Africa alone, the number of cities and secondary cities has doubled since 1990, currently at 7600, and the cumulative urban population on the continent has increased by 500 million people (OECD et al., 2022). The broader implication of this trend is that it has marked a shift in how research and policy communities begin and continue to frame and understand the global governance of environmental problems (Bulkeley, 2010; Taylor, 2017).

Climate change governance was conventionally understood as a global problem requiring nation-states to pursue collective action by negotiating credible agreements (Jordan et al., 2018). This narrative has been challenged in the past three decades. Although the Paris Agreement, coming into effect in 2015, was considered a historic breakthrough, very limited tangible progress has been achieved (Clémentçon, 2016; O'Neill, 2022).

The United Nations Framework Convention on Climate Change (UNFCCC) is a multilateral environmental treaty that was adopted at the United Nations Conference on Environment and Development in Rio de Janeiro, Brazil, in 1992. The treaty's objective is to stabilise the atmosphere's greenhouse gas concentrations at a level that would prevent dangerous anthropogenic interference with the climate system. The UNFCCC has been ratified by 198 parties, including the European Union, and is considered the primary international legal instrument for addressing climate change (Kuyper et al., 2018; Kinley et al., 2021).

The UNFCCC has been instrumental in facilitating international negotiations on climate change, including the development of the Paris Agreement in 2015, which aims to limit global warming to well below 2°C above pre-industrial levels and pursue efforts to limit warming to 1.5°C. The Paris Agreement was ratified by 190 parties, representing a significant step forward in global efforts to address the climate crisis (Kuyper et al., 2018; Kinley et al., 2021).

While COP (Conference of the Parties), a United Nations Climate Change Conference, is primarily aimed at national government leaders, cities have had more opportunities to actively participate in international negotiations in recent years as they are increasingly recognised as climate leaders. The 'Cities and Regions Talanoa Dialogues' are in-country events, for example, aimed at fostering multilevel action and facilitating a bottom-up process for sub-national governments to influence climate negotiations. Cities and local governments are represented by the Local Governments and Municipal Authorities Constituency under the UNFCCC (Dellas et al., 2018; Hwang, 2018).

COP's outcomes have a direct bearing on local government and communities. In particular, the decisions and agreements made during climate change negotiations set the framework for national and regional policies on emissions reduction, renewable energy deployment, and climate adaptation. These policies have implications for local governments and local leaders who are responsible for implementing the policies within the jurisdictions and ensuring that local plans align with national and global targets. Local leaders who actively engage in climate change negotiations can influence national policies and priorities. They often have first-hand experience of what works well and what does not. By voicing the concerns and needs of their communities, local leaders can shape the national climate agenda, advocate for the inclusion of local perspectives, and ensure that local challenges and opportunities are adequately addressed (Hale, 2018; Duggan, 2019).

Each year at COP, developed nations announce financial commitments to support climate actions in developing countries. The amount of finance available has significant implications for climate action implementation. It is critical that local governments actively participate in discussions regarding their financing needs and how funding mechanisms should be designed and managed to support equitable access for all stakeholder groups, including access by local governments (UNFCCC, 2019).

International negotiations also provide a platform for local leaders to network and collaborate with peers, nongovernmental organisations, scientists, and policymakers worldwide. Local leaders can share knowledge, best practices, and innovative solutions for addressing climate change challenges through these interactions. They can learn from successful strategies implemented in other regions and adapt them to their local contexts (Schroeder & Lovell, 2012). COP also presents the opportunity for local governments in the Global South to access technical assistance to support research, climate change planning, and capacity-building programmes (Obergassel et al., 2018).

Furthermore, as cities continue to position themselves as climate leaders, COP serves as a pivotal opportunity to receive recognition. Active participation in climate change negotiations enhances the visibility and recognition of local leaders' efforts to address climate change. COP28 marked a significant milestone as the first-ever Local Climate Action Summit, brought together more than 500 Mayors, governors, and other local leaders to share their ideas and learn from each other (United Nations Climate Change, 2023). Their involvement demonstrates commitment and leadership in sustainability, attracting various stakeholders' investments, partnerships, and resources. Lastly, the actions they take within their jurisdictions can help boost the confidence and political will of their national governments to raise their ambition, thereby strengthening international negotiations (Bansard et al., 2017; Hale, 2018).

The implications of cities emerging as key players in tackling the climate crisis and actively participating in international negotiations such as COP means that local leaders have opportunities to influence national policies, advocate for local perspectives, shape the global

climate agenda, access financial support for climate actions, collaborate with peers worldwide, and gain recognition for their efforts to address climate change. Attention now turns to explaining the science giving rise to the phenomenon of climate change at a global level.

3.2.2. Climate science

Before elaborating on climate change implementation and responses enacted by city leadership, it is essential to understand some of the dynamics of climate change. In particular, the projected impacts underpinned by climate science have a major bearing on sector planning and the nature of climate change responses that need to be institutionalised (Huq & Reid, 2004; Ogallo, 2010). In addition, the scientific basis and framing of climate change have implications for the leadership styles that may be well suited to responding to the challenge, as was the case in Durban: "...without developing a meaningful understanding of the science, climate change and its significance are unlikely to be effectively understood at the local government level" (Roberts, 2008, p. 525).

The twenty-first century saw the concept of anthropogenic climate change move from the realm of hypothesis to fact because of advances in climate change science and modelling, along with observable and quantifiable climate effects (Crist, 2007). Much of the science is underscored by regular scientific assessments conducted at the global level, namely through the UN Intergovernmental Panel on Climate Change (IPCC). The IPCC has conducted five major cycles of climate change assessment since 1992. The assessments are intended to provide policymakers with the most up-to-date and comprehensive information on climate change science, impacts, and potential solutions. The IPCC assessments are divided into three main parts: Working Group I assesses the physical science basis of climate change, Working Group II assesses the impacts of climate change on natural and human systems, and Working Group III assesses mitigation options for reducing greenhouse gas emissions and limiting the impacts of climate change. The most recent IPCC assessment, the Sixth Assessment Report, was released in 2021. It includes contributions from thousands of scientists and experts and provides a comprehensive overview of the current state of knowledge on climate change (Pörtner et al., 2022).

There is now scientific consensus that global warming is occurring and has been unequivocally caused by human activity (Pörtner et al., 2022). It is widely accepted that projected risks, adverse impacts, loss, and damages will be far more significant at 1.5°C of warming compared to the present, and it is more than likely that 1.5°C of global warming will be reached in the near term. Over the past 100 years, the Arctic has already warmed by 4°C, and Russia and most European countries have warmed by 2°C (Dodman et al., 2022). On average, Africa's temperatures are rising by 1°C per year (Bedair et al., 2023). Projected climate impacts at a global scale include heatwaves, drought, extreme sea-level events, intensification of tropical cyclones, and increased aridity and fire weather. These extreme weather events have caused hundreds of billions of dollars in damages, resulted in the loss of lives, and severely impacted

human well-being. Hurricane Sandy in 2012, for example, resulted in losses of up to USD 6.5 million in New York City (Dodman et al., 2022). Closer to home, following the Knysna fires in 2017, approximately 500 homes were destroyed, and an additional 400 homes were damaged. The total cost of the fires was reported to be up to R5 billion (Knysna Museums, 2022). The likelihood of species extinction or irreversible biodiversity loss in ecosystems also increases as global temperatures rise (Pörtner et al., 2022).

Despite these scientific advancements, much uncertainty remains regarding the severity and timing of climate impacts (Toimil et al., 2020; Randall et al., 2022; Yasin et al., 2022; Zhang et al., 2022). There are also growing concerns about abrupt and irreversible changes in the climate system known as tipping points (Armstrong McKay et al., 2022; Pörtner et al., 2022). Exceeding a certain undetermined concentration of greenhouse gases in the atmosphere may “trigger a strongly nonlinear response in the internal dynamics of part of the climate system, qualitatively changing its future state” (Lenton, 2011, p. 201). Examples of ‘tipping points’ include the loss of the Amazon rainforest, coral reefs, and the Antarctic ice sheet (Lenton et al., 2019).

Climate science reflects a harrowing call for urgent action and underscores the significance of city leaders being willing to engage with technical content, comprehend it and make use of it to inform their decisions relating to climate responses. In the next section, attention turns to the climate actions cities are taking and the role of leadership in ensuring effective implementation.

3.2.3. Climate change response

Effective climate leadership in cities is predicated on the agency and understanding of those working in city administrations, how they understand the various dimensions of climate change, and their ability to formulate policy and drive implementation of appropriate climate responses (Meijerink & Huitema, 2010; Kalafatis & Lemos, 2017) amongst other things, as investigated by this research (**Chapter 5**).

Two main dimensions of the climate discourse usually articulated into sectors of work streams in cities (CDP, 2022a & 2022b) are mitigation and adaptation. The former concentrates on reducing disruptions to the carbon cycle – the primary driver of human-induced climate change – and the latter on adjusting the effects of climate change on natural and social systems (Pielke et al., 2007; Huitema et al., 2016; IPCC, 2018). The less effective mitigation is the greater the need for adaptation in the longer term (Duguma et al., 2014). It is also widely understood that coping with the effects of climate change is both necessary and inevitable and that doing so does not lessen the need for immediate and ongoing mitigation (Pielke et al., 2007; Huitema et al., 2016).

The global landscape for adaptation planning and implementation has witnessed a significant upward trend across different regions. Heightened public and political awareness surrounding the impacts and risks of climate change has prompted over 170 countries and

numerous cities to integrate adaptation measures into their climate policies and planning processes (Nachmany et al., 2019). Despite these strides, noticeable gaps persist between the current state of adaptation and the requisite governance levels and capacities needed to effectively respond to climate impacts and mitigate associated risks. The existing adaptation efforts tend to be fragmented, small-scale, incremental, and often sector-specific, primarily geared towards addressing current impacts or short-term risks, with a greater emphasis on planning rather than implementation (Pörtner et al., 2022; Orlove, 2022).

While viable adaptation options are available, the feasibility of implementing these options differs by sector and region and the effectiveness is expected to diminish with escalating levels of warming. Integrated, multi-sectoral solutions that tackle social inequities, tailor responses based on climate risk, and traverse various systems not only enhance the feasibility but also the effectiveness of adaptation across multiple sectors (Lin et al., 2021; Pörtner et al., 2022).

Globally, there are also growing calls for disaster risk reduction and loss and damage to be integrated into national and city-level climate responses (Birkmann and von Teichman, 2010; Islam et al., 2020; UNDRR, 2021). While almost all National Adaptation Plans include a direct reference to disaster risk management, the focus remains on understanding risk, with only a few countries including specific actions for disaster preparedness, response, and recovery, and only half directly mentioning loss and damage (Qi et al., 2023).

Leadership for climate change thus requires expertise across a range of contexts, levels, and scales. Some have argued that mitigation requires a national and global response, whereas adaptation responses are more localised (Neufeldt et al., 2010) due to differences in local climatic conditions and distinct local climate vulnerabilities, local contexts and adaptive capacities (Huitema et al., 2016). This argument has been challenged on both fronts. Firstly, cities do indeed have a critical role to play in mitigation, as they account for over 70% of global emissions (Gurney et al., 2015; Mi et al., 2019). Moreover, in many countries, cities have some, if not full, mandate over energy, transportation, and waste within their jurisdictions (Mi et al., 2019; Linton et al., 2022). Secondly, adaptation action requires multilevel governance support and cannot be tackled by local action alone, as demonstrated by studies from Australia (Fidelman et al., 2013), Bangladesh (Ishtiaque et al., 2021), South Africa (Leck & Simon, 2013; Hickmann & Stehle, 2019), and Sweden (Nilsson et al., 2012).

Climate actions from global cities include actions across various sectors: Urban Planning, Water, Waste, Energy, and Transportation, to name a few (C40 Cities, 2020). According to the 2022 CDP report (CDP, 2022a & 2022b), the most common city climate actions globally are mitigation actions (Figure 3). The transportation sector, for example, leads in mitigation efforts, followed by energy and waste. Implementing adaptation actions is lagging. The most popular adaptation actions are educational, followed by engineering and built environment actions and ecosystem-based actions (CDP, 2022a & 2022b). These results are consistent with the mitigation bias (a disproportionate focus on mitigation at the expense of adaptation)

found in other studies (Measham et al., 2011; Reckien et al., 2015; Tang, 2019). Mitigation bias can be attributed to mitigation actions being more likely to attract investment. Adaptation finance only represents a quarter of global climate finance, and this may be an overestimate. This figure includes projects that integrate adaptation and mitigation (UNFCCC, 2021).

Several factors also contribute to the prevailing bias towards mitigation efforts. Firstly, mitigation projects often align with well-established business models, such as the introduction of new technologies for profit or engaging in carbon trading. Consequently, these initiatives tend to attract greater interest and involvement from the private sector. Secondly, bilateral donors tend to prioritise supporting mitigation initiatives due to their vested interests. Advocating for mitigation aligns with the self-interests of these donors, not only mitigating global climate risks but also generating demand for their technologies thereby indirectly resulting in economic gains, for example, through increased exports of renewable energy technologies. Additionally, promoting adaptation actions might be perceived as discouraging emissions reduction in economically disadvantaged countries, thereby conflicting with donors' self-interests (Hoeffler & Outram, 2011; Klöck et al., 2018).

City actions by sector (globally)

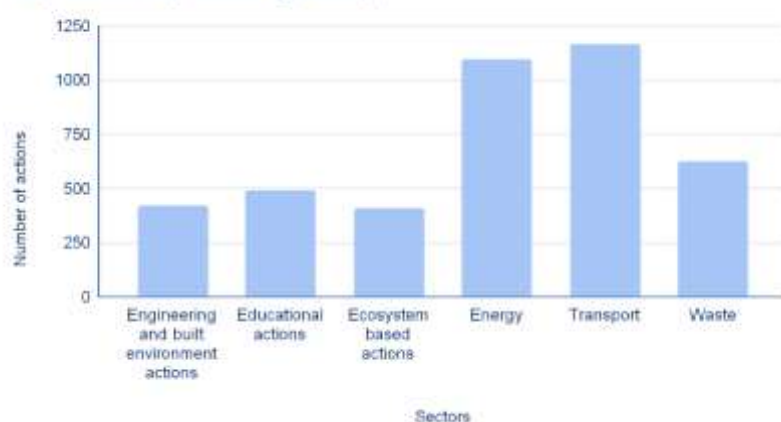


Figure 3: The number of actions reported by cities in 2022, grouped by sector

(adapted from CDP, 2022a & 2022b)

Furthermore, mitigation efforts are associated with co-benefits, including improved air quality and potential cost savings. Another influential factor lies in the uncertainty surrounding long-term climate change projections, which can undermine the prioritisation of adaptation actions. Lastly, there is a perception that focusing on the root causes of climate

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change is a more rational approach than focusing on adapting to future impacts. This perception is grounded in the notion that as technology and knowledge progress over time, strategies for managing climate risks may advance, potentially reducing the costs associated with taking action (Abadie, 2013).

There has been a call for a more integrated approach to climate change response. Climate change adaptation and mitigation can exhibit synergies when strategies designed to address one goal also contribute positively to the other. For instance, urban tree planting (although contested by some) initiatives aimed to mitigate carbon emissions by sequestering carbon dioxide can simultaneously enhance adaptation by reducing the risk of flooding and heat stress, thereby bolstering the resilience of local communities. Similarly, promoting energy-efficient buildings not only mitigates greenhouse gas emissions but also enhances adaptive capacity by reducing energy consumption during extreme weather events, ensuring continued functionality of critical infrastructure and minimising vulnerability (Sharifi, 2021). These synergies have been shown to increase social support for mitigation, owing to the direct local benefits associated with adaptation and improving project efficiencies resulting in cost savings (Hennessey et al., 2017).

As discussed in the previous chapter, a key way cities are attempting to institutionalise climate change is by integrating climate actions into the relevant sector; an approach often referred to as mainstreaming. Developing a stand-alone flood mitigation strategy, for example, would be considered a dedicated approach, ensuring that flood-prone areas are embedded within the city's spatial planning and demarcated for compatible land uses (Rijke et al., 2016; Meng et al., 2019) would be considered a mainstreaming approach. A “dual-track” approach refers to first developing a dedicated plan and then mainstreaming it into sector or development plans (Reckien et al., 2019, p.956).

At a city level, most major global cities are following a “dual-track” approach, having developed integrated Climate Action Plans that tackle both mitigation and adaptation in a holistic manner and simultaneously pursuing actions to mainstream climate actions into key planning and decision-making processes (World Economic Forum, 2023). It should be noted that the decision to develop a Climate Action Plan is an indication of local political will and leadership; most often, the process is led by an elected official such as a Mayor (Basset & Shandas, 2010).

As can be seen particularly when one considers leadership theories discussed in the previous chapter and some of the complicated and complex interactions discussed above, it soon becomes apparent that city leaders are being called upon to play a central role in climate leadership and response by navigating the complexities of working across multiple levels of government and several different sectors. Effective leaders are influential in recognising the synergies between mitigation and adaptation (Hennessey et al., 2017) and orchestrating the development of Climate Action Plans (Basset & Shandas, 2010). Their role extends to bridging the gap between dedicated strategies and sectoral integration, fostering informed decisions

and policy prioritisation. In doing so, leaders wield their expertise to address biases, uncertainty, and resource allocation, guiding cities towards impactful climate responses. Little is known about how this occurs in practice, the leadership styles that are most effective and the rate of climate change institutionalisation that is likely to be achieved, be it incremental, transformative or a hybrid of the two. The current research sought to address these critical gaps.

3.3. Climate change at a national and local level in South Africa

Having provided an overview of the global leadership cities collectively demonstrating on climate change, how they are responding, and the international governance and scientific context within which city leaders operate, the focus now shifts to climate change governance within the South African context, with particular emphasis on its urban areas. South Africa's climate change landscape is characterised by intersecting biophysical and social vulnerabilities. The dynamic, often unstable, political context in cities adds to the complexity that city leaders are required to navigate to respond to climate change (**Section 3.3.1.**) effectively. The national policy environment is described, and key examples of successful implementation in cities are highlighted (**Section 3.3.2.**). Key lessons emerging from local research on the integration of climate considerations into urban planning, decision-making, and governance processes at a city level are discussed, with an emphasis on the implications for leadership (**Section 3.3.3.**) are also highlighted.

3.3.1. South Africa's climate governance context

Biophysical

The southern African region is known as a climate hot spot with the interior warming at a rate that is twice as fast as the global annual average (Engelbrecht and Monteiro, 2021; Scholes and Engelbrecht, 2021). There is also evidence that the frequency of extreme weather events such as floods, droughts and heatwaves in South Africa is increasing (Republic of South Africa, 2019, 2021; Trisos et al., 2022).

The western and northeastern regions of South Africa (Western Cape Province and Northern Cape Province) are experiencing temperature increases with greater intensity (Engelbrecht, 2019) than the rest of the country. A decreasing precipitation trend has been observed in South Africa's winter rainfall region since the 1960's (Trisos et al., 2022). Drought has also been identified as "the single biggest climate risk that South Africa may have to face in the near term (2021-2040)" (Engelbrecht and Monteiro, 2021, p.2). Over the last century, the number and frequency of extreme precipitation events has also increased (Trisos et al., 2022), projections show that trends in heavy rainfall are likely to continue in the eastern parts of southern Africa, despite the region generally becoming drier (Engelbrecht and Monteiro, 2021).

In response to such existing and projected climate changes cities (both large and small) have begun to plan for such changes. As part of their Climate Action Plans (or similar), the City of Cape Town, City of Durban, City of Johannesburg, City of Tshwane, and Nelson Mandela Bay all developed Climate Change Vulnerability and Risk Assessments (Nelson Mandela Bay, 2015; eThekweni Municipality, 2019; City of Cape Town, 2021; City of Johannesburg, 2021; City of Tshwane, 2021). South African cities are particularly vulnerable to climate change for several reasons. Firstly, they have large, rapidly growing populations, which strain the water supply. Secondly, their high densities, impermeable surfaces and poorly implemented basic services all aggravate flood risk. Thirdly, their high densities and high energy consumption contribute to the urban heat island effect, worsening the impact of heatwaves. Lastly, climate risk is accentuated by high levels of social vulnerability associated with informal settlements (Le Roux, 2019).

Socio-economic

Social vulnerability is also a critically important dimension that requires attention, much as the needed focus on the biophysical factors driving response and climate change vulnerability (Marshall et al., 2014; Tucker et al., 2015; Otto, 2017; Apotsos, 2019). A growing body of South African literature is exploring the underlying drivers of climate vulnerability in urban areas focussing on various direct and indirect drivers of change (e.g. Roberts & O'Donoghue, 2013; Jagarnath et al., 2020; Long & Ziervogel, 2020).

Social vulnerability in South African cities varies spatially, mirroring apartheid spatial form. Research (e.g. Apotsos, 2019) undertaken in Buffalo City, the City of Cape Town, the City of Johannesburg, the City of Tshwane, eThekweni (Durban), and Nelson Mandela Bay found that areas with higher proportions of informal households and historically disadvantaged population segments (non-whites) demonstrate elevated levels of social vulnerability. This susceptibility to adverse outcomes primarily stems from socio-economic factors like income, wealth, assets, education, and employment. These key factors are intrinsically intertwined with characteristics such as race, language, age, and accessibility to critical services like water, electricity, housing, and healthcare, which are identified as secondary contributors (Apotsos, 2019). In particular, affordable housing is a grave concern in the larger metros, where informal dwellings are on the rise, both in the form of sprawling informal settlements and a proliferation of backyard shacks (Turok & Borel-Saladin, 2014; Marutlulle, 2021).

This trend towards the urbanisation of poverty has indeed become a defining feature of South African cities. During apartheid, black people were largely excluded from metropolitan areas and had very limited access to employment opportunities. Following the democratic transition, urban centres failed to absorb the influx of job seekers, creating an unemployment crisis with far-reaching consequences, particularly for low-skilled youth. "Intense competition for scarce jobs and incomes can strain the social fabric, fuel popular unrest and deter private investment" (Turok & Borel-Saladin, 2014, p. 676). Being one of the most unequal countries

in the world, urban poverty in South Africa, is foregrounded by concentrations of excessive wealth (Meiring et al., 2018), often concealed and secured within gated estates, which undermines social cohesion (Mistry & Spocter, 2022).

These persistent social divides have practical implications for climate change responses in South African cities. Apartheid spatial form, for example, has resulted in low-density cities, which present infrastructural and financial challenges for electricity distribution (Baker & Phillips, 2019) and public transport initiatives (Scorcia & Munoz-Raskin, 2019). Social cohesion is also considered a foundational requirement for transformation in climate change (Ziervogel et al., 2016). Furthermore, climate action is sometimes perceived as competing with development (Taylor et al., 2014), and service delivery demands can overshadow the need to operationalise climate change considerations (Vogel et al., 2021). In accounting for this unique social context, South African researchers have emphasised the importance of knowledge co-creation, transdisciplinary approaches, and building transformative capacity within communities to support transformative adaptation (Ziervogel, 2019; Ziervogel et al., 2022; Nhamo et al., 2021; Vogel et al., 2021).

Political

The political landscape of South African cities is also deeply intertwined with the historical legacy of apartheid and the subsequent challenges of a democratic transition. The enduring effects of spatial segregation and economic disparities resulting from apartheid policies – and some would argue post-apartheid neoliberal policies (Maharaj & Narsiah, 2002; Bond, 2003; Pieterse, 2009) – have cast a shadow over urban politics. Cities have become arenas for contesting historical injustices as political discourse centres around land reform, housing equity, and social inclusion (Maharaj, 2020).

The African National Congress' (ANC's) national dominance contrasts with the fragmented governance often found at the municipal level. The 2016 local government elections resulted in 27 hung municipalities (Pietersen, 2021), which doubled in the 2021 election. Of the eight metros, five are currently governed by coalitions – Johannesburg, Tshwane, Ekurhuleni, eThekweni, Mangaung, and Nelson Mandela Bay – the exceptions being Cape Town, Buffalo City, and Mangaung (Mbanyele, 2021).

Most South African cities have grappled with the varying degrees of political instability. This turbulence often emerges due to power struggles amongst factions (Olver, 2021) or coalition partners (Khumalo & Netswera, 2020), social inequality (Guilbert et al., 2018), and service delivery challenges (Ngcamu, 2019). Johannesburg has experienced unstable coalitions, recently appointing its sixth Mayor in 22 months (Eligon & Chutel, 2023). Cape Town has faced political infighting within the Democratic Alliance (DA) (Olver, 2021; Kanyane, 2021), controversies linked to housing disparities (Millstein, 2020; Briel, 2023), and violent taxi strikes (Geldenhuys, 2022; Oxford Analytica, 2023). Durban has endured politically instigated riots and looting linked to factional battles within the ANC (Vhumbunu, 2021; Mongale, 2022). Tshwane's DA-led Council was dissolved and placed under administration by the ANC-led

Gauteng province in 2020 after it failed to pass its adjustment budget due to coalition woes. The Constitutional Court later declared this decision unlawful, an example of the political subversion that can arise when provinces and local municipalities are governed by opposing parties (Gerber, 2021). Similarly, research on Cape Town's water crisis between 2015 and 2018 found that national government, led by the ANC and the DA-led city and Western Cape Province "attempted to leverage the crisis as a political tool" (Rivas, 2018, p.1), blaming each other rather than collaborating to find solutions (Rivas, 2018; Warner & Meissner, 2021). Political change at a local level can be very disruptive. Typically, "the new ruling party discontinues visions and projects implemented by the previous ruling party as a way of making their mark and distancing themselves from the policies of other parties" (Pasquini & Shearing, 2014, p. 280). It also promotes short-termism over longer-term strategic planning, as there is a need to produce visible outcomes before the end of the political cycle. This discontinuity and short-sightedness have been found to undermine efforts to institutionalise climate change (Pasquini et al., 2015).

Policy and practice

Notwithstanding the tumultuous political arena, South Africa has recognised the importance of addressing climate change and has developed policies and strategies to mitigate and adapt to its effects. The country's National Climate Change Response Policy was adopted in 2011 and sets a vision to transition South Africa to a low-carbon economy and increase its resilience to climate change. The following year, the Departments of Environmental Affairs and Cooperative Governance and the South African Local Government Association launched a toolkit to integrate climate change risks and opportunities into municipal planning, the first concerted effort to support municipalities to institutionalise climate change (Reddy et al., 2021). In 2012, South Africa's National Development Plan was also released, charting a developmental path towards 2030 with climate change response and climate justice identified as priorities (Republic of South Africa, 2019).

South Africa published its National Climate Change Adaptation Strategy in 2019 (Republic of South Africa, 2019) and, more recently, the Climate Change Bill, 2023, which is yet to be signed into law (Parliamentary Monitoring Group, 2024). The policies acknowledge the cross-cutting nature of climate change, identifying priority action for the following sectors: water, disaster management, human settlements, biodiversity and ecosystems, health, forestry, agriculture, transportation, energy, mining, oceans, and coast. Examples of adaptation projects at a national level include the Working for Water Programme, which supported ecosystem restoration and the Community Adaptation Small Grants Facility, which has supported community-based organisations with sustainable agriculture, rainwater harvesting, and reforestation projects (Republic of South Africa, 2019).

South Africa's carbon tax, aiming to encourage the private sector to reduce its emissions, came into effect in 2019 and currently stands at R190 per tonne of carbon dioxide equivalent (Climate Neutral Group South Africa, 2024). In addition to the carbon tax, South Africa has

also implemented the Renewable Energy Independent Power Producer Procurement Programme with the goal of increasing the share of renewable energy in the country's energy mix. This is a key economic opportunity for the country as South Africa has an abundance of renewable energy resources. The programme has already led to installing over 6,4GW of renewable energy capacity in the country (The Republic of South Africa & The Development Bank of South Africa, 2019).

Despite this progress, South Africa remains one of the most coal-dependent nations in the world (Republic of South Africa, 2021). With the cost of renewable energy rapidly decreasing and the national electricity supply under severe strain, the impetus to shift towards renewable energy has never been greater. The desired pace, however, of the transition from coal to renewable energy is a point of significant political contestation (Malope, 2022) and policy conflict owing to "superficial" institutional coordination with relevant departments, such as the National Treasury, the Department of Forestry Fisheries and Environment, and the Department of Energy, displaying "radically different cognitive orientations" and "deep mutual mistrust" (Tyler & Hochstetler, 2021, p. 199).

In 2020, President Ramaphosa established a multistakeholder body, the Presidential Climate Commission, to guide South Africa's Just Transition. In 2021, at COP26, South Africa secured \$8.5 billion (R128 billion) of climate finance investment to support the country's transition to renewable energy (Tyler & Mgoduso, 2022). In August 2022, the Cabinet adopted the Just Transition Framework, which details actions to minimise the social and economic impacts of the climate transition. The Framework identifies priority value chains, namely those associated with coal, vehicles, agriculture, and tourism, and the actions and policy measures that need to be implemented (Presidential Climate Commission, 2022; The Presidency, 2022). In November 2022, the Just Energy Transition Investment Plan was published, highlighting that a R1.5 trillion investment is needed between 2023 and 2027 to deliver on South Africa's Nationally Determined Contribution (The Presidency, 2022). As a result of advocacy efforts by C40 Cities and the South African Local Government Association calling for local government to be represented on the Presidential Climate Commission, in May 2023, the Mayor of Tswelopele, Kenalemang Rose Phukuntsi, and the Mayor of the City of Cape Town, Geordin Hill-Lewis were appointed as Commissioners to serve on the Presidential Climate Commission (D. Marema, personal communication, 30 May 2023).

South Africa has played an active role in international efforts to address climate change, acceding to the UNFCCC in 1997, hosting the COP17 in 2011 (Death, 2011), and ratifying the Paris Agreement in 2016. The country has submitted two Nationally Determined Contributions, with the latest version committing to a target of 398 to 510 Mt CO²-eq by 2025 (Republic of South Africa, 2021). To complement these efforts at a local level, South African cities have actively developed climate change policies for the past 15 years (Nelson Mandela Bay, 2015; eThekweni Municipality, 2019; City of Cape Town, 2021; City of Johannesburg, 2021; City of Tshwane, 2021).

While implementing effective climate change adaptation has been slow, several projects have been implemented successfully. Public transportation has been a key priority, with integrated rapid public transit implemented in Cape Town, Johannesburg, and Tshwane. Sustainable waste management is also a priority, with Johannesburg and Durban implementing landfill methane gas capture projects. Energy poverty is a key challenge for South African cities. The City of Johannesburg has undertaken a solar water geyser programme, and the City of Cape Town has retrofitted ceilings in low-income communities to improve the energy efficiency and thermal comfort of the homes (Nelson Mandela Bay, 2015; eThekweni Municipality, 2019; City of Cape Town, 2021; City of Johannesburg, 2021; City of Tshwane, 2021). The City of Ekurhuleni and the City of Cape Town have initiated procurement processes to secure renewable energy for their cities (Nyathi, 2022). Durban has rehabilitated 7400 kilometres of riverine habitat through its Transformative River Management Programme to improve water quality and reduce flood risks (C40 Cities Finance Facility, 2020). The City of Tshwane is also invested in rehabilitating the Hennops River to support flood attenuation efforts (Singh, 2019). The City of Tshwane is supporting small-scale farmers in an effort to create green jobs and bolster food security (C40 Cities, 2016). These are a few of the projects that have been implemented across different sectors. Based on the targets that cities have committed to in their Climate Action Plans, there is an urgent need to accelerate implementation by embedding climate change throughout the cities' decision-making processes.

Like many other cities globally, South African cities (Ziervogel & Parnell, 2010; eThekweni Municipality, 2019; City of Cape Town, 2021; City of Johannesburg, 2021;) recognise that addressing climate change will require a shift from stand-alone projects to an approach geared towards institutionalising climate change by embedding a 'climate lens' into every aspect of urban planning, decision-making, and governance; this is discussed further in **Section 3.3.2**.

Implications for leadership

Effective climate change response requires an evidence-based approach and as such, leaders must be open to learning more about how climate change impacts manifest locally (Roberts, 2008). Finding appropriate responses, as shown in the overview of actions presented in this chapter, also requires city authorities to navigate complex socio-spatial vulnerabilities and a range of competing demands to ensure that climate change responses align with the city's pressing socio-economic goals to improve service delivery, create jobs, and alleviate poverty (Roberts & O'Donoghue, 2013; Vogel et al., 2021). These complex realities, compounded by the poor governance record of cities (Mnguni & Subban, 2022) and the leadership deficit in South Africa (Naidoo, 2010; Mbandlwa et al., 2020), present additional significant challenges to effectively responding to climate change (Zhou et al., 2022).

The high level of political instability within cities also hampers effective decision-making and compromises service delivery. An assessment of coalition governments over the period of 2016 to 2021 found that "political actors prioritised destructive political games rather than

coalition agreements, governance, institutional stability and service delivery” (Pietersen, 2021, p. 488). In addition, political regime change often results in changes in senior management, with officials being appointed based on their political allegiance rather than their skills and qualifications (Pasquini et al., 2015).

City leaders can also be seen to act within the context of the country’s broader policy and legislative environment, contributing towards the national vision and advocating for greater influence in national policy processes and greater autonomy to advance climate action locally (Hickmann & Stehle, 2019). By engaging in advocacy and seeking greater autonomy, city leaders strive to ensure that local climate actions not only contribute to the national agenda but also effectively respond to the distinctive needs and priorities of their communities, fostering a more comprehensive and tailored approach to climate governance at both the city and national levels (C40 Cities, 2022b).

The climate governance context, comprised of various dimensions – biophysical, socio-economic, political, policy, and legal thus provides a useful backdrop against which to understand climate change institutionalisation in South African cities, which is discussed in the following section.

3.3.2. Climate change institutionalisation in South African cities

A few in-depth studies provide invaluable insight into what enables and hinders the institutionalisation of climate change within city governments in South Africa. Buffalo City (Gadu, 2019), Cape Town (Ziervogel & Parnell, 2010; Taylor et al., 2014; Pasquini et al., 2015; Taylor, 2017; Pieterse, 2020), Durban (Roberts, 2008; Ziervogel & Parnell, 2010; Roberts & O’Donoghue, 2013; Taylor et al., 2014), and Johannesburg (Vogel et al., 2021) have been cities of particular interest. There has also been some research in smaller municipalities such as Thulamela Local Municipality (Pieterse, 2020), Hessequa Municipality (Pasquini et al., 2015), Threewaterskloof (Taylor et al., 2014), and several others in the Western Cape (Pasquini et al., 2013) and Eastern Cape (Santhia et al., 2018). These studies are briefly discussed here with the aim of better understanding the role leaders can play in promoting climate change institutionalisation.

Buffalo City

An investigation into the extent to which climate change adaptation has been mainstreamed within Buffalo City’s (Eastern Cape province) local development plans and strategies also uncovered a range of barriers, including institutional fragmentation, lack of awareness of climate change issues, insufficient data, weak capacity, and inability to cope with climate change uncertainties and poor prioritisation. The study primarily focused on water resources and agriculture. The research entailed reviewing government strategies, policies, and plans and interviewing five government officials across the three levels of government (national, provincial, and local). It found that climate change had not been adequately integrated into the City’s development plans and that the lack of dedicated capacity to address climate

change had led to poor alignment and coordination across different City departments (Gadu, 2019).

Cape Town

An exploration into the decision-making processes that informed climate change responses in the City of Cape Town (Taylor, 2017) found that the dominant theories in the field, which conceptualise adaptation as a pathway or a cycle, “inadequately represent the contested and contingent nature of decision-making that prevail within the governance systems of cities such as Cape Town” (Taylor, 2017, p. 3). This is because most of the research on urban climate adaptation originates from the Global North, where “political, scientific, economic and administrative systems are well established and well resourced” (Taylor, 2017, p. 2). The Cape Town study was undertaken following an organisational ethnography and processual case study approach, strongly demonstrating the value of embedded research. Concepts and methodological frameworks were adapted from the field of organisational studies.

The rounds decision-making model (Figure 4 below) provides the most suitable conceptual tool to better understand the climate change adaptation process in cities (Taylor, 2017). The rounds decision-making model was conceptualised to explain how decisions are made in complex and uncertain situations where multiple perspectives must be considered and a consensus must be achieved. It recognises that different actors have their own views on both the problem and the solution, are guided by their self-interests and may have different resources and capacities to influence decisions. The model represents the protracted nature of public decision-making processes; the course of action is decided through the interactions among these actors, making a series of smaller decisions which, over time, give rise to larger policy decisions (Teisman, 2000; Taylor, 2017).

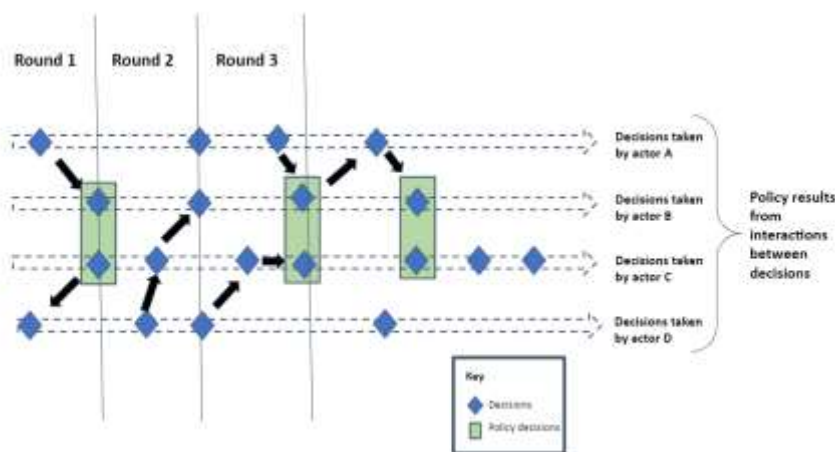


Figure 4: The rounds model of decision-making
(adapted from Teisman, 2000 and cited in Taylor, 2017)

Given the complexity and uncertainty associated with climate change adaptation, cities tend to make several minor decisions over time, allowing for different aspects of climate change adaptation and urban planning to be considered during different rounds of decision-making (Taylor, 2017). Climate change adaptation is also an ongoing process that requires continuous learning and adjustment (Stein et al., 2013; Taylor, 2017; Termeer et al., 2017). The iterative nature of the rounds model means that it can account for how decision-makers revisit previous rounds and incorporate new information as it becomes available. The rounds model also emphasises stakeholder engagement and the need to consider various perspectives and expertise in decision-making. Lastly, in practice, adaptation decision-making at a city level involves prioritising actions, which may range from infrastructure improvements to public policy and education and awareness campaigns. The rounds model can explain how options are narrowed down over time based on different considerations (political support, impact, available resources, etc.) before deciding (Taylor, 2017).

The explanatory power of organisational theories (Taylor, 2017), when applied to the field of climate change policy and implementation, can be invaluable in mainstreaming. Taylor (2017, p. 3) concludes: “Progress in adapting cities to a changing climate is currently constrained by both the problems and potential solutions or interventions being too technical for most politicians to deal with and prioritise and too political for most technical and administrative officials to design and implement” (Taylor, 2017, p.3). Institutionalising climate change within a city requires linking the political, technical, and administrative functions of a city government. This must be done regularly and repetitively to be effective, and it “requires structures, processes and individuals equipped and empowered to do so. Yet, very few structures, processes and individuals exist” (Taylor, 2017, p. 260). This has significant implications for understanding climate change leadership and governance, which was explored in the current study.

Durban

Despite eThekweni Municipality being amongst the first municipalities to develop a greenhouse gas emissions inventory and implement a buildings energy efficiency programme, the role of city officials in these initiatives was limited to project management as the technical work was being undertaken by consultants. City staff, faced with high workloads, were focused on meeting funder and administrative deadlines rather than building an understanding of climate change or their technical capacity to undertake similar projects themselves in the future. For this reason, early projects did not help to build the city’s institutional knowledge nor create institutional momentum for climate change mainstreaming. From the lessons learnt, four institutional markers are proposed as indicators of successful climate change institutionalisation:

- The emergence of climate change champion(s) – political/administrative
- Climate change featuring prominently in municipal plans
- Dedicated human and financial resources for climate change

- Embedding climate change considerations within decision-making – political/administrative.

The catalytic role of leadership is emphasised across several papers based on Durban's experience. "The key to unlocking this process was capacity building of key local government personnel. This kind of capacitation holds the potential to unlock endogenous resources and interest in climate change..." (Roberts, 2008, p. 536).

A separate study on three municipalities perceived to be leading on climate change adaptation - Cape Town, Durban and Threewaterskloof, echoed the same sentiment on the role leadership has played in Durban, "The opportunity for a local official to be exposed to detailed climate science, reflect critically on municipal practices and gain external input, led to the subsequent formation of the Municipal Climate Protection Programme (MCPPE)" (Taylor et al., 2014, p. 70). Durban hosting COP17 in 2011 attracted political interest, with the Mayor at the time, Councillor James Nxumalo, emerging as a global champion of climate change adaptation (Roberts & O'Donoghue, 2013). Lastly, shadow or informal networks also have a key role to play in promoting knowledge exchange and sustaining ideas, offering leadership outside the context of the formal institutional framework (Leck & Roberts, 2015).

Durban's approach to institutionalising climate change has included institutional restructuring, building champions within sector departments, developing sector plans, departmental renaming to emphasise climate change, integrating key climate programmes into the city's key strategic planning document, and developing an integrated mitigation and adaptation plan (Roberts & O'Donoghue, 2013).

Johannesburg

The Johannesburg experience supports the idea that adaptation planning and implementation are iterative (similar to Cape Town, as described above).

"These routes of action in a city are usually not linear progressions of a set of discrete engagements. Rather, they are made up of complex, messy interactions that have several feedback and recursive loops of planning, action, 'back to the drawing board' journeys, rethinking and 're-jigging' and then embarking on another path of action." (Vogel et al., 2021, p. 1).

The research surfaced several critical institutional challenges faced by the city, including difficulties in integrating adaptation and mitigation planning, sectoral mainstreaming being undermined by "complex governance and power relations" (Vogel et al., 2021, p. 2) that promote siloed planning and implementation and the dependency on consultants to develop climate plans. Additionally, the performance management system disincentivised transversal action despite there being an acknowledgement of the importance of climate action (Vogel et al., 2021).

Smaller municipalities

Many of the larger metropolitan 'cities, as highlighted above, are already on a climate change adaptation journey of some sort. The smaller municipalities, often even more constrained by capacity and other challenges, are another set of cases for investigation. One such investigation into the local barriers to climate change adaptation across eight municipalities in the Western Cape Province highlighted a more nuanced understanding of climate change institutionalisation within smaller municipalities (Pasquini et al., 2013). Forty-seven municipal actors (councillors and officials) provided inputs that captured their knowledge, beliefs, and experiences relating to climate change adaptation. Issues that were noted included that there is a range of barriers at play preventing municipalities from mainstreaming climate change adaptation: a lack of understanding of climate change and adaptation options, party politics hindered decision-making, and the public was not interested in climate change. The findings are quite similar to studies conducted in the Global North, indicating that universal issues need to be resolved by national and provincial governments to institutionalise climate change adaptation at the local level (Pasquini et al., 2013).

Another desktop study investigating the extent to which climate change has been embedded within the IDPs of six District Municipalities in the Eastern Cape found that the climate change context was inadequately covered in half of the plans reviewed. In addition, both horizontal and vertical integration were found to be lacking; it was, therefore, concluded that climate change mainstreaming remains weak overall across all six District Municipalities (Santhia et al., 2018).

Comparative studies

A comparative case study design approach has also been used to understand better how climate change adaptation can be mainstreamed within planning instruments and processes at a local level (Pieterse, 2020), focusing on cases from the City of Cape Town in the Western Cape province and the Thulamela Local Municipality in the Limpopo province. A qualitative content analysis of various policy documents (e.g., IDPs and Spatial Development Frameworks for both municipalities and Cape Town's Built Environment Performance Plan) was applied. These assessments were then supported by interviews. In Thulamela Local Municipality, two individual interviews were done, whereas, in the City of Cape Town, one focus group with four participants was convened.

Six factors, which can be either enabling or disabling depending on the context, were identified and formed the basis of the study's recommendations. These factors are interrelated and should ideally be considered together to support effective mainstreaming:

- Champions, leadership, and momentum
- Networks, mobilisation, and organisation
- Information gathering, use, and sharing
- Capacity, resources, and skills
- Institutional support and coordination

- Intergovernmental relations and mandate (Pieterse, 2020).

Leadership also emerged as a key theme in the aforementioned comparative study of Cape Town, Durban and Threewaterskloof. Durban's success (described in more detail above) was attributed to the role of a key technical climate change champion, who was able to win the personal trust and support of the Municipal Manager and Mayor. In the case of Cape Town, strong leadership was also a critical factor; however, in the absence of political leadership, senior officials from the Environmental Resource Management Department, in collaboration with experts from the University of Cape Town, helped to bridge the gap. Threewaterskloof did not have a dedicated climate change team nor a dedicated climate plan but was still able to pioneer adaptation initiatives through a multistakeholder body comprising 15 well-capacitated local business leaders, municipal officials, and politicians. Threewaterskloof was also able to successfully ensure continuity following a political transition. In 2005, under the leadership of the African National Congress (ANC) a highly qualified Municipal Manager was appointed, in the next few years he appointed new staff and improved the financial sustainability of the municipality. In 2008, following a by-election, the Democratic Alliance (DA) came into power through a coalition with other smaller political parties. The DA decided to retain the Municipal Manager and all senior leaders. The coalition gave rise to a high degree of joint decision making. These two factors helped to ensure policy and institutional continuity which supported the long-term planning needed to advance climate change adaptation (Taylor et al., 2014).

Common themes

As highlighted above, much of the focus on climate change mainstreaming has been on the barriers to mainstreaming. South Africa is no exception in this regard. A review of the literature uncovered several barriers to institutionalising climate change on a local level, including institutional fragmentation, limited capacity, challenges in dealing with climate change uncertainties, and inadequate prioritisation. Another common theme is the intricate and iterative nature of decision-making processes concerning climate change responses within urban settings.

Leadership emerges as a pivotal element in climate change institutionalisation, particularly emphasising the role of climate change champions, who can effectively mobilise support from sector departments and political leadership alike. The interconnectedness of these themes should be acknowledged; effective mainstreaming requires a range of factors that must be considered collectively: leadership, intergovernmental relations, networks, information sharing, and capacity building.

3.4. Reconciling theory with context – an exploration of the gaps in the literature

3.4.1. The applicability of leadership theories to the South African context

In **Chapter 2**, the leadership theories that may be most applicable to climate change were discussed. Given the range of social, economic, political, and policy challenges (discussed above), it is difficult to assess the applicability of leadership theories in the South African context without empirical evidence. This is especially true since there are very few examples of the relevance of leadership theories being tested in South Africa, let alone South African cities (the exceptions are Govender, 2017; Katywa & Strydom, 2021), and leadership theory is heavily biased towards the perspectives of the developed world. According to House and Aditya (1997, p. 409-410):

“Almost all of the prevailing theories of leadership, and about 98% of the empirical evidence at hand, are rather distinctly American in character: individualistic rather than collectivistic, stressing follower responsibilities rather than rights, assuming hedonism rather than a commitment to duty or altruistic motivation, assuming centrality of work and democratic value orientation, and emphasising assumptions of rationality rather than asceticism, religion, or superstition.”

The skewed assessment of leadership practices and organisation has also been dominated by a northern gaze. A recent review of the research published in *Leadership Quarterly*, for example, between the years 2010 to 2019, found that 60,3% of research originated in the United States. The only African country listed is Egypt, with a contribution of 0,2%. This demonstrates that leadership in the Global South, specifically the African context, remains grossly understudied (Gardner et al., 2020).

Narrowing the scope to climate change leadership, in particular, revealed that studies focused on international diplomacy to a large extent (Lin, 2020; Oberthür & Dupont, 2021) with little attention on the role of personal agency, individual leaders, and their leadership styles (the exceptions are Meijerink & Stiller, 2013; Swianiewicz et al., 2018; Wurzel et al., 2020). Further research and exploration of leadership theories in the context of climate change at the local level, particularly informed by stories from the South (Vogel & Naidoo, 2024) is very necessary to deepen our understanding and inform effective leadership practices.

The broader climate change literature from South Africa, as shown in the detailed review presented in this chapter, clearly highlights the importance of leadership (**Section 3.3.2.**) but does not pay much attention to the characteristics of such leaders. The first objective relates to addressing this gap in the literature. Based on empirical evidence, this research sought to better understand the leadership attributes, skills, and styles that can effectively support climate change institutionalisation in South Africa.

3.4.2. The applicability of institutional change theories to the South African context

Cities have emerged as global leaders in climate change (Section 3.2.1.), and many are implementing climate actions while also advancing processes to institutionalise climate considerations into decision-making (Section 3.2.3.). Despite this, globally, there is a paucity of research on how the local government context may influence the different forms of institutional change, be it incremental, reformist, transformative or perhaps a hybrid of these. Some have argued that local government does indeed have a role to play in driving a transformative agenda, “The role of local governance in driving transformation can either be seen as an incubator of change spreading to higher levels of governance or as an actor that through continuously working for incremental change may tip the system towards sustainability” (Amundsen et al., 2018, p. 24).

The South African climate governance context is unique as the legacy of apartheid continues to drive social vulnerability and inequality, regularly erupting into social unrest. The political domain is highly contested and unstable, undermining efforts for redress and detracting from longer-term strategic planning, capacity building, and institutional reform needed to overcome the barriers to climate change institutionalisation. This political instability may undermine the ability of cities to pursue transformative actions, given that “stability of institutions and systems allow for planning and organisation necessary for systemic and profound transformative changes” (Amundsen et al., 2018, p. 24).

The mainstreaming-transformation paradox warrants further investigation in the South African context, as the terms ‘mainstreaming’ and ‘institutionalisation’ are often used interchangeably (see Roberts, 2008; Pasquini et al., 2015; Pieterse et al., 2021). There has not yet been a critical assessment of how the mainstreaming-transformation paradox may be playing out in South African cities, despite separate scholarly interest in both topics. This research aimed to address this gap by understanding how climate change can be institutionalised in South African cities, paying special attention to the interplay between leadership, institutional change, politics, governance, and climate action.

3.5. Conclusion

Climate change leadership and governance in South African cities can only be understood within the broader global and national context. Globally, cities have been recognised as leaders in climate change, and South African cities are no different, with the Cities of Cape Town, Durban, Johannesburg, and Tshwane being among the first to publish Climate Action Plans that align with the ambition of the Paris Agreement.

South Africa’s response to climate change within its urban areas is a multifaceted challenge marked by intersecting biophysical and social vulnerabilities, complex political dynamics, and evolving policy and legal frameworks. Effective leadership in this context requires an evidence-based approach, understanding the risks and opportunities associated with climate

change while balancing the pressing socio-economic goals of improved service delivery, job creation, and poverty alleviation when formulating response measures.

The institutionalisation of climate change in South African cities has been a topic of academic interest for some time. Climate champions have emerged as a critical factor in overcoming the barriers to institutionalisation, as they play a role in building internal support and technical capacity and strengthening cross-departmental collaboration. Further exploration into climate change leadership is, however, needed to better understand the personal attributes of climate champions and the strategies they employ to institutionalise climate change in city governments. In addition, there is a need to gain a deeper understanding of the underlying factors that shape the interplay between the broader governance context within South African cities, climate leadership, and climate change institutionalisation.

Building on the existing body of knowledge while being cognizant of the gaps in the literature, the next chapter outlines the research methodology followed to probe the leadership needed to effectively institutionalise climate change within South African cities.

Chapter 4: Methodological Considerations

4.1. Introduction

This research examined the leadership types and strategies that may help facilitate climate change mainstreaming within local, metropolitan governments in South Africa. In particular, it interrogated the interaction between individuals and the governance system, including how individuals are able to embed climate change considerations into planning and decision-making and how this translates into practical action. The institutional context influencing leadership styles was also examined.

As discussed in **Chapter 1**, this research aimed to address a notable gap in the literature. Most investigations on climate change mainstreaming at a local government level in South Africa rely on reviewing publicly available plans and strategies, supplemented by interviews or focus group discussions (Gadu, 2019; Pieterse, 2020). Taylor (2017) argues that to test explanatory models of climate change adaptation and decision-making, it is necessary, however, to deepen such investigations by collecting more fine-grained data that is not readily available or easily accessible in the public domain. Time spent embedded within a municipality can offer invaluable insights into the lived experience of city staff and the governance processes (Taylor, 2017; Jassat, 2021).

This chapter presents the context and justification for the research methodology. The chapter opens with a discussion of the research philosophy, followed by the research approach and strategy. Next, the research design and data collection and analysis are discussed. The chapter closes with methodological reflections and discusses my positionality as a researcher.

4.2. Research philosophy

Several research philosophies, including interpretivism and pragmatism were considered before critical realism was finally selected as the study's guiding paradigm. Interpretivism suggests that reality is subjective and constructed through social interactions and shared meanings and is best suited to understanding subjective experiences (McAnulla, 2006; Alharahsheh & Pius, 2020). Pragmatism holds the view that reality is shaped by human actions and the outcomes of those actions. Pragmatic thinking is best applied to research that seeks to identify practical implications (Kelly & Cordeiro, 2020). Critical realism which acknowledges that reality is independent of human perceptions was found to be the most appropriate research philosophy based on the study's aims and objectives and my positionality as a researcher (**Section 4.8.**). The reasoning for selecting critical realism is expanded further below.

Critical realism was introduced by Roy Bhaskar in his book entitled *A Realist Theory of Science* (Bhaskar, 1975). It emerged as a critique of positivism, questioning the assumption that humans are able to know and fully measure reality (Sturgiss & Clark, 2020). It postulates that

“the evidence we observe can come close to reality but is always a fallible, social and subjective account of reality” (Stugiss & Clark, 2020, p. 143). A critical realist paradigm is predominantly adopted by social scientists to understand the ontological character of social reality relating to the nature of causation, agency, structure, and relations (Archer et al., 2016).

Using such an approach, the research aimed to contribute towards improving the understanding of leadership, governance, and climate mainstreaming in South African cities. It explored the role of individual leaders within cities in driving forward the climate change agenda, interactions between political and technical leadership and across various departments, the structural and institutional barriers they encounter, and how they overcome these barriers. This study, therefore, dealt with issues relating to agency, structure, relations, and causation. As a researcher, I share a belief commonly held by critical realists that it is possible for social science to improve our understanding of the real world over time and to “make claims about reality which are relatively justified while still being historical, contingent and changing” (Archer et al., 2016, para.4). I acknowledge that climate change response within local government is ever-evolving and local government itself is a dynamic institution (Covey, 2020). As such, I acknowledge that the lens through which I interpret the findings may be influenced by my own journey engaged in climate change support to South African cities over the past 10 years, the reality of which is linked to this particular time period, within a particular context and will also likely change over time.

Bhaskar (1975) suggests that interventions and systems consist of emergent mechanisms that can explain how and why events, outcomes or phenomena occur. Emergence, in this sense, does not refer to unexplainably or unexpectedly appearing but rather recognises the complexity of components synergising across multiple layers of a system to result in an outcome, which is more than the sum of the parts. Emergence contributes towards the unpredictability of outcomes in a complex system (Elder-Vass, 2022). This understanding is aligned with the complexities of climate change being a wicked problem arising from multiple causes and across several geographic and temporal scales (as explained in **Chapter 2**) (Levin et al., 2012). It also aligns well with climate change response in the context of local government as it recognises the underlying complexity of embedding climate change across different municipal functions, plans, and decision-making processes (Willems & Baumert, 2003; Huitema et al., 2016)

Critical realists distinguish between three layers of social reality: the empirical, the actual and the real. The real domain reflects the deepest level of reality, consisting of social structures that distribute resources and authority to individuals. This, in turn, enables or constrains the actions that those individuals are able to take in a social setting. These actions (or lack of actions) create events (or non-events) in the actual domain (Anderson, 2021; Stutchbury, 2022). The actual domain “is constituted by the things that happened independently of whether we observed them or not” (Eastwood et al., 2014, p. 2). These events (or non-events) and actions taken by individuals then influence *the real* domain by reproducing or changing

those structures. If an event is observed, the observation or experience of what happened is reflected in the empirical domain (Anderson, 2021; Stutchbury, 2022). This is depicted in Figure 4 using the analogy of an iceberg.

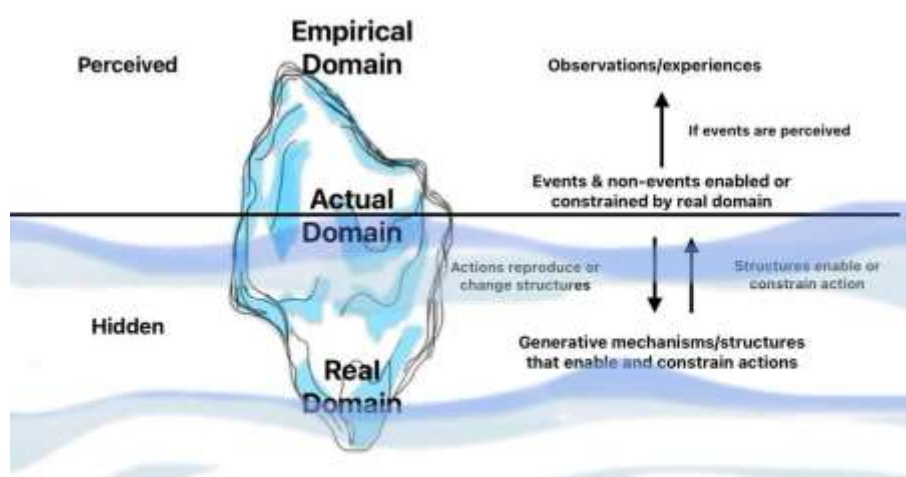


Figure 4: Critical realism's three layers of social reality

(adapted from Anderson, 2021, p. 43; Sheri Ramluckan's drawing, 2024)

The research presented here relies on the personal views and experiences of participants (contained within the empirical domain) to describe and, therefore, further the understanding of the reality of climate change mainstreaming within local government while being cognisant that the data collected reflects human perceptions of reality rather than reality itself and is, therefore, fallible. It adopted a non-dualistic understanding of our relation to the world, recognising that the social world is not independent of our beliefs about it. The non-dualistic tenant aligns well with my positionality (**Section 4.8.**) – I have spent almost ten years working as a consultant and adviser to South African municipalities.

When applying this perspective to institutions, it also acknowledges that the powers of social structures depend not only on people and their understanding of what they are doing but also on how people interact with each other through established structures because of their understanding of the structure. In the Transformational Model of Social Activity, Bhaskar (1979) posits that as the beliefs and activities of individuals change, so do the structures in which people operate change (Elder-Vass, 2022). Social structures, like organisations, exist because they are reinforced by people who accept them and agree to behave in ways that perpetuate the organisational norms (Archer et al., 2016; Anderson, 2021). This complements the Three Spheres of Transformation (O'Brien & Sygna, 2013) (discussed in **Chapter 3**), which

emphasises the political agency of individuals and the link between individual change and collective change. The Three Spheres of Transformation Model recognises “an individual’s ability to contribute to transformations both by changing behaviour and by influencing structures and systems” (O’Brien, 2015, p. 1170).

Bhaskar (1979) also distinguishes between two dimensions of knowledge, the transitive and the intransitive. The transitive refers to the changing knowledge of things, for example, beliefs, concepts, and theories. This dimension is dependent on human thought or action and is contrasted with the intransitive, which exists regardless of whether humans exist or not and whether humans are aware of it or not for example gravity. The intransitive is, therefore, relatively unchanging (Elder-Vass, 2022). The importance of this distinction in the context of qualitative research is explained by Elder-Vass (2022, p. 268):

“The intransitive/transitive distinction, however, allows the organisation theorist to distinguish between those beliefs of other people that sustain the organisation concerned (which are independent of the theorist’s beliefs and thus fall into her intransitive dimension) and the theorists’ own theories (which fall into her transitive dimension). This makes it possible to recognise both that social structures depend on the conceptions people have but also that their existence is independent of any given scholar’s beliefs about them.”

It is important to acknowledge that the data collected and, therefore, the knowledge produced by this research is *transitive*. In **Section 6.2.5**, I reflect on the value of adopting this research philosophy.

4.3. Research approach

Critical realists distinguish between four research approaches:

- 1) Deductive approaches derive knowledge of individual phenomena based on universal laws or a pre-existing body of knowledge (Eastwood et al., 2014).
- 2) Inductive approaches derive knowledge based on observations and then theorise, leading to a universal law or theoretical inference (Eastwood et al., 2014).
- 3) Abductive approaches “interpret or reconceptualise individual phenomena within a conceptual framework or set of ideas” (Eastwood et al., 2014, p. 3). It aims to understand something new by observing and interpreting it within a new conceptual framework. “Abduction does not move directly from empirical observations to theoretical inferences as is the case in purely inductive research, but relies heavily on theories as mediators for deriving explanations” (Modell, 2009, p. 213).
- 4) Retroductive approaches “use both inductive and deductive logic, as well as insights or hunches” (Greenhalgh et al., 2017, p. 1) to identify hidden causal forces producing observable patterns (Eastwood et al., 2014).

The current study used abductive and retroductive approaches. Abductive reasoning was suitable because it “yields plausible explanations of puzzling phenomena” (Shani et al., 2020, p. 64), which aligns well with the research objectives. Abduction is also well suited to the research philosophy’s principle of infallibility: “Deduction proves that something must be; induction shows that something actually is operative; abduction merely suggests that something may be” (Peirce, 1997, p. 230).

Retroductive approaches were also applied. “Retroductive theorising requires that inquirers use their common sense, intelligence, expertise, and informed imagination to build and test theories about underpinning causal processes” (Greenhalgh et al., 2017, p. 1). Given my positionality (**Section 4.8.**) and years of experience working closely on climate change plans and projects within local government in South Africa, a retroductive approach is appropriate to allow my lived experience to guide the investigation of what is underpinning causal processes in this context.

The Three Spheres of Transformation Model discussed in **Chapter 2** (O’Brien & Sygna, 2013) was used as the conceptual framework. The individual phenomenon is the interaction between leadership and climate change mainstreaming within cities in South Africa.

4.4. Research strategy

The research employed a critical realist explanatory theory-building framework (Table 4). Qualitative methods that involve collecting and analysing non-numerical data to understand concepts, experiences, behaviours, and interactions (Jameel et al., 2018) are used. This aligns with the research objectives as in-depth and intensive qualitative research is best suited to draw causal inferences (Danermark, 2002).

In this research, the complex situation and challenge (stage 1) is how leadership may enable or disable climate change mainstreaming within local government in South Africa and the interactions between leaders and the institution that ultimately give rise to climate action (or not). The literature review, presented in **Chapters 2 and 3**, describes the relevant themes and reviews the existing literature. The literature review was undertaken by searching for and reading all relevant literature on the following topics: leadership, agency, institutional change, organisational change, public administration, local government in South Africa, climate change in South Africa, and climate change mainstreaming.

Table 4: The stages of critical realist explanatory research

(summarised and adapted from Danermark, 2002; Eastwood et al., 2014)

Stage 1: Description	An explanatory social analysis usually starts in the concrete. We describe the complex situation we intend to study.
Stage 2: Analytical resolution	Here, we make a distinction among different components, aspects or dimensions and confine ourselves to studying certain components but not others.
Stage 3: Abduction	During this stage, several different theoretical frameworks and explanations are presented, compared, and possibly integrated with each other. We interpret and redescribe the different components from other conceptual frameworks and theories about structure and relations.
Stage 4: Retrodution	A retroductive logic is applied to identify the hidden causal forces. During this stage, the researcher explores what is fundamentally constitutive of the structures and relations highlighted in the previous stage. In research practice, stages 3 and 4 are closely related.
Stage 5: Comparison between different theories and abstractions	This stage compares the relative explanatory power of the mechanisms and structures described by means of abduction and retrodution. This stage can form part of stage 4.
Stage 6: Concretisation and contextualisation	Concretisation involves examining how different structures and mechanisms manifest themselves in concrete situations. How mechanisms interact with one another at different levels under specific conditions is studied.

The analytical resolution (stage 2) is discussed in **Chapter 1** and further elaborated in this chapter which describes how the research is designed to study the selected complex situation and challenge. As mentioned, the study's scope was limited to cities, known as metropolitan municipalities, in South Africa. Secondary cities, districts, and local municipalities were excluded because larger cities have longer track records of climate change work – most South African cities have developed ambitious climate change plans that articulate clear mitigation and adaptation goals (C40 Cities, 2022a). Metropolitan municipalities are also more likely to have dedicated climate change functions with professional staff who are actively seeking to institutionalise climate change across municipal departments (National Treasury, 2018). These circumstances provide a more useful context to study climate change leadership, governance, and mainstreaming since there is already an awareness of the topic,

commitment towards action, and efforts invested towards climate change mainstreaming. The importance of climate change response at a city level is further discussed in **Chapter 2**. Stages 3, 4 and 5 are consolidated in **Chapters 5 and 6** which seek to present and interpret the results and unpack the significance of the findings. The final stage is covered in **Chapter 6** with **Chapter 7** offering practical guidance of how to apply the findings in a real world context. A summary of the linkages between the stages of critical realist explanatory research and the dissertation's outline is presented in Table 5 below.

Table 5: Link between stages of critical realist explanatory research and the dissertation's outline

Stage 1: Description	Chapter 2 and 3: Literature Review
Stage 2: Analytical resolution	Chapter 1: Introduction and Chapter 4: Methodological Considerations
Stages 3, 4, and 5: Abduction, reintroduction, and comparison between different theories and abstractions	Chapter 5: Perspectives from Climate Change Practitioners and Chapter 6: Discussion
Stage 6: Concretisation and contextualisation	Chapter 6 and 7: Discussion and Results

4.5. Research design

Semi-structured interviews were selected as the most suitable data collection tool, offering the focus needed to unpack the selected conceptual framework in line with critical realism's theory-driven interview style (Smith & Elger, 2014) while also allowing new ideas to emerge through in-depth responses (Fletcher, 2017). A key benefit to this flexible format is that the researcher was able to probe deeper to ascertain the causal forces under investigation (Smith & Elger, 2014).

Participants were selected through purposive sampling (Campbell et al., 2020) based primarily on their experience (number of years in the 'field') and expertise (including knowledge of both adaptation and mitigation and representations in various forums; for example, COPs, adaptation planning forums, etc.). I made use of my professional networks to identify suitable participants, obtain recommendations and secure contact information. Care was taken to ensure that the sample was gender balanced and included representation across different race groups. Fifteen in-depth interviews were conducted, all on the Zoom online platform. Zoom was used as some of the interviews were conducted in 2021 during the COVID-19 pandemic, and virtual interviews were convenient for participants and reduced the costs and time associated with travel. Participants were contacted via email and WhatsApp to request interviews. The Participant Information Sheet, Consent Form, and Interview

Schedule (all part of the ethics process, see below) were shared with participants ahead of time. This ensured that participants were well informed of the study's aim and objectives before agreeing to participate. It also ensured transparency and allowed participants time to think through responses if they wished (preparation was voluntary). All interviews were held in English, recorded using Zoom, and transcribed verbatim.

Prior to commencing interviews, an Ethics Approval Certificate (**Appendix 1**) was obtained from the University of Witwatersrand's Human Research Ethics Committee. Interviews were conducted in an ethical manner in line with the University of the Witwatersrand's Ethics Codes and Procedures.

All respondents have work experience supporting local governments in planning for and implementing climate change actions. The contexts from which the respondents made inputs are briefly outlined here. Twelve out of 15 respondents worked directly in the South African government, 11 of whom have worked in local governments. Of the three respondents without direct government experience, two worked for non-profits and one for a research institution, closely supporting municipalities. The institutions with which participants have been affiliated (alphabetically ordered) are outlined below. In some instances, participants were not directly employed by the institution but had served the institution as an embedded adviser. In other instances, the respondent had since left the employ of the institution. Some participants have worked for several of the listed organisations.

1. C40 Cities
2. Centre for Scientific and Industrial Research
3. City of Cape Town
4. City of Durban
5. City of Ekurhuleni
6. City of Johannesburg
7. City of Tshwane
8. ICLEI Africa
9. South African Cities Network
10. South African Local Government Association
11. The National Department of Forestry, Fisheries and Environment
12. Western Cape Province

There were three categories of participants:

- **Government officials:** This category includes technical staff employed by local, provincial, and national governments based on their subject matter expertise and work experience.
- **Practitioners:** This group include climate change professionals who are not employed by city government but who have worked very closely with cities on climate change initiatives as advisers or consultants. They are directly employed by non-governmental organisations or private-sector consulting firms.

- **Researchers:** This group includes professional researchers who specialise in climate change and mainstreaming within local government. They are employed by or affiliated to research institutions.

There were eight respondents who fell into the category of government officials, of these eight, two had prior experience working as practitioners and one had significant experience as a researcher. Six respondents fell into the practitioner category and only one respondent was categorised as a researcher. Due to the small sample size, the research findings were not disaggregated by these categories.

The interview schedule was developed based on the literature review. It was heavily guided by the conceptual framework selected for this study, the Three Spheres of Transformation Model (O'Brien & Sygna, 2013). In addition, a critical realist framing was applied to ensure alignment between the data collection tool and the research philosophy, approach, and strategy. Table 6 provides a list of questions.

Table 6: Interview schedule and thematic issues

Question 1	The literature shows that the leadership and governance implications of climate change remain under-researched and under-discussed. Why do you think that is?
Question 2	My research is premised on the idea that particular types of leadership and leadership strategies may help to facilitate the mainstreaming of climate change responsiveness into planning and decision-making. Would you agree or disagree with this position?
Question 3	What are your reflections on the personal sphere? What are some of the leadership characteristics and personal attributes that successful climate change champions have in common?
Question 4	What are your reflections on the political sphere? What are some of the unique characteristics of the political sphere in relation to local government?
Question 5	What are your reflections on the practical sphere? What are some of the unique characteristics of the practical sphere in relation to local government?
Question 6	How do these three spheres interact when it comes to institutionalising climate change in local government?
Question 7	What are some of the key barriers faced by local government in relation to institutionalising climate change? Which sphere do these barriers fall within?
Question 8	What are some of the key strategies employed by climate champions to enable institutional change in local government? At what pace and scale is this change more likely to occur (transformative or incremental)?
Question 9	How does climate change leadership and governance in the Global South compare to climate change leadership and governance in the Global North?

The interview schedule was designed to collect data across the three layers of social reality, as advised by Fryer (2022). In this study's context, the real domain is largely linked to the political sphere, which describes the systems and structures that underpin how decisions are made and how resources and powers are distributed across actors in the system, the political and technical administration, other spheres of government, and the communities they serve.

Several issues pertaining to leadership were probed with carefully crafted, thematic questions:

- In question 2, the link between leadership and climate change mainstreaming in the real domain was investigated.
- In question 3, reflections of the personal sphere were probed, exploring individuals' worldviews, skills, and experiences that enable or constrain their actions. The "real domain" has to be inferred through a process of abduction (theoretical re-description) and retroduction (a focus on causal mechanisms)" (Stutchbury, 2022, p. 115).
- In question 4, the characteristics of local government that shape the political sphere were investigated.
- In question 6 the interactions among the Three Spheres of Transformation were explored.
- In question 7 the barriers to institutionalising climate change were probed.

Other 'deeper' domains were also explored. The actual domain relates to the actions taken by these actors as they interact with the political sphere, explored directly in question 8 (key strategies to institutionalise climate change in local government) and indirectly in question 3 (reflections of the personal sphere), which links skills and actions. This level of reality lies just below the surface of the iceberg (Figure 4) and can be investigated with relative ease through qualitative methods (Stutchbury, 2022).

The empirical domain, explored in question 5 (reflections of the practical sphere), speaks to the climate change interventions that are implemented. This level of reality can easily be seen and measured (Stutchbury, 2022). My interpretation is that in the context of climate change, the empirical domain can be seen in tangible projects that aim to reduce greenhouse gas emissions or build resilience to floods, heat, droughts, and other climate change impacts.

4.6. Data analysis

Data analysis was undertaken using a thematic analysis technique, which can be applied across a range of research philosophies and conceptual frameworks. Thematic analysis involves identifying and interpreting patterns, themes, and meanings within the data, which are then used to generate insights and draw conclusions (Clarke & Braun, 2018).

There is limited research on data analysis approaches for critical realist research (Fryer, 2022; Stutchbury, 2022). The key steps were adapted from Fryer's (2022) critical realist approach

to thematic analysis and informed by the stages of critical realist explanatory research explained in **Section 4.4.** (Danermark, 2002; Eastwood et al., 2014).

4.6.1. Familiarisation with the data

The first step was to familiarise myself with the data. The full transcript was read twice, key quotes were highlighted, and triggered reflections, questions, and memories were noted. “These initial reactions to the data are easily forgotten in later research stages when the data is more familiar, but these initial insights often contain kernels of truth, interesting things to look at, and key things to focus on” (Fryer, 2022, p. 5). These initial reflections are revisited later in the research process. This was a relatively informed step as I was already quite familiar with the data having collected and transcribed it myself.

4.6.2. Descriptive coding

During step 2, initial codes were developed by summarising key points into descriptive codes (Clarke & Braun, 2018). Relevant quotes from different participants relating to the same theme were grouped following the method for descriptive coding. This was done manually to ensure that the full meanings of the responses were understood and analysed accordingly rather than using software to look for specific words or phrases. Descriptive coding takes a data-led approach rather than a theory-led approach. It aims to describe the data as is and refrains from applying abstract theoretical concepts to it from the outset. “This can have the benefit of allowing the data to surprise us, to challenge our preconceptions, or to move beyond previous theorising—whereas theory-led coding has more of a tendency to encourage us to find what we seek” (Fryer, 2022, p. 6).

4.6.3. Refining codes

As more and more data were analysed, it became clear that some of the initial descriptive codes identified were too broad, and given the nuance in the data, refinement was needed to ensure that each theme is of a similar resolution and accurately represented the data. This step also involved standardising and consolidating the codes by merging codes with the same meaning but were phrased differently and codes that referred to a similar topic (Fryer, 2022). Steps two and three were done iteratively, as recommended by Fryer (2022) and Morgan and Nica (2020).

4.6.4. Theory-led analysis

This is a unique step added to support applying abductive and retroductive logic to the dataset. From the data, it was clear that although specific questions were aimed at understanding the personal, political, and practical spheres and the questions were also intentionally designed to collect data across the three layers of social reality (**Section 4.4.**), these theoretical concepts did not emerge neatly and were not confined to responses to specific questions. In addition, aspects unique to the African context emerged across the

dataset despite only question 9 directly seeking to understand the differences in leadership and governance between the Global North and Global South. To make sense of this complexity and explore the link between the data and the theory, codes were further analysed according to these categories:

- Personal sphere
- Personal-political interface
- Political sphere
- Political-practical interface
- Practical sphere
- Practical-personal interface
- Unique to the African context
- Empirical domain
- Actual domain
- Real domain

Screenshots of the Excel sheet are presented in Figures 5 and 6.

Question number	Summary of question	Themes	Personal sphere	Personal-political interface	Political sphere
66	6 Interaction among all three spheres of transformation	Technocratic			
67		Information			
68		Unhealed nation			
69		Political underpinning			
70		Interdependent			
71		Reordering			
72		Motivation			
73		Disconnect			
74		Climate governance is lagging			
75		Political will or political understanding			
76	7 Barriers to institutionalising climate change	Leadership compromising governance			
77		Lack of strategy, direction and integration			
78		Disconnect between planning and implementation			
79		Technocratic approaches			
80		Lack of resources			
81		Capacity constraints and limited support			

Figure 5: Screenshot of data analysis sheet showing how descriptive codes were assigned according to the Three Spheres of Transformation Model.

Question number	Summary of question	Themes	Unique to the African context	Empirical domain	Actual domain	Real domain
66	6 Interaction among all three spheres of transformation	Technocratic				
67		Information				
68		Unhealed nation				
69		Political underpinning				
70		Interdependent				
71		Reordering				
72		Motivation				
73		Disconnect				
74		Climate governance is lagging				
75		Political will or political understanding				
76	7 Barriers to institutionalising climate change	Leadership compromising governance				
77		Lack of strategy, direction and integration				
78		Disconnect between planning and implementation				
79		Technocratic approaches				
80		Lack of resources				
81		Capacity constraints and limited support				

Figure 6: Screenshot of data analysis sheet showing how descriptive codes were assigned according to the three layers of social reality and uniqueness to the African context.

4.6.5. Developing themes

According to the critical realist approach to thematic analysis, themes are defined as causal explanations, so this step involves using the data to develop causal explanations to answer the research questions. “The three critical realist concepts of experiences, events, and causes roughly correspond to data, codes, and themes. The experiences of people remain in the data, the codes consolidate these experiences to talk of events, and themes consider the causal mechanisms that produce these events and experiences” (Fryer, 2022, p. 10). This is not a rigid distinction, and it is likely that some casual claims may be implied in the codes (Fryer, 2022). Themes are developed by applying retroductive logic, which practically means looking at the results and asking the question: What best explains this? Casual explanations can be built by looking for supporting literature to understand better the phenomena under investigation and by looking at the causes stated by participants (Bhaskar & Hartwig, 2016, Fryer, 2022).

4.6.6. Reviewing themes

The final step, theoretical validity, involves reflecting on whether the explanations provided have a sound logical basis and are plausible and appropriate (Wiltshire & Ronkainen, 2021). The emerging themes were subjected to three key forms of theoretical validity. Firstly, construct validity was tested by considering the relationship between the data and the relevant theoretical concepts (discussed in **Chapter 3**). Secondly, the causal explanations were reviewed to ensure that they could not be explained by other factors, confirming their credibility. Lastly, to test the external validity, the explanatory power of the themes was considered to determine if it is possible for the themes to be generalised to be applied to other contexts (Johnston & Smith, 2010). A process of refinement was followed to combine similar sub-themes into one larger sub-theme. Sub-themes were then grouped according to the Three Spheres of Transformation (O'Brien & Sygna, 2013).

4.7. Methodological reflections

In this section, I offer personal reflections on the research design and analysis and explain my positionality as a researcher.

4.7.1. Research design

The overarching framing of the study should also be noted and explored. Questions were framed with the intention of allowing the participants to reflect on their experiences in local climate change contexts. The participants were not the focus of the study; as such, they were not asked to describe themselves or their leadership styles. Participants ‘deep-seated’ personal views of themselves and their roles were, therefore, not considered; this was intentional as it aimed to improve the study’s objectivity. As such, the exploration of the personal sphere did not focus on the participants own characteristics but rather on their experiences and observations of others. Question 3 was phrased as: *What are your reflections*

on the personal sphere? What are some of the leadership characteristics and personal attributes that successful climate change champions have in common? The phrasing does not assume that participants themselves are successful climate champions, but rather allows them to reflect on their broader experience engaging a range of climate leaders. It should be noted that in responding to the questions, many participants reflected on the strategies they have employed to mainstream climate change, and it is possible that they also described their leadership qualities.

4.7.2. Research analysis

Manual coding helped to internalise the data, making it easier to make connections across the data and identify causal mechanisms. For example, a key finding was that there is a lack of political interest, but further analysis revealed that rather than simply not caring about climate change, politicians were not aware of how climate change impacts their constituents, and their lack of understanding was often perceived as a lack of political will. While a lack of political will may be perceived as a challenge outside of the control of technical leadership, there is in fact much that can be done to demonstrate how climate change links to political priorities which may help to secure political support. This example and several others is discussed in more detail in **Chapter 6**. The research analysis also particularly looked for connections across the Three Spheres of Transformation, as is shown in **Chapter 5**. The research analysis also helped to connect the dots between points that were made by different respondents.

4.8. Positionality

Firstly, the ontological assumption that inspired me to pursue this research is that there is a known link between leadership and institutions (Fletcher, 2017). Secondly, I would like to share my professional background. I have had the privilege of working with national, provincial, and local governments for the past ten years. My work experience includes:

- Serving as a consultant to eThekweni municipality on their Durban Climate Change Strategy and 100 Resilient Cities Programme.
- Working for The *Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH* (GIZ) as an adviser to the Department of Environmental Affairs' Climate Change Adaptation's Chief Directorate. In this capacity, I served as GIZ's project lead for several key projects, including the National Climate Change Adaptation Strategy, Provincial Support Programme, and Local Government Support Programme.
- I served as an embedded adviser to the City of Johannesburg, where I provided strategic and technical guidance towards the development of an ambitious, integrated Climate Action Plan, supporting the process from conceptualisation to Council approval. I was based within the Environmental and Infrastructure Services Department for three years.

- I led C40's Just Transition pilot in South Africa, which aimed to support the Cities of Cape Town, Durban, Ekurhuleni, Johannesburg, and Tshwane to contribute towards just transition plans and processes at a national level and advance local just transitions at a city level.
- As part of C40's Climate Action Implementation Programme, I supported seven African cities (Accra, Addis Ababa, Dar es Salaam, Johannesburg, Lagos, Nairobi, and Tshwane) to embed climate change, inclusivity and equity into their decision-making processes, implementation plans, and operations.
- In my current role at the World Resources Institute, I support Campinas (Brazil) and Nusantara (Indonesia) in implementing integrated climate action.

I registered for my Masters degree while I was still serving as an embedded adviser to the City of Johannesburg. In this role, I was privy to internal discussions, which sometimes went beyond the scope of my assignment. In addition, I was exposed to the organisational culture and had the opportunity to observe the leadership styles and power dynamics at play. I formed close professional relationships with key city officials, some of whom have shared their views on the role of leadership in advancing the City's climate change agenda. By the time I started conducting interviews, I was no longer an embedded adviser but was working closely with five South African cities.

Given my work experience, it is important for me to engage with the ethical complexities of my positionality and to recognise the limitations and opportunities of conducting such research. One of the key disadvantages of being an 'insider researcher' is having a limited perspective due to insufficient distance from the research topic, which may result in taking certain things for granted. Professional relationships may also result in interviewees divulging more or less than they otherwise would and may also reduce the objectivity of the research as relationships outside of the research context might influence the interviewees (Fleming, 2018). My work experience, however, offered an opportunity to have better access to senior government officials and my experiences and insights helped me to find greater meaning in the data. For this reason, Teisman and Klijn (2008, p. 297) argue that "landscapes in social sciences can only be studied by social beings who are part of that landscape". While I am no longer situated within a city government, my daily work involves supporting cities to mainstream climate change, so I acknowledge that I am very much a part of the study's landscape.

It was also important for me to review my prior beliefs on the topic before undertaking the research (Morgan & Nica, 2020). This reflexive exercise involved documenting my key experiences with cities. I reflected on the characteristics of local government, the systemic challenges faced, and the enabling factors that supported climate change mainstreaming. I also reflected on the strongest and weakest climate leaders I have encountered and tried to identify their personality traits, skills, and leadership styles and the strategies they employed to advance or derail climate action. I noted the differences I have observed between Global North and Global South cities. This exercise helped me to identify how my beliefs had evolved

throughout the research process as new findings emerged. In **Chapter 5**, I discuss the alignment between my prior experiences and what has emerged from the research and how the data either reinforced, challenged, or expanded my pre-existing beliefs (Morgan & Nica, 2020).

My ethics applications also took note of my positionality. I reflect on how my positionality might have influenced the results and my interpretation thereof in **Chapter 6**.

4.9. Conclusion

In conclusion, critical realism was the most appropriate research philosophy to assist with this research as it recognises the complexity of the topic under investigation while also acknowledging my positionality as a researcher (Sturgiss & Clark, 2020). The Three Layers of Social Reality (Anderson, 2021) offer a useful framework for understanding the link between experiences, events, and the underlying causal mechanisms. The research philosophy informed a range of methodological choices, including the research approach, strategy, design, and data analysis.

The research aim is inherently retroductive as it assumes a causal relationship between leadership (agency) and local government (structure), which affects the extent to which climate change is mainstreamed into decisions. Abductive and retroductive approaches are applied to develop causal explanations. These causal explanations or themes are derived from the data but are also heavily influenced by theory. As a final step in the research process, ideas are contextualised and concretised into a new conceptual framework, presented in **Chapter 6** (Danermark, 2002; Eastwood et al., 2014).

The influence of my positionality as an 'insider researcher', considered throughout the research process and shared throughout this dissertation, is further discussed in **Section 6.3**.

The key findings from the research are presented and discussed in the next chapter.

Chapter 5: Perspectives from Climate Change Practitioners

5.1. Introduction

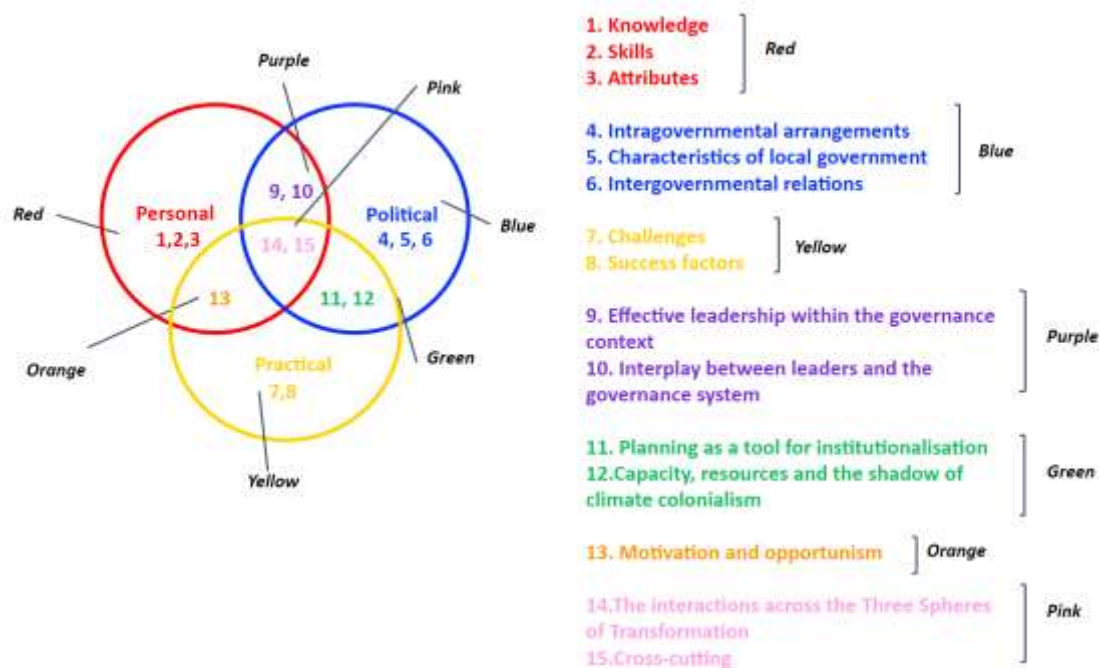
The results from the interviews are presented in this chapter. The purpose of the interviews was to probe the link between dimensions of leadership and institutional change (Bulkeley & Betsill, 2013; Beunen & Patterson, 2016) as it relates to climate governance in South African local government. The research is premised on the idea that particular types of leadership and, indeed, leadership strategies may help to facilitate the institutionalisation of climate change responsiveness into planning and decision-making, leading to practical action. This assumption was tested during the various interviews as experts in the field shared their experiences and observations on climate change leadership and what gives rise to institutional change, be it incremental or transformational, within local government. The unique characteristics of local government in South Africa were also explored through an institutional lens. The interviews aimed to uncover the dualistic interaction between leaders and the institution, with leaders shaping the institution while also being shaped by the institution, an interaction that ultimately defines the practical climate actions prioritised within local government, as is shown below.

Several questions were framed to build upon the Three Spheres of Transformation conceptual framework proposed by O'Brien and Sygna (2013) (**Chapter 2**).

As such, interviewees were asked to reflect on the attributes of climate change champions, the political context within which they operate, and the nature of practical actions pursued, focusing on:

- 1) Reflections from the personal, political sphere, and practical sphere and to comment on the interactions between the Three Spheres of Transformation
- 2) The barriers faced by climate champions and the strategies they employ to mainstream climate change
- 3) Reflections on how climate change leadership and governance differ in the Global South compared to the Global North

Themes were identified by closely analysing the interview transcripts, coding responses, and grouping the common ideas that emerged as described in the previous chapter. Fifteen themes emerged; these themes are presented in Figure 7, clustered according to the conceptual framework, the Three Spheres of Transformation, namely personal, political and practical spheres (O'Brien & Sygna, 2013). For ease of reference, colour coding is used in Figure 7 and throughout this chapter - the personal sphere (red), political sphere (blue) and the practical sphere (yellow). Additionally, the interactions between spheres are highlighted in Figure 7 - personal-political intersection (purple), political-practical intersection (green), personal-practical intersection (orange), transecting the Three Spheres of Transformation (pink). Labels with colours have also been included for ease of interpretation in black and white printed copies of the dissertation. **Figure 7: Graphical depiction of the intersecting Spheres of Transformation with emerging themes.** Colour coding has been used as follows:



Personal sphere (red), political sphere (blue), practical sphere (yellow), personal-political intersection (purple), political-practical intersection (green), personal-practical intersection (orange), transecting the Three Spheres of Transformation (pink).

Following the thematic analysis, it became clear that the themes and sub-themes that emerged from the interviews did not neatly fit into the conceptual framework. Some results span two or more Spheres of Transformation. This intersectionality is depicted in Figure 7, and colour-coded as follows: personal-political (purple), political-practical (green), personal-

practical (orange) and transecting the three spheres (pink). Themes headings in this chapter are colour-coded for ease of reference in line with Figure 7.

All themes and sub-themes are highlighted in this chapter; however, only the most relevant and prominent sub-themes are presented in detail. Sub-themes meeting any of the following criteria were considered more important and are highlighted in colour in Tables 8 to 13. The icons in Box 5 below are used in **Chapter 5**, across all Three Spheres of Transformation and their intersections and in **Chapter 6**.

Box 5: Icons and criteria used to identify the most important sub-themes that emerged from the interview results.

-  Sub-themes that were raised by more than 40% of respondents (i.e., at least six respondents)
-  Sub-themes that were highlighted as being unique to the African context
-  Sub-themes that are unique findings of this study with the potential to make a significant contribution to the field of study

The remaining themes and additional supporting quotes for all themes can be found in **Appendix 2**.

The results are presented according to Figure 7, starting with the original Three Spheres of Transformation (O'Brien & Sygna, 2013) – personal sphere (**Section 5.2.**), political sphere (**Section 5.3.**) and practical sphere (**Section 5.4.**). Next, results relating to the interactions between spheres are presented - personal-political intersection (**Section 5.5.**), political-practical intersection (**Section 5.6.**), personal-practical intersection (**Section 5.7.**), transecting the Three Spheres of Transformation (Section 5.8.). The chapter closes with a conclusion (**Section 5.9.**).

5.2. Personal sphere

“The personal sphere includes individual and collective beliefs, values and worldviews that shape the ways that the systems and structures (i.e. the political sphere) are viewed, and influence what types of solutions (i.e. the practical sphere) are considered possible” (O'Brien, 2013, p. 5).

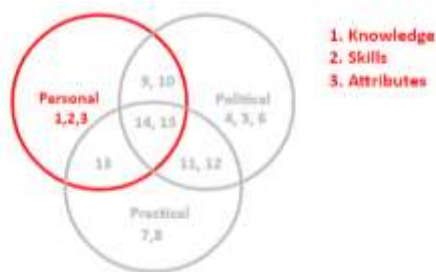


Figure 8: Graphical depiction of the intersecting Three Spheres of Transformation, highlighting the personal sphere.

Figure 8 above highlights the personal sphere in relation to other spheres. The importance of understanding the characteristics of climate leaders and the influence of the personal sphere was raised by a few respondents (H, K, L, and M). For example,

"I think it's important to really start, to think about what kind of a leader would be able to champion or to lead the issues on climate change in the municipality."
(Respondent L).

"If you look at the cities in SA [South Africa], the cities that have been able to do a lot in terms of moving the need towards their sustainability goals; [it has] been championed by certain people. And you look at those people, and you see, oh, this person was enthusiastic, go-getter, they believed in something, and they believed they could do it, and they had the ability to talk to people and bring people together and get people to do things that they wouldn't normally necessarily do. So, it has a lot to do with their personality, the characteristics of the individual." (Respondent K).

The results relating to the personal sphere are summarised in Table 7 below. The respondents identified *knowledge*, *skills*, and *attributes*³ that are important for climate change leadership. Twelve sub-themes were identified. The findings highlight the importance of *technical knowledge* and *bold, effective communication skills*. In addition, it is extremely important for leaders to be *passionate, inspirational, and resilient*. Two uniquely African sub-themes emerged: the importance of leaders valuing *indigenous knowledge* and embodying the spirit of *Ubuntu*.

³ In Chapters 5, 6 and 7, the names of themes and sub-themes are italicised for emphasis. Direct quotes from interviewees are also italicised for distinction.

Table 7: Summary of emerging themes and sub-themes for the personal sphere*

Themes (3)	Sub-themes (12)	Link to the interview schedule	Number of respondents who highlighted the sub-theme
Knowledge	Technical knowledge 	Questions 3 and 7	13
	Indigenous knowledge 	Question 9	3
Skills	Bold, effective communication 	Question 3	15
	Doers not just thinkers	Question 3	3
Attributes	Passionate, inspirational, and resilient 	Question 3	12
	Open-minded and good listeners	Question 3	5
	Ubuntu 	Question 3	3
	Strategic, visionary thinking	Questions 3 and 8	4
	Self-awareness	Question 3	2
	Local focus, global perspective	Question 9	2
	Decisive and assertive	Question 3	2
	Lived experience	Question 3	2

*Not all responses are captured directly in this chapter

5.2.1 Knowledge

Two sub-themes emerged relating to knowledge: *technical knowledge* and *indigenous knowledge*.

Technical knowledge

Technical knowledge of climate change, such as that relating to modelling greenhouse gas emissions, climate risks, setting targets, designing strategies, prioritising actions, evaluating technology options, and monitoring and evaluating progress, was noted as an important leadership characteristic (Taylor et al., 2014; Anderson et al., 2019) (Respondents A, B, C, D,

E, F, H, I, J, L, M, N, and O). An in-depth understanding of climate change impacts, responses, policy contexts, and legal frameworks at different scales, namely global, national, provincial and local, is needed (**Chapter 3**). Importantly, *technical knowledge* must be accompanied by the skills required to convey the information in a manner that builds technical and political support. Issue framing (discussed below) is a key strategy as it links climate change to issues that are better understood and well supported, such as the *service delivery* mandates of different departments (Respondents A, D, F, H, M, L, and O).

“I think one of the attributes would be having quite a diverse knowledge base. You need to understand climatology, climate models...the energy sector...the social realm as well. It’s the economy, too, especially now when you look at the just transition. And then I think there’s also the ability to take complicated information, scientific information and try to explain it in a way that’s quite simple, but also in a way that speaks the language of, say, a Transport Ministry.” (Respondent O)

Technical knowledge is key to credibility and confidence (Harrison, 2018). While the structures of local government in some municipalities may not be as technically rigorous as officials would like, as pointed out by Respondent D, having *technical knowledge* may be critical for reasons other than providing an evidenced-based defence to climate policy and plans. It is unlikely that highly technical questions will be pitched, but when they are, knowledgeable responses help officials build credibility and rapport. *Technical knowledge* arms city officials with the confidence to venture beyond their specialisation into more strategic aspects of climate change that may fall beyond their core mandate. Interviewees have observed that those who have not yet grasped key climate change concepts lack the confidence to actively advance climate change institutionalisation as they are apprehensive or unwilling to communicate with the city’s political leadership, consult communities and other stakeholders or engage in efforts to influence the budgetary planning process (Respondents C and D). The leadership and governance dimensions of climate change are new concepts that are not fully understood (Respondents C, E, F, J, L, and N).

It is also critical that leaders continue to update their *technical knowledge* to ensure institutional relevance and adaptability (Chademana, 2018). The field of climate change is also ever-evolving, with new science, technologies, approaches, and solutions emerging regularly (Heymann, 2010; Feola, 2015). It is, therefore, critical for climate champions to embrace innovation and creative thinking, stay up to date with the latest trends and available science, and remain adaptable and responsive to change (Respondents A, D, J, and N).

“Now it’s just transition. We didn’t know about just transition five years ago. Just transition was something that a few people spoke about. Now it’s a big thing, everyone is talking about. [There’re] all these new concepts that are coming through, so you need to be open-minded, you need to be adaptive, and you need to be willing to learn when it comes to climate change.” (Respondent J)

A lack of political support is often interpreted as an opposition to climate action, but this is not necessarily the case. Rather, it may be rooted in a lack of understanding of climate change, its impacts, and solutions (Respondents A, B, C, E, F, and N).

"No one is going to commit to something when they don't know what it is. They don't want to look like a fool. I think we make an excuse to say that there is a lack of political will. The problem is people are not capacitated or educated." (Respondent F)

Despite the consensus that more needs to be done to capacitate political leaders (Respondents A, B, C, E, F, and N), there are some exceptions where politicians have demonstrated a good level of understanding of climate change (Respondent H). To ensure that politicians serve as champions, some municipalities have tried offering training to Councillors. Targeting specific heads of departments to ensure that they have sufficient *technical knowledge* to serve as climate champions has also been a key strategy. This can take a lot of time (Respondent E).

A key difference noted between the Global South and Global North is that politicians in the Global North typically have a tertiary education linked to their portfolio and, therefore, already have some level of technical understanding (Respondent F).

Indigenous knowledge

The importance of *indigenous knowledge* was highlighted several times (Respondents L, K, and M). Leaders having an appreciation for and understanding of *indigenous knowledge* is a unique finding reflecting an African perspective.

"I think with the Global South, we need to make it more focused on indigenous knowledge, on what for centuries people in the Global South have known about climate change, natural resources, managing land, and resources in harmony with nature, that we have lost and if we could get leaders like that who resuscitate that knowledge and that understanding that we have been doing this. It's not a foreign concept at all." (Respondent K)

5.2.2. Skills

The results also highlighted the importance of two skills (Figure 8 above). Firstly, *bold, effective communication* was a key skill raised by all 15 respondents and presented below. Secondly, the skills needed to not only ideate but to action their ideas, grouped under the sub-theme *doers not just thinkers* (Table 8). This was raised by Respondents I, L, and M (Appendix 2).

Bold, effective communication

Climate change champions are articulate (Respondent J) and charismatic (Respondent K). Respondent G shared that the best climate champions he knew were people who command

attention, those who are bold and confident enough to express their views, committed to ensuring that climate change is well communicated, and will take every opportunity they get to raise the issue (Respondent N). The passion of a climate leader comes through in their communication; they believe so strongly in the cause that they inspire others to join their efforts (Respondents F, G, and I). Strong climate change communicators tend to be bold in their communication style; they relate climate change to their personal experiences and can express how it links to a variety of topics (Respondent K).

Issue framing was mentioned as a key strategy to gain buy-in both at a technical and a political level. To frame is to

“...select some aspects of a perceived reality and make them more salient in a communicating context, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described” (Entman, 1993, p. 52).

It involves constructing and communicating climate change in a manner that appeals to others. In local government, this often takes the form of linking climate change to *service delivery* (Respondents A, D, F, H, and M), emphasising the opportunities and benefits associated with climate action (Respondents F, L, and O), for example, local economic development (Respondent O), job creation and cost savings, and framing climate change to align with Mayoral priorities to gain political buy-in (Respondent D). Ultimately, climate change needs to be positioned as a developmental issue rather than an environmental issue, emphasising how it impacts people and the economy (Respondents F and M) while ensuring that others are inspired to take action.

“Human beings are generally not driven by fear. When you have a lot of fear, and that's usually how these climate scenarios are expressed, it tends to debilitate people; people just switch off, and they're like, ok, this is too big for me. But when you are describing it in a more positive way, then people want to contribute to that positive change.” (Respondent O)

“They need to relate to on-the-ground issues. When I am hearing the word climate change, what does it mean for someone who does not have electricity, who lives in a shack? How can I improve their lives?” (Respondent F)

This strategy requires champions to firstly invest time to fully understand climate change and how it affects other sectors (see *technical knowledge* above) and what their perspectives on it are. Once this understanding is in place, champions can convey their message in a very persuasive manner, speaking to their needs and taking their perspectives into account (Respondents B, C, and E). When communicating, weaker leaders use compliance threats and try to impose climate action on others, whereas stronger leaders take a more collaborative approach, presenting climate change as a collective problem to be tackled together with the aim of gaining buy-in for action and encouraging cross-sectoral work (Respondents D and G).

For example, an official may state that departments must implement climate change projects because of a standard they have subscribed to or a commitment made by the mayor rather than demonstrating the importance of taking action for the city. The “stick” approach has its merits; however, it does not result in genuine long-lasting buy-in, which can be achieved with the “carrot” approach (Respondents A and H). Language is also key to communication. Strong communicators simplify and tailor climate change messaging to the relevant audience. For example, when speaking to the city’s finance department, using technical jargon to describe temperature increases and explaining international negotiations is less effective (Respondents D, I, and K). Champions should focus their communications on the financial savings and costs of climate actions to advance mainstreaming efforts (Respondent C).

“Often I find that the climate change teams, the way that they are conveying their message isn’t coming from the perspectives of others, which can convey negative sentiments from other departments.” (Respondent D)

“Having the ability to influence others is a strategy that climate champions have; having the ability to show what’s in it for the other instead of what’s in it for me.” (Respondent K)

Mayors making public commitments helps to raise awareness and for issues to rise on the political agenda (Respondent I). Another tactic is using the media to draw attention to climate change, gain public support, and help frame it as a developmental challenge (Respondents A and D). This strategy may be underutilised. Climate impacts are only covered when there is a climatic disaster or extreme event such as a flood or a heatwave. Cities are already making progress in this regard; for example, the City of Johannesburg’s climate change unit has worked closely with their Communications Department to publicise its Climate Action Plan across various media channels, including radio, social media, and print media, and it recently conducted a media training (Respondent D).

“Climate change needs to become more media-worthy and needs to be that attention hog that it can be.” (Respondent A)

5.2.3. Attributes

Eight sub-themes relating to personal attributes also emerged from the analysis. The most prominent sub-theme is *passionate, inspirational, and resilient*. *Ubuntu* was the only uniquely African attribute identified. These sub-themes are presented below. Additional sub-themes include *open-minded and good listeners, strategic, visionary thinking, self-awareness, local focus, global perspective, decisive and assertive, and lived experience* (Appendix 2).

Passionate, inspirational, and resilient



Effective climate leaders have a combination of passion, resilience, and a strong sense of purpose (Respondents B, C, E, F, G, H, I, J, L, M, and O). They are driven by a deep concern for

climate change and its impact on people and the planet (Respondent H). These leaders are invested at a personal level beyond their individual mandate or the limitations of their respective positions. They genuinely believe in the importance of their work and the need for change (Respondents C, I, and L). Climate champions treat climate change as an existential crisis and are urgently proactive in addressing it while inspiring others to do the same (Respondent B). They are unwavering in their commitment, even when faced with challenges, criticism or slow progress. Emotional resilience is essential, as climate work can be emotionally draining due to the often disappointing pace of progress (Respondent H). These leaders are willing to push boundaries and challenge the status quo to drive meaningful change (Respondents G and I). They also lead by example, demonstrating their commitment to sustainability through their own lifestyles and choices, reinforcing the importance of practising what they preach (Respondents E, F, I, K, and O).

“Someone who is quite resilient, despite the difficulty, despite the backlash that you might receive, despite people with their ignorant comments, they are still committed to the truth [and] fulfilling their purpose. They have a purpose, innate responsibility, and drive within them to act upon their beliefs on climate change.” (Respondent B)

“The first thing you need as a climate person is to have an incredibly thick skin, and you need to be quite a dogged sort of person. You know, you’re up against these odds, and you feel like you’re making very little difference.” (Respondent H)

“It may look immovable to others, but when you’ve got that thing, and you want to push, all barriers become movable.” (Respondent G)

“When they started piloting their electric vehicles, he even drove in those and got stuck somewhere...but he was willing to put himself on the line for things. If it means me cycling to work every day, I can do it. Let me show you how it's done so we can have more bicycle lanes.” (Respondent K)



The African philosophy of *Ubuntu*, meaning *I am because we are*, “emphasises people and their dignity and is entrenched in a collectivist perspective” (Mthuli et al., 2023, p. 37) was highlighted by several interviewees (Respondents H, L, and M).

“I think that’s a very good example of where Africa’s strengths lie. The ability to talk and reach across differences may be more so than the Western way of thinking. If you look at how polarised American politics is, they could do with a lot more understanding of each other. Maybe that’s what Ubuntu is, that ability to understand each other better than Western politics does.” (Respondent H)

“I think that leadership in the Global South is well suited for climate change implementation. We are very much people-centred. We are community-driven. I think that is the nature of African people. Climate change requires multi-level action;

it requires [an] all-of-society approach. Our leadership really matters in this regard, it is very key, and I think it is unfortunate that it is not recognised or we are not putting it out there.” (Respondent L)

Having dealt with the key findings pertaining to the personal sphere, attention now shifts to the political sphere (Figure 7).

5.3. Political

“The political sphere represents the systems and structures that facilitate or constrain practical responses to climate change. Systems can be described as relationships between parts that form a larger whole, and structures describe the norms, rules, regulations, institutions, regimes, and incentives that influence how systems are designed, organized and governed” (O’Brien, 2018, p. 156). Figure 9 below highlights the political sphere in relation to other spheres. Until recently, climate change was framed as a technical or managerial, politically neutral response to biophysical change. This perspective has shifted with scholars unpacking the politics and power dynamics of climate change. It is now conceived to be a socio-political process rather than simply a rational policy process, however, more empirical research is needed to expand our understanding (see **Chapters 1 and 2** for reviews). Climate change is explicitly political because interventions “influence social relations, governance and resources in any given population or place” (Eriksen et al., 2015, p. 2). In South Africa in particular, given the country’s high levels of wealth and income inequality, climate change interventions intersect with social justice, raising political questions of who seeks to benefit and who carries the burden of climate change response. Applying a socio-political lens to climate change at a local government level remains an understudied topic. Most research with this perspective has focused on international climate negotiations and national policy formulation (Eriksen et al., 2015). “The influence of local political and bureaucratic forces is not well-documented or understood, particularly in developing country contexts” (Taylor et al., 2014, p. 8).

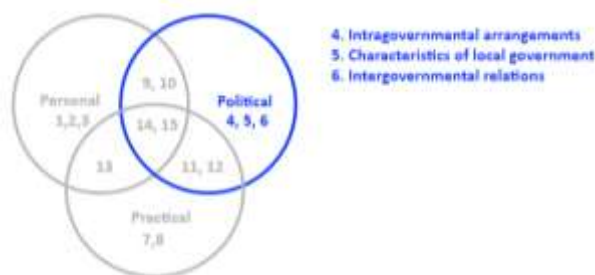


Figure 9: Graphical depiction of the intersecting Three Spheres of Transformation, highlighting the political sphere

The results relating to the political sphere are summarised in Table 8 below. Respondents identified three themes relating to the political sphere: intragovernmental relations, characteristics of local government, and intergovernmental relations. Box 5 is replicated below for ease of reference.

Box 5: Icons and criteria used to identify the most important sub-themes that emerged from the interview results.

-  Sub-themes that were raised by more than 40% of respondents (i.e., at least six respondents)
-  Sub-themes that were highlighted as being unique to the African context
-  Sub-themes that are unique findings of this study with the potential to make a significant contribution to the field of study

Table 8: Summary of emerging themes and sub-themes for the political sphere

Themes (3)	Sub-themes (11)	Link to the interview schedule	Number of respondents who highlighted the sub-theme
Intragovernmental relations	Siloed structures and planning 🗨️	Questions 1, 4, and 8	10
	Bureaucracy and hierarchy 🗨️	Question 4	10
	Departmental positioning	Question 8	4
Characteristics of local government	Competing developmental priorities 🗨️ 🌍	Questions 4 and 9	9
	Geared for incremental change 🗨️ 🌍 ⭐	Questions 4 and 8	8
	Securing votes 🗨️	Question 4	8
	Community-driven 🗨️ 🌍	Questions 4 and 9	8
	Maladministration and poor governance	Question 4	5
	City budgets	Question 4	3
Intergovernmental relations	Weak and unsupportive intergovernmental relations	Questions 4 and 7	5
	International climate negotiations 🌍 ⭐	Question 9	5

5.3.1. Intragovernmental relations

The 'intragovernmental relations' theme speaks to the relationships between different departments within the city and encompasses three sub-themes. The first two, *siloed structures and planning* and *bureaucracy and hierarchy*, are detailed below. *Departmental positioning* (**Appendix 2**) speaks to where the climate change function is situated within the city's organisational structure, speaking specifically to the limitations of being positioned within the environmental department as is most commonly the case.

Siloed structures and planning

Given the multidisciplinary nature of climate change, it requires multi-departmental collaboration; however, it is still largely perceived as an environmental problem and assigned to environmental departments (Respondents H, J, K, L, and M). Local government is characterised by silos, with each department working on its own policies and projects, which further compromises coordination (Pasquini et al., 2013) (Respondents E, H, I, J, K, L, and M). It is especially difficult to break down silos given the varied levels of capacity, functionality, and interest across different departments within a city (Respondent H). Climate change is also often perceived as an additional burden, detracting from their main focus, which is *service delivery*. Stand-alone climate change departments were found to be ineffective in institutionalising climate change.

“Our cities have been compartmentalised and that’s across the world. Every city has a department for this, a department for that, and the conversation around climate change has always rested in the environmental departments, and they are seen to be the greenies....it hasn’t been seen as a strategy issue. So, the people who sit at the strategy department who are responsible for pulling together the Integrated Development Plan of the city, they don’t see climate change as their responsibility, something that they can influence, to be embedded and cut across how the city functions and how it operates.” (Respondent K)

“They created an isolated innovation department that deals with innovation. What can they really do? It’s the same as creating a climate change department which tries to change the whole city’s response.” (Respondent I)

Due to the lack of coordination, there is a lack of awareness of climate change and a lack of alignment across departments. As a result, strategic planning is compromised (Respondents A and E). Embedding climate actions within the IDP is a key strategy for climate change institutionalisation. Respondent D explained that the climate change team is now represented on the IDP committee and that climate change teams often do not know how to influence overarching strategic plans, and it took the team quite some time to build the relationships and understand the process before they were able to influence it.

“We are trying to take some of the actions from the CAP [Climate Action Plan] and put it through the IDP process.” (Respondent D)

There are several strategies for overcoming the challenges presented by *siloed structures and planning*. The role of climate champions was highlighted as they can break down silos and foster collaboration across departments (Respondent C). It was recommended that climate change professionals be deployed to every city department, similarly to how each department has an accountant responsible for its finances. This solution has not been implemented in any South African municipality (Respondent L). Using existing committees, which are legally mandated by the Municipal Systems Act, is another key strategy. In the

absence of a functioning climate change technical committee, the City of Durban decided to report to its Executive Management Committee comprised of the heads of departments. In addition, the city included a standing item on climate change at its disaster management advisory forum (Respondents D, H, and J). Respondent E also shared that attending the Executive Management Team meeting was an effective strategy to improve climate change coordination. Establishing a dedicated cross-departmental climate committee has proven effective. In some instances, this has been sustained by technical staff, although with leadership support. Such platforms could serve as an opportunity for strategic mainstreaming (Respondents D and H).

"If we have climate change professionals in all of the settings, be it the infrastructure forum, industrial zone forums, business forums, the war rooms; put climate change professionals in every single conversation, you've already started a ripple effect...It's making sure that after every single setting, climate change has had a voice. It's been there, it's been seen, and it lingers in conversations, at the back of their minds." (Respondent J)

Bureaucracy and hierarchical structure



The public sector is traditionally hierarchical and bureaucratic due to the level of accountability and strict protocols (Evers & de Vries, 2013). In South Africa, the powers and structures of local government are prescribed by the Constitution and the Municipal Systems Act (32 of 2000). The political sphere is quite rigid, with systems and structures largely prescribed by legislation (Respondents C and D). This places a heavy emphasis on compliance, which can be quite frustrating for officials who sometimes feel that they are ticking a box and don't see the value behind the processes they are required to follow (Respondent F). Political leaders are often seen as adding unnecessary layers of bureaucracy, making processes more complex and less effective (Respondents D and E). Some municipal officials find ways to overcome the barrier of bureaucracy, while others are very intimidated by the hierarchy (Respondent D).

"Officials in the public sector are very much cognisant of the bureaucracy. Sometimes it's too heavy even for us, but then you realise there is nothing you can do about it, so you find your way within it." (Respondent D)

"People are always scared of certain offices in the city. No, you can't go to the Office of the MMC [Member of the Mayoral Committee]. No, you can't go to the Office of the Mayor. No, you can't go to the Office of the MM [Mayoral Manager]. Why not? You work in the city; if you want certain things done for you, rather let them chase you out from there than hold yourself back." (Respondent D)

Despite the plethora of climate change plans, strategies, policies, and frameworks, there is a lack of climate change legislation, which means that there is no mandate and no allocated budget (Respondents H, N, and O). In the absence of climate change legislation, municipalities

are leveraging their by-laws (Respondent J). This may well change once the Climate Change Bill is signed into law.

In hierarchical organisations, support from the highest offices is critical (Runhaar et al., 2018). In the case of local government, institutionalising climate change would be a very difficult endeavour without support from the Mayor, the Member of the Mayoral Committee responsible, the City Manager, and the Executive Director responsible. If climate change teams are unable to secure such support, their ambitions may be hindered (Respondents A, B, C, D, and G). The hierarchical nature of local government re-emphasises the importance of those in positions of authority having the technical competence and willingness to dedicate the time to advance climate change institutionalisation efforts (see results relating to *technical knowledge* above).

“The hierarchical structures work as long as the people on top support climate change. That structure works because they push it down. You have no option. It’s in your KPIs [key performance indicators]; your line manager agrees with it.” (Respondent A)

Since climate change often does not feature high up on the political agenda (see *securing votes* below), middle management, responsible for the climate change function, is responsible for ideation and agenda setting for climate policy and action (Respondent D). The role of bottom-up leadership should, therefore, not be underestimated, as middle managers are tasked with advocating for support from above. Middle managers, therefore, have the potential to bolster or stifle ambition (Surju et al., 2020). This is further discussed below, under the sub-theme *technical-political interface* (Section 5.5.2.).

5.3.2. Characteristics of local government

This theme includes *competing developmental priorities, geared for incremental change, securing votes* and *community-driven*, which are presented in detail below (Table 9). Additional themes relating to *maladministration and poor governance*, and *city budgets* can be found in **Appendix 2**.

Competing developmental priorities



As mentioned above, South Africa faces many competing priorities, many of which are perceived to be of more immediate concern than climate change. Common priorities for cities include the delivery of basic services, including water, electricity, waste collection, housing, and healthcare and supporting economic growth needed to address poverty and joblessness (Rogerson et al., 2014) (Respondents A, B, C, E, H, I, J, and K). Initiatives resulting in a positive socio-economic impact in the short term are most often prioritised (Respondent J). This is further complicated by political differences and different stakeholder groups lobbying for their own interests (Respondent H).

"In South Africa, the demands of citizens are centred around alleviating unemployment, poverty, crime, gender-based violence, refugees, etc. Addressing climate change would not be cited as a priority of the 'people'. Leaders respond to the priorities of their constituents. South Africa has too many competing challenges and priorities." (Respondent C)

Due to the *competing developmental priorities* and multiple stressors, addressing climate change in the Global South is far more complex and challenging (Respondents B and C) (Reid & Vogel, 2006; Lankes et al., 2022). Global North municipalities have much greater access to finance and *human resources* (see **Section 5.6.2.**) (Yazdani & Dola, 2013). A high level of basic *service delivery* means that climate change is not competing with other priorities, which makes it easier to focus on climate change interventions (Respondent E). There is stronger vertical integration with national governments in Europe prioritising climate change, and this tends to trickle down to local government (Respondent E).

"If you look at the Global North, because their set of circumstances is completely different, they don't deal with high levels of inequality, squalor, and informality. With the kind of economic disparities we have here, it's easier for them to say, 'Ahh, climate change' because it's seen as a luxury in the African and [the] Global South context for leaders to be able to champion climate change." (Respondent K)

Global North economies have already gone through numerous industrial revolutions and are better placed to transition to low-carbon economies since their economies are service-based and economic growth is less of a priority (Respondent C) (Kowalski, 2021).

Geared for incremental change

There was a broad consensus that change in local government is incremental (Respondents B, C, D, H, J, and M). The exception highlighted was during the time of a political transition, which presents a possible window of opportunity for more transformational change (Respondent B).

"I think here we are talking about an incremental change. There is no transformation, at least in the foreseeable future, that we are going to implement." (Respondent D)

"It's definitely been more incremental and sort of tied up in the way government works, you know, in that it doesn't really favour major transformation that happens in a short time. It was never set up to do that. Probably, it's set up to be stable, and you know, govern, and make incremental changes and adjust for the bigger course. Now, you know, we are running out of time, and that kind of change needs to be urgent. It doesn't matter how hard we try to make it work within the current system. It's just not. It's not equipped to handle the kind of change that we need. Yeah, so the whole system needs to change." (Respondent I)

"In our context, there is potential for transformative change if there is buy-in from the political and administrative interface so, for instance, the right sort of champion is in the right books with the political and then you have an alignment between the two." (Respondent K)

One reason for incrementalism is that tangible projects on the ground are rewarded and prioritised over long-term strategic initiatives:

"If we really [look] at the urgency of our action and what's required of us at a local level, you should be pushing for transformative changes. So, looking at the fiscus, looking at the IDP, looking at all of those, they're a little bit boring to a certain extent because, you know, you're not there with the community and taking a picture of your food garden, right?" (Respondent O)

The idea that incremental changes can result in transformational change over time was also raised. Mahoney and Thelen (2009, p. 1) highlighted the significance of incremental change: "Less dramatic than abrupt and wholesale transformations, these slow and piecemeal changes can be equally consequential for patterning human behaviour and for shaping substantive political outcomes."

"Ultimately, you're tweaking the system, you're changing the system, and in doing that, you're allowing it to be more adaptive, more responsive, more resilient. Addressing root causes of vulnerability and those types of things. So mainstreaming is in itself a strategy for transformational adaptation." (Respondent M)

"That's how you get transformative action. It starts small; you're not going to transform in a day. It's not just having a drop in the ocean; it's having a drop in every single corner of the ocean. At some point, it's going to meet, come together, and it's going to be huge. It's going to make some sort of wave, and within that wave, that's how we start the whole change, how we change how things are working." (Respondent J)

Securing votes

Local government is a political organisation that depends on popular support (Hofstad & Vedeld, 2021). In South Africa, climate change is not a priority issue for voters and politicians are obviously focused on gaining popularity to secure votes (Respondents A, C, E, I, J, and N). This is evidenced by the fact that political parties do not draw attention to their climate policies, targets, and actions during their election campaigns. Some include climate change as part of their manifesto; however, it is certainly not a central issue. Key issues include employment, corruption, taxes, welfare grants, and basic *service delivery* (Bega, 2021). This could explain the "lack of systemic attention to climate change within government structures" (Pasquini et al., 2013, p. 228). It makes the strategy of framing climate change as a developmental issue even more critical for securing political will (Respondent N). Contributing

to the challenge of pressing issues for voters, the public's general level of awareness of climate change is low, and some people remain sceptical.

"What dominates politicians is what their constituencies want, and climate change remains low on the agenda of voters, and hence there is no mandate." (Respondent N)

While climate change is not yet a political priority in South Africa, public opinion is changing owing to more credible information and the scale of extreme climatic events (Respondent H). There is also growing public interest in renewable energy. The example provided was the rise of small-scale, embedded generation in response to load shedding, which has placed local governments under pressure to respond at pace by developing regulations and tariffs (Respondent B).

There was a perception that this is unique to the Global South and that climate change is more of a political priority in the Global North (Respondents C and E). There was also an acknowledgement that in South Africa, climate denialism is less of a concern and climate change is not a politically divisive issue (Respondents D and H).

"In South Africa, there isn't a worldview [that] dismisses climate change as a hoax. If anything, there has been overwhelming support. Some mayors are more interested in climate change than others. But there isn't anyone completely going against the grain in terms of worldview. The issue is accepted." (Respondent D)

Community-driven

Local government, as the sphere of government closest to communities, is responsible for ensuring that their rights are recognised and their voices are heard (Respondents B, F, G, H, I, J, and L) (Pieterse, 2014). The emphasis on communities was highlighted as a uniquely African characteristic.

"All of these colonised countries were left with nothing but their communities; that's what people tend to fall on." (Respondent B)

Despite the intention for local government to be responsive to communities' needs, unfortunately, bureaucracy (described above), *maladministration and poor governance* cause challenges that have led to a lack of meaningful community engagement initiated by government (Respondent L). Trust in government has been eroded with strong community activism filling the void. This is a uniquely South African governance characteristic (Respondent O).

"There is a lack of flexibility, which means that local government isn't able to respond to changes with ease." (Respondent F)

"The IDP offers an opportunity for the municipality to consult and to work with the third arm of local government, which is the community...however, we know that this process is really not being implemented the way that it should." (Respondent L)

"In the [Global] South, you tend to have a lot more leaders at a community level, people who speak out...they don't necessarily trust government." (Respondent O)

5.3.3. Intergovernmental relations

This theme speaks to the alignment between local, provincial, and national levels and international levels of government. The first sub-theme highlights how cities contribute to and are influenced by *international climate negotiations*. The second sub-theme, *weak and unsupportive intergovernmental relations* (**Appendix 2**), explains how poor vertical integration can act as a barrier to institutionalising climate change.

International climate negotiations



Several respondents referred to COP (Respondents H, J, K, L, and N). For Durban, hosting COP17 provided a significant opportunity to gain political support for climate action and resulted in long-lasting interest from the mayor. The lack of progress at the international climate negotiations is, however, slowing progress at a local level (Respondents N and L). African leaders must exert more influence globally, and international negotiations must follow a more bottom-up approach.

"COP27 was now about implementation. There was a loss and damage fund agreed to, but, for that fund to be operationalised, it will take years..."(Respondent N)

"We need to provide our own perspectives on how this could be done...We need African leadership to be able to rise up. That's the kind of leadership that recognises that the whole is greater than the sum of its parts; [and] that people always have to be at the centre of the solutions. Things have to be moving from [the] bottom-up, not from [the] top-down...This is not a norm in the Global North; it's a very individualistic society, every man for themselves; that's a problem; it's the approach that created the problem that we are finding ourselves in. Other continents and other countries went ahead and developed, leaving the rest of the world behind and now we are in this problem that is affecting all of us." (Respondent L)

Having described the results pertaining to the political sphere, attention now turns to explaining the last remaining sphere, that of the practical.

5.4. Practical

“The practical sphere is at the core of the figure, and it represents specific actions, interventions, strategies and behaviours that directly contribute to a desired outcome” (O’Brien, 2013, p. 5).

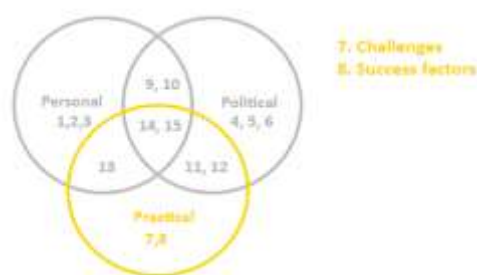


Figure 10: Graphical depiction of the intersecting Three Spheres of Transformation, highlighting the practical sphere

Figure 10 above highlights the practical sphere in relation to other spheres. The primary mandate and desired outcome of local government is to deliver services to citizens to meet their basic needs. The practical sphere in local government is, therefore, centred on ensuring the well-being of communities through water supply; sewerage collection, treatment, and disposal; waste collection and management; electricity and gas supply; municipal health services; construction and maintenance of roads; stormwater drainage; street lighting; and municipal parks and recreation. Municipalities may deliver services directly or outsource service provision to a third party (Masiya et al., 2019; Rulashe & Ijeoma, 2022).

The interviews identified two themes relating to the practical sphere, these results are summarised in Table 9 below. The first theme centres on challenges, while the second theme delves into the success factors for on-the-ground implementation. Box 5 is replicated below for ease of reference.

Box 5: Icons and criteria used to identify the most important sub-themes that emerged from the interview results.

-  Sub-themes that were raised by more than 40% of respondents (i.e., at least six respondents)
-  Sub-themes that were highlighted as being unique to the African context
-  Sub-themes that are unique findings of this study with the potential to make a significant contribution

Table 9: Summary of emerging themes and sub-themes for the practical sphere

Themes (2)	Sub-themes (8)	Link to the interview schedule	Number of respondents who highlighted the sub-theme
Challenges	Service delivery 	Question 5	10
	Disconnect between planning and implementation 	Questions 5, 7, and 9	8
	Replicability of practical actions versus governance interventions 	Question 1	1
	Monitoring, evaluation, and reporting	Question 5	4
	Mitigation bias	Question 5	2
Success factors	Financial sense 	Question 5	8
	Partnerships	Questions 5 and 8	3
	Building on existing programmes	Question 8	1

5.4.1. Challenges

During the interviews, participants raised several challenges pertaining to the practical sphere. The most prominent sub-themes, *service delivery*, the *disconnect between planning and implementation*, and *replicability of practical actions versus governance*, are presented at length; other sub-themes are presented in **Appendix 2**.

Service delivery

Climate change will have direct impacts on municipal capability to deliver basic services. (Madzivhandila, 2014). Climate actions in African cities must be integrated with parallel agendas for sustainable development, service provision, and disaster risk reduction. Actions connected to these broader goals in general and *service delivery* in particular are more likely to gain traction as they align with the immediate needs of communities and have a real impact on people's lives (Broto, 2014). Actions need to be clearly framed in relation to the core mandate of the implementing department or municipal entity to secure buy-in and increase the likelihood of resources being allocated for implementation (Respondents A, C, D, E, H, I, J, L, and N). It is sometimes difficult for politicians to make the connection between climate change and their political priorities relating to *service delivery* (Respondents C, E, and N).

"It makes it very difficult for a climate change practitioner within a city to fashion actions that, in theory, could achieve something bigger, but if they don't resonate with the practical realities of that city [that] relate to service delivery, you're unlikely to gain traction. I think that this is something that we are going to test." (Respondent D)

"As long as it is got an element of service delivery, right?...Climate change projects mustn't be devoid of service delivery...We need to identify opportunities in service delivery for building climate resilience and cutting down our carbon emissions....So, it has to be embedded within, providing housing, providing electricity, providing water and sanitation. It can't be a stand-alone thing." (Respondent L)

For those departments not directly involved in *service delivery*, their mandates still influence their perspective on climate change and the types of projects they are likely to support (Respondents H and I). For climate change projects to be considered successful, they must be compatible with the developmental goals of the municipality (Respondents J and L).

"Organisational constraints are very important here. Someone from the Treasury in the city is going to be worried about saving money and not necessarily going to be looking to have these big spend projects because it might not fit in with their economic policies and what they think is important." (Respondent H)

Service delivery strikes that break out from time to time were seen to detract from the climate change agenda since Mayors tend to be consumed by such issues (Respondents N and O). *Service delivery* detracting from and sometimes being seen to compete with the sustainability agenda was identified as a uniquely African challenge. Global North countries are in a position to focus solely on sustainability, having already achieved high levels of basic service provision, while Global South countries have to tackle climate change and *service delivery* in an integrated manner (Respondent N).

"If you are not delivering services, then you have pretty much chaos in your cities." (Respondent O)

Disconnect between planning and implementation

Several respondents highlighted that plans often do not materialise into action on the ground (Respondents A, C, E, H, J, K, N, and O). The usefulness of climate change documents, including policies and plans, came into question, with a few interviewees noting that such documents often "sit on shelves" and do little to further implementation. Similar studies are often commissioned year after year, and there is a need to move towards real implementation of climate actions (Respondents A and E).

"It's easier to develop a plan than to get that plan implemented." (Respondent O)

"The systems aren't set up to enable that next level of practical transformation. A lot of the time, you'll have politicians saying, 'Yes, yes, climate change, we support it'."

For example, in Durban, the CAP was approved. But when you delve down into what was approved, it was a plan, which didn't have any budget attached to it, with no thinking around how this is going to be implemented. It was basically approved to tick a box that it's been approved." (Respondent E)

Even in cases where climate change has been successfully mainstreamed into the IDP, projects may still not be implemented. Due to fragmented planning (discussed above), climate change considerations are often not embedded within big capital projects, even when the projects relate to rebuilding infrastructure damaged by flooding (Respondent H). Another key stumbling block has been moving from pilot projects to implementation at scale (Respondent K).

"I find that once we've provided our annual input into the IDP, then that's as much as we ever think of the IDP. I find there's a big disconnect between the work on the ground and what's written in the IDP, so I don't have that faith in the IDP as being this overall guiding document for the city." (Respondent H)

"It always ends at that, just being a pilot project or a catalytic project that actually didn't catalyse anything in the end..." (Respondent K)

Respondents also highlighted that the Global South is still at the planning and policy stage, while the Global North is already advancing on implementation (Respondents C, J, and N).

"The timelines for implementation in Africa [are] very slow...the challenge is really getting project pipelines on the ground. We should go past the policy development stage and start working on the details of implementation things." (Respondent N)

Replicability of practical actions versus governance interventions ★

Climate change leadership and governance is a complex issue that differs from city to city based on their local context, culture, governance systems, etc. (Vringer et al., 2021). This point was raised as a key factor deterring action by respondents since it isn't as easy as replicating known interventions (Respondents B, E, and F). Practical climate change solutions tend to be far simpler, for example, replacing all conventional geysers with solar water heaters or planting indigenous trees for shade. These solutions can be easily replicated from city to city, whereas governance requires a far more nuanced approach (Respondent E).

When it comes to climate governance, one municipality may have great success employing a specific mainstreaming strategy, but the contextual differences between municipalities mean that the strategy may not necessarily be replicable.

"Are other organisations [municipalities] going to have these champions? Are they going to have a mayor [who's] interested in providing political leadership on climate change more than [pleasing] a business lobby that's interested in fossil fuels? How do we move from a point where we've got some interesting learning outcomes on how

Durban has progressed, and how do we create a sort of a recipe that can work across all these contexts? And because that's the reality that each organisation [is] so different, even in South Africa, what we do here won't work everywhere."
(Respondent H)

5.4.2. Success factors

Several success factors for the practical implementation of climate actions emerged from the interviews. Firstly, climate actions that make *financial sense* are far more likely to be implemented, which is presented in further detail below. The second success factor relates to collaborating with external partners to support implementation, and the third success factor speaks to building climate considerations into existing projects, for example, energy efficiency interventions in social housing projects (**Appendix 2**).

Financial sense

Like with all decisions taken in a municipality, financial feasibility is a key consideration for the prioritisation of investments in climate projects (Gorelick & Walmsley, 2020; Semelane et al., 2021) (Respondents E, H, J, K, L, and N). Climate projects are often subjected to cost-benefit analysis; it is easier to motivate for those with a higher return on investment (Respondents E and G). This has led to a bias towards mitigation projects that have more easily quantifiable benefits (see above). In particular, renewable energy projects have been prioritised since having a stable energy supply helps to attract private sector investment (Respondent O). There is a perception that climate projects are more expensive than the business-as-usual alternative. This is true in some cases, for example, electric buses are three times the price of conventional buses (Respondent E).

"The decisions being made have to make sense financially in order to get political buy-in...The unfortunate thing is that political leadership has not seen the financial value of putting climate change at the forefront. Once we get the financial value or return on investment for climate change mitigation and adaptation projects, only then will the politics of it become way easier to manage and to motivate for it."
(Respondent J)

Municipal financial models promote unsustainable practices as electricity and water are revenue streams; therefore, conserving these resources impacts the city's finances negatively, undermining its ability to subsidise services in poorer communities. Projects that do not compromise the city's fiscus are more likely to be prioritised. There is, however, a need for reform to support the implementation of energy and water-related climate initiatives (Respondent K). Embedding climate response within infrastructure projects requires innovative finance approaches and the skills associated with developing bankable projects and funding proposals (Respondents L and N).

“The main barrier here, what I’ve realised, is that there’s a lot of funding that is coming for climate change, but the bankable business plans or models aren’t there and also the skills to even be able to write the specifications. Business models [and] business plans to ensure your projects move from pilot to projects that get replicated all over the place. There is a need for training on the bankability of projects, [and] drafting business plans that will get you funding not only externally but internally. Internally, you need to convince CFOs [Chief Financial Officers] that your project makes sense, it’s bankable and replicable. With that, you’re able to get funding in place and that’s the number one challenge.” (Respondent N)

One of the challenges in this research that soon became noticeable was that the conceptual model did not capture the connections between the various spheres. In the sections that follow some of these overlaps are explored in more detail, starting with the intersection between the personal and political sphere.

5.5. Personal-political

In this section, the results that speak to the interconnection between the personal and political spheres are presented, Table 10 below provides a summary of these results. *Effective leadership within the governance context* emerged as the first theme, while the second theme describes the *interplay between leaders and the governance system*. Figure 11 below highlights the intersection between the personal sphere and the political sphere, in relation to other spheres. Box 5 is replicated below for ease of reference.

Box 5: Icons and criteria used to identify the most important sub-themes that emerged from the interview results.

-  Sub-themes that were raised by more than 40% of respondents (i.e., at least six respondents)
-  Sub-themes that were highlighted as being unique to the African context
-  Sub-themes that are unique findings of this study with the potential to make a significant contribution

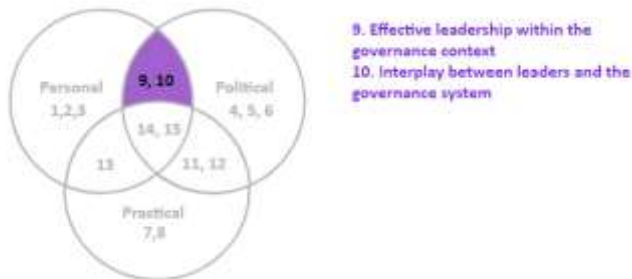


Figure 11: Graphical depiction of the intersecting Three Spheres of Transformation, highlighting the intersection between the personal and political spheres.

Table 10: Summary of emerging themes and sub-themes at the intersection of the personal and political spheres

Themes (2)	Sub-themes (7)	Link to the interview schedule	Number of respondents who highlighted the sub-theme
Effective leadership within the governance context	Multidisciplinary, interconnected thinking 🗨️	Questions 3 and 7	9
	Broad, meaningful engagement and collaboration 🗨️ 🌐	Questions 3 and 7	7
	Bureaucratically-savvy and politically astute	Question 3	5
Interplay between leaders and the governance system	Technical-political interface 🗨️ 🌐 ⭐	Questions 2, 3, and 4	10
	Changes in political leadership 🗨️ 🌐 ⭐	Questions 4 and 8	10
	Leadership deficit 🗨️ 🌐	Questions 7 and 9	6
	Resistance to change	Questions 4 and 7	4

5.5.1. Effective leadership within the governance context

This theme speaks to the kinds of leadership skills and approaches that are well suited to the political sphere (described above). It includes sub-themes relating to *multidisciplinary, interconnected thinking* and valuing *broad, meaningful engagement and collaboration*

(presented in more detail below). In addition, it includes being *bureaucratically-savvy and politically astute* to navigate the complexities associated with governance processes (Appendix 2).

Multidisciplinary, interconnected thinking

Enhancing connectivity across a broad range of sectors, actors, and levels of policy-making was found to be a key challenge that needs to be addressed by climate leadership (Stiller & Meijerink, 2016). This enables leaders to strengthen climate governance by breaking down silos across key climate change sectors such as energy, waste, transport, water, etc. (Respondents A, B, C, D, E, H, J, L, M, and O), as well as different institutional contexts – various spheres of government and the private sector (Respondent O). While this links to the sub-theme on *technical knowledge*, it also goes beyond this to include not only multidisciplinary knowledge but also a style of leadership that sees the connections between different actions and systems.

“Being able to talk outside of your own area of expertise or your own post in the government is important, and maybe having structures that allow you to do that to talk with other line functions and people doing other work is important.” (Respondent H)

“You would want someone [who] is able to connect the dots because this is not a one-dimensional issue. It touches a lot of sectors. In my view, it almost supersedes everything else...The kind of people that we need to be able to drive this agenda within local government are the people who have got a holistic view of the world, understanding how we are all interconnected.” (Respondent L)

Multidisciplinary, interconnected thinking is also critical as it supports the principles of equitable, inclusive, and participatory governance and supports the delivery of climate actions linked to developmental goals (Agrawal et al., 2022; Ruiz-Mallén et al., 2023). This is sometimes termed intersectional environmentalism (Respondent B), an approach to environmentalism that tackles a myriad of social injustices while protecting the planet. There has been a major shift in the climate change discourse over the last decade to include the social dimensions of the challenge.

“Being in this climate change space, having these conversations for the past ten years, it’s also seeing the evolving manner in which climate change is being discussed. Before, it used to be very scientific; this is what it is, and these are the changes that we are expecting, and this is what causes it. But as the conversations happen, we are bringing in more and more human, relatable issues, reasoning, and causes.” (Respondent J)

Strong climate leaders invest time in listening to others to ensure that they have a complete understanding of the problem and an appreciation of the perspectives and needs of different stakeholders (**Appendix 2 - open-minded and good listeners**) (Raelin, 2016; Harrison, 2018).

This helps them to communicate more convincingly as they can speak to the needs identified (Respondents D and M) (see *bold effective communication* in **Section 5.5.1.**). In addition to persuasion, advanced coordination skills are needed (Respondents A and B).

“It’s really about the know-how, the lack of capacity and direction, or not knowing where to begin and how to coordinate such a massive interdepartmental initiative on such a strategic level that involves changing the perspectives of others.” (Respondent B)

Broad, meaningful engagement and collaboration

Local government is unable to single-handedly achieve climate outcomes; therefore, collaboration and coordination with other stakeholders, including business, civil society, and other spheres of government, are critical (Taylor, 2017) (Respondents B, C, D, H, I, L, and N). Climate change leaders can bring stakeholders together to facilitate *partnerships* or cooperation (Respondent C). Collaboration with academia and civil society was also highlighted as key for advancing local climate agendas (Respondent D), as was the need to speak to people of different ages, races, and genders (Respondent I).

“It’s quite important for someone in this role to foster engagement, participation, who promotes awareness raising, and is very inclusive. You can’t institutionalise climate change without that.” (Respondent B)

“They play in different spaces...You’ll find them in an NGO engagement workshop. You’ll find them in a government meeting, you’ll find them with the community...they’ve got links with all of these sectors of society.” (Respondent L)

It is important for climate leaders to understand their municipality at a community level to fully make the connections between climate change impacts and the community across various sectors. This is achieved by going into communities and listening to the challenges they face (Respondent L).

For collaboration to be successful, support from senior leadership is needed.

“There are some people that are interested and want to engage with civil society and take things forward, but sometimes it gets to the level where it’s beyond your control, and you really need others in the room, and it is very difficult to secure...We’ve been in quite a few workshops and seminars with the general public, NGOs or academia, and the one thing we are hearing time and time again is that city leadership is hard to access. People are battling to access the city leaders here, and it’s creating big problems.” (Respondent H)

Consultative decision-making was highlighted as a unique characteristic of the Global South and Africa in particular.

"In Africa, leaders are much more about talking about things and going through a long process of everyone having their say, you say, you say, you say, and everyone...and then maybe it's not quite a democratic process. It's not like this, what the West holds up as democracy. It's more that everyone has a say, and then someone makes a decision, and it might not necessarily be a voted decision, but that's a decision...I think, on the plus side, that willingness to talk and to spend a long time talking is a very good thing." (Respondent H)

"The approach to engaging this is very prominent in the Latin American cities; they prioritise that and are very good at that." (Respondent I)

"In the Global North, it's more straightforward: we're doing this, let's do this and move. There's no time to talk. When an African leader is given an opportunity, five minutes of that opportunity will start with greetings. I recognise people, people must show that recognition that you have for people so all five minutes will go be it on greetings, how beautifully you have been looked after, the food that you are eating, and not because you don't have much to say but that is how you want to bring a gun on the table and convince them to work with you. So, in the end, the things that may seem to that you want to get diluted, whereas in the North you don't have that style to recognise others, I see you...you shoot straight, you will know what you want." (Respondent N)

It is important to acknowledge that while building broad support with a range of stakeholders is important, it may not be possible to convince everyone, and at times, leaders need to be willing to make unpopular decisions and face resistance.

"Good leaders, they will be willing to make unpopular decisions. An example shared was that of Mayor Sadiq Khan of London who has implemented a low-emission zone to cut emissions and improve air quality in the inner city. This decision has been met with much resistance, but despite that, Mayor Khan did not let it deter him from demonstrating climate leadership." (Respondent I)

5.5.2. Interplay between leaders and the governance system

This theme acknowledges that while leaders attempt to influence the governance system, they are also influenced by it. The sub-themes include the *technical-political interface*, *changes in political leadership*, and *leadership deficit* (discussed in detail below). In addition, the sub-theme *resistance to change*, describing the inflexibility that is borne out of the interaction between the personal and political spheres in city governments, is given some attention in **Appendix 2**.

Technical-political interface



Respondent A shared the view that climate change mainstreaming has more to do with the individuals in leadership positions than the governance system itself; this raises questions

about the potential effectiveness of training in imparting the necessary skills and knowledge. Most other respondents also emphasised individual characteristics important for mainstreaming, stating that leadership style is critical; however, the individual's skills, knowledge, and interests are equally important. They also emphasised the role of the governance system (Respondent B, D, I, K, L, M, N, and O). Respondent D acknowledged the importance of political support but emphasised the role of technical leadership in the absence of political interest and in ensuring continuity during times of political instability.

"Had we stopped, as the technical people in the last five years or so, we probably would have closed shop as climate change in the city because no mayor was going to ask anything about it...With great leadership at the technical level [executive director level specifically], you don't really need the mayor to advance climate change."

(Respondent D)

Those in high-ranking positions often have large areas of responsibility. While such leaders can issue a directive, it is unrealistic to expect a mayor or executive director to drive climate mainstreaming in the city daily. The climate change function is ultimately responsible for mainstreaming (Respondent G). Additionally, political leadership is dependent on sound technical leadership to provide the necessary support (Respondent H).

"The mayor of the city needs good support from the administrative line functions in whatever they're doing, climate change or whatever. If you don't have that it's very difficult to be a mayor and to provide leadership." (Respondent H)

There can sometimes be a disconnect between the political vision and the technical administration, which tends to favour incremental change. This relationship is key. Technical staff are motivated when they are consulted on decision-making and when political leaders prioritise the issues they care about (Respondent I). Respondents F and O emphasised that technocrats should wear both technical and political hats; beyond *technical knowledge*, they also need to consider the impact of their work on people and how they relate to political leadership. Pressure from political leadership can result in technocrats deprioritising strategic projects in favour of projects that demonstrate immediate, tangible results. This can thwart efforts to institutionalise climate change, with the focus shifting to small-scale projects like food gardens (Respondent O).

"We've had previous mayors who just bulldoze decisions and don't consult or do things that make you wonder why...Politicians can come in and speak visionary stuff but the administrators who are working in the system are a lot more kind of jaded by that because they sort of deal with the day-to-day stuff. So, they would like the slower sort of incremental change...new policies being developed, and everything to be thought out properly; they are a little bit more uncomfortable with uncertainty...the officials don't feel that the politicians really know what it takes to do those things, they don't have a sense of how things actually work, where the money is going to come from. " (Respondent I)

The link between leadership and climate change mainstreaming is especially critical for high-ranking positions such as the mayor, city manager and executive director in the context of local government and the chief executive officer in the context of the private sector (Pasquini et al., 2015; Rietig & Dupont, 2021) (Respondents A, B, and N). The importance of this is further explained under the theme of *bureaucracy and hierarchy* (Section 5.3.1.) and links to the theme of *changes in political leadership* below. Political buy-in is crucial for gaining support from other departments in the city.

“The relationship and interaction between politicians and the technical, administrative level is quite critical....departments in the city, they see climate change as an extra responsibility and therefore do not give themselves time to do it, because they’ve got many other things that they perceive as service delivery to do so you need to persuade leaders at a political level for things to be done.” (Respondent N)

Another challenge noted is that sometimes mayors can become climate champions; however, that does not necessarily mean that it filters down to the senior leaders within the administration; this is a key risk for continuity.

“From a political point of view, the mayor is saying that climate change is a priority. The conversation, it’s so high level that there is such a gap between the political leadership, and then there’s so many layers of everyone else, and then there’s the climate change specialist. So, everyone else in the middle has no idea...” (Respondent J)

Political leaders are sometimes threatened by strong technical leaders, especially if the technical leaders worked well with another political party prior to a political change (Respondent K).

“The political immaturity then affects the administration and institutions and then also kills off the champions at a personal level, the leaders and the people who want to see things happen. Often, those people are seen as threats by the politicians. So, if somebody is passionate and committed to seeing whatever initiative they are championing through and they have the support of their colleagues, and everyone else wants to see it happen, they are seen as a political threat. And the thing that then transpires is. ‘Oh, we would like to move this person’ or ‘Let’s frustrate this person so that eventually they move’, and the politicians are happy, but then the work suffers, and the officials are demotivated.” (Respondent K)

It can be difficult for technical staff to gain access to political leaders, and there is little opportunity for engagement. Technical leaders may be afraid to challenge the plans political leaders have and are, therefore, missing opportunities to embed climate change.

“...They don’t really give you much time; there’s never any time to convince them to do anything...” (Respondent N)

“Those that are leaders, they don’t want to challenge politicians. Politicians always have their own agenda based on their constituencies, but it’s for them at a technical level to say, ‘Hang on, can’t we do this in a sustainable way?’ In a way that is proactive and avoids climate impacts, not only to manage a situation when there is a disaster.” (Respondent N)

Changes in political leadership



Local government is characterised by far higher rates of political instability than other spheres of government. Changes in leadership can have a destabilising impact on municipalities. Climate change mainstreaming is strengthened by political stability (Pasquini et al., 2013). These changes can significantly impact a city’s climate agenda, positively and negatively, and have budgetary implications (Respondents A, B, I, and K). Respondent H described the political space as “messy”, emphasising the unpredictable nature of politics in local government. This unpredictability is driven by coalition politics being unstable (Respondent O). Changes can also impact the perceptions and morale of technical staff, often leading to a greater focus on short-term *service delivery* projects that have a visible impact (Respondent A). As new administrations seek to deliver on their election promises and distance themselves from projects popularised by the previous administration to show that they have a new vision for the city, more strategic issues such as climate change may fall down the agenda (Respondents A, B, I, K, N, and O).

“You’ll have plans; take Joburg, for instance, with the Rea Vaya and Corridors of Freedom. That was a brilliant programme, but because it was by a different mayor, when the new mayor came in, he was like, no, we are parking this Corridors of Freedom, we are focusing on rooting out corruption, which is good, it’s a good initiative but why can’t you do both? Go root out corruption and continue with the wonderful Corridors of Freedom Programme. Today, we have unfinished bus stations across the city, along the Louis Botha corridor specifically, and it’s so unfortunate to see and to think a different outcome could have been had if there wasn’t this political immaturity.” (Respondent K)

“...That’s local government. We’re in that space now of coalition politics, and it’s a huge barrier...when you have changing priorities, and you’re not certain what your budgets end up being, people don’t want to take on new work, they don’t want to hear about, ‘Ok, we need to change the way we spec our engineering designs for our roads’ and things like that. Those changes seem to be too big. So, you end up dealing with the most important issues [referring to service delivery], and you know, climate change really takes a backseat on that.” (Respondent O)

“Every party comes in with its own manifesto, and that manifesto has to be implemented. So if you have got changes, regular, rapid changes in the administration, that means you get interruptions every time. So, as soon as you gain

momentum on a project or a programme that you are delivering, then there's a need to pause because you will be challenged to say, but now, this is not what we need."

(Respondent N)

Political changes also impact the technical administration as heads of departments are politically appointed and are, therefore, only offered five-year contracts linked to the electoral cycle. Political changes can result in these positions remaining vacant for some time (Respondents D and G), and this can really hinder progress as other staff are reluctant to [make] decisions (Respondent J). Political instability can also disrupt governance processes and compromise the effectiveness of climate change structures

"We set up our own climate change committee with the mayor, but it's not a section 79 committee, it's not legally mandated. And it's literally because the mayor really wants to drive climate change and it has in the last sort of six months since the local government elections. We haven't met because of all the political upheavals in the city." (Respondent H)

Given that political changes in local government are frequent, managing political transitions is a key strategy to support climate change institutionalisation. Ensuring continuous political buy-in for climate projects can be very challenging. The responsibility for this generally falls on the climate change function at a technical level (see *technical-political interface* above) (Respondents A, D, H, and N). Ideally, political support should be secured in the first year of a new administration to allow sufficient time for implementation (Respondent A). Issue framing (**Section 5.2.2.**) is a key tool to demonstrate how climate change aligns with the priorities of the new administration (Ziervogel & Parnell, 2012; Mukheibir et al., 2013). Another strategy relates to integrating climate change into strategic and sector plans and decision-making structures to ensure that climate action is rooted within the technical administration and is less susceptible to political change. It ensures that climate projects stay on track despite political changes (Respondents G, M, and N).

"When you have mainstreamed, whether there is political leadership change or not, the water sector will remain with climate change elements in it, same for infrastructure and every other sector. Even if there are shifts in priorities within a sector of new ways of doing things, when there has been mainstreaming, the implementation will remain." (Respondent G)

On a positive note, in several cases, *changes in political leadership* from one party to another have not resulted in cities rescinding their climate commitments. Individual projects might have suffered, but the high level of commitment has remained in place through political transitions between the ANC and the Democratic Alliance in the Cities of Tshwane, Johannesburg, and Ekurhuleni. In South Africa, climate change is a less divisive issue politically (Respondents D and J).

Leadership deficit



"I think it's well known that we have a leadership deficit in South Africa. We don't have enough leaders stepping up and fighting for what's right." (Respondent M)

Given the inadequate climate response, not only locally but globally (Mills-Novoa & Liverman, 2019), acknowledging the role of leadership means admitting that leadership is lacking. This is quite a negative statement to make, and it may be easier to rather blame the lack of progress on more commonly cited barriers such as lack of capacity, finance, and political will. These issues, however, are still ultimately rooted in leadership (Respondent B). This was contradicted by others who stated that there is a broad understanding in local government that leadership is lacking, but no one is really sure what to do about it (Respondent D). Supporting the *leadership deficit* claim, Respondent H cited examples of leaders undermining legislated governance structures and unlegislated structures set up to institutionalise climate change, and Respondent K shared his view that African leaders are not of the same calibre as leaders in the Global North, the only expectation mentioned was President Kagame of Rwanda.

As mentioned under the sub-theme *international climate negotiations*, there is a need for African leaders to exert more influence globally. There needs to be a shift away from victimhood and a recognition of African approaches and solutions.

"I think we are not showing up enough, and we are not bringing the best parts of ourselves to the conversation, and we are going with a victim mentality, with a beg and bow mentality. Yes, we do want the Global North to be accountable in terms of their contribution to what the global crisis of climate change, but we cannot leave the space and say they must give us the money, they must give us technology... We've got so much that we can offer as well. Our connection to the land, to the biodiversity, and the richness of our continent in terms of biodiversity and some of the solutions that can come from there. But often that is not what we are going with into these global negotiations and these global platforms." (Respondent L)

5.6. Political-practical

The political and practical spheres also revealed some overlaps and is discussed in the section below. The overlap largely represents the need for practical interventions to align with the political vision, best captured by Respondent I.

"Probably those things that hit the sweet spot of the political vision but also practically implementable...those things that score political points." (Respondent I)

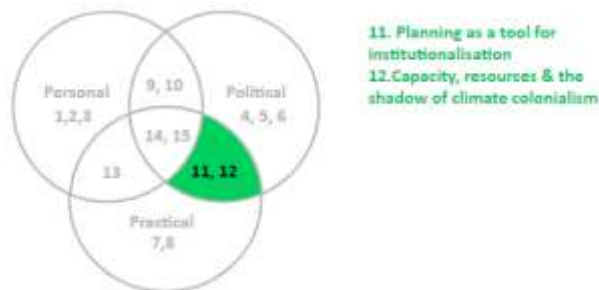


Figure 12: Graphical depiction of the intersecting Three Spheres of Transformation, highlighting the intersection between the political and practical spheres

Figure 12 above highlights the intersection between the political sphere and the practical sphere, in relation to other spheres. The themes in this section emphasise how the governance system supports or hinders implementation through planning, allocation of *city budgets*, and *human resources*. The reliance that Global South cities have on Global North funding and the mistrust that exists is also highlighted. The most prominent sub-themes are highlighted in green in Table 11 and are discussed in detail; the remaining themes can be found in **Appendix 2**. Three uniquely African sub-themes emerged: *financial resources*, *human resources*, and *mistrust between the Global South and the Global North*. Box 5 is replicated below for ease of reference.

Box 5: Icons and criteria used to identify the most important sub-themes that emerged from the interview results.

-  Sub-themes that were raised by more than 40% of respondents (i.e., at least six respondents)
-  Sub-themes that were highlighted as being unique to the African context
-  Sub-themes that are unique findings of this study with the potential to make a significant contribution

Table 11: Summary of emerging themes and sub-themes at the intersection of the political and practical spheres

Themes (2)	Sub-themes (5)	Link to the interview schedule	Number of respondents who highlighted the sub-theme
Planning as a tool for institutionalisation	Climate change plans	Question 8	5
	Influencing sector plans	Question 8	5
Capacity, resources, and the shadow of climate colonialism	Financial resources  	Questions 7 and 8	12
	Human resources   	Questions 4, 7, and 8	12
	Mistrust between the Global South and Global North  	Question 9	3

5.6.1. Planning as a tool for institutionalisation

Several municipalities, including Durban, Cape Town, Johannesburg, Ekurhuleni, and Tshwane, have formulated comprehensive *climate change plans* that connect climate change to essential *service delivery* functions such as energy provision, water supply, public transport, and waste management services. These plans have been developed through extensive consultation with various stakeholders and city departments responsible for implementation. The aim is to institutionalise climate change by elevating its importance within the city, fostering commitment across departments, and establishing sector and city-wide climate targets (see **Appendix 2** or more on the *climate change plans* sub-theme). The second sub-theme relates to *influencing sector plans*, a strategy used to ensure that climate change is acknowledged as a cross-cutting issue rather than an isolated environmental concern. The success of this strategy depends on establishing strong relationships with sector departments (**Appendix 2**).

5.6.2. Capacity, resources, and the shadow of climate colonialism

Climate colonialism refers to the expansion of foreign domination by initiatives that respond to climate change, particularly Global North interests dominating Global South nations (Mahony & Endfield, 2018). One of the ways it manifests is through the aforementioned *mitigation bias*. Since adaptation to climate change primarily addresses local risks, rich countries perceive no direct benefit from assisting poor countries in building resilience and adapting to climate change.. “From the perspective of self-interest, the incentives for rich countries to assist poor countries to adapt are weak” (Barrett 2007, p. 5). Climate change mitigation, on the one hand, generates global benefits. Supporting the adoption of low-cost

technologies in the Global South generates greater profit for Global North technology producers as they realise the economies of scale and reduce costs for their governments as well (Abadie et al., 2013). On the other hand, adaptation is more of a priority for the Global South.

"We do not need to push mitigation as we aren't as carbon-intensive; adaptation is more of a priority, as the Global South is more vulnerable." (Respondent B)

Financial resources



A global survey on climate change urban governance with responses from 350 cities reported that 78% of cities noted a lack of funding for implementation as a key challenge, and 67% note that a lack of funding affects their capability to hire the staff needed to support climate change projects (Aylett, 2014). Almost all the participants mentioned this need for finance (Respondents B, C, D, E, F, G, I, J, K, L, M, and N).

The lack of resources also tends to give rise to *mitigation bias* (**Appendix 2 - mitigation bias**) due to the associated cost savings and more established funding models, as well as interest from donors (Abadie et al., 2013). The dependence on international finance was highlighted several times, with some participants suggesting donors can influence the practical sphere (Respondents G, J, and K).

Speaking of development aid, "Money talks and money influences how you will do things...Many of us have bowed to the system because of the political influences, which [force us] to accept an approach in which donors dictate the agenda. Multilateral agreements are signed at a different level. So, by the time it gets to you, you get told what will be funded without getting a chance to indicate your needs. It's the political and management system which needs to be fixed." (Respondent G)

"But that money comes with caveats, strings attached...the international donor development sector coming and saying, 'Oh, we have the solutions, we know what you need to be doing because we know better'...just allow developing countries to do it the way they know best." (Respondent K)

Global South countries also 'need' to remember that Global North countries are getting something out of the "development aid"; they want to have a footprint in priority countries (Respondent G). Climate finance often comes in the form of loans and has little impact at a community level (Respondent J).

On a more positive note, some municipalities have stable institutions with money and resources and have significant buying power, which could support green procurement practices. Given their ability to access capital and their buying power, municipalities have the opportunity to invest in technologies that smaller organisations or households would not be able to (Respondent I).

Human resources

A lack of *human resources*, both in terms of skilled professionals and in terms of the number of staff, were named as key barriers to implementation (Respondents E, H, J, L, M, and O). In particular, smaller municipalities have limited opportunities to build capacity as they face challenges in accessing support from city network organisations and lack the dedicated capacity to drive the climate change agenda (Respondent H). One participant highlighted that *human resources* can also be seen as an enabler since municipalities have an opportunity to hire and motivate qualified staff (Respondent I).

While the capacity to implement climate projects in cities has improved, climate governance is lagging (Respondent H). Capacity constraints have led to a dependency on consultants. Limited funding and time constraints also perpetuate the traditional consulting approach where ‘experts’ develop knowledge without taking the time to ensure that it is internalised and has the intended impact (Respondents L and M).

“It doesn’t help for a city or a municipality [to] have a climate action plan, and that is to really just so grand [referring to the size of the document and technical nature of the content], it was developed by, at worst, by the consultants, and the capacity is not sitting within the municipality itself and without getting it [to] be relevant to the issues that the community is facing.” (Respondent L)

The need to further develop skills through training was highlighted by respondents K, L and M.

“I think that’s what’s missing, the training of climate leaders, those tasked with the responsibility of climate change in cities. That it’s all about the solutions that are written down, that are in your text books, research, and information that you have access to. It’s hardly about the person. So, what sort of neurological stuff is happening in your own brain? What kind of personality is required for that person to lead?” (Respondent K)

Human resource challenges to support climate action were seen as a uniquely Global South challenge due to resource limitations. There is a perception that capacity, teams, and leadership and climate governance arrangements in the Global North are more advanced (Respondents E, B, and J).

The administrative processes associated with *human resources* also need to be revised. Job descriptions are outdated and don’t include softer issues and better aptitude tests are needed (Respondent F). People who are interested in climate change may be unable to take action as they are limited by their job descriptions and those of their department (Respondent I).

Performance reviews need to include the right metrics so that key performance indicators support climate change implementation across different departments (Respondent A, B, F, J, K, M, and N). Due to the high level of accountability required in local government, performance management systems tend to be punitive, which has unintended negative

consequences (Lindsay et al., 2014; Franco-Santos & Otley, 2018). Two negative consequences were identified: firstly, punitive performance management processes result in a higher aversion to risk, which slows the pace of implementation and secondly, stifles innovation. The actions implemented tend to be tried and tested, thereby limiting the adoption of new, innovative solutions.

"I think, in general, there is a block to implementing projects [that] are new and [that] would require you to take some risk... You will find, in general, that climate change projects closely linked to business-as-usual happen much faster. For example, changing the size of stormwater pipes was very easy to do because you're doing the same thing, just changing the size. Whereas large-scale implementation of renewables is taking very long even though economies of scale are fine, and the pay-back period is only three years. The evidence is there, but people are still nervous to do it because it's new and there is greater risk involved. It stifles innovation; people are so scared to put anything of ambition in those silly things [referring to city plans which contain key performance indicators], and so nothing gets done." (Respondent E)

"There's an aversion to uncertainty and change, and that's the mentality and local government. Responding to climate change can't keep pursuing this risk-averse approach where everything needs to be made certain before you will take action. I think we need to be willing to make some mistakes. I think local government is not conducive to making mistakes... Officials get their fingers burned, you know, when they try different things, and it shouldn't be like that. They should rather embrace those failures as a source of learning." (Respondent I)

While little is known about the performance measures in place for political leadership, if any, opposition politics means that no failed attempts at innovation go unpunished, meaning that both technical and political staff operate within a punitive system (Respondent F).

Given that the Performance Management System is highly regulated but does not explicitly require municipalities to monitor the implementation of climate change projects (One World, 2018), mainstreaming climate change into the Performance Management System is key (Respondents L and J).

"Everyone is working in silos, and it's purely because within our KPIs [key performance indicators] in the municipality and the different departments, we haven't mainstreamed climate change." (Respondent J)

The performance management system is seen as a key opportunity for climate change institutionalisation, which is a strategy some champions are employing. Embedding climate change indicators into the system ensures strategic alignment with the municipality's activities (Respondents J, L, and M). Key performance indicators are highlighted as essential

in low-capacity municipalities and well-capacitated governments to drive action and measure success in climate change initiatives (Respondents J and M).

Mistrust between the Global South and Global North

Climate colonialism is also fuelling *mistrust between the Global South and the Global North*. This mistrust has resulted in climate scepticism, which is hindering the rate of response in the Global South.

“I’ve had some interactions with CFOs [chief financial officers], and what they said was, you know, climate change is more of a foreign concept where colonisers want to retain control of our resources, and then they want to extract those resources and live and yet discouraging us [from using] the resources that we’ve been using for a very long time... [They say] we have got our own issues, let African problems be addressed by Africans in an African way. It becomes a blockage...” (Respondent N)

“What it’s done is actually just dig us into a deeper hole. You know that we are closing down a couple of our [power] stations because we are trying to move away from coal. What we are not closing down are some of the coal mines. Because we are still exporting coal, we are still supplying Germany with coal. It’s those sorts of things. They have so much of a say because of how much we need their money...It’s so sad when you say it out loud.” (Respondent J)

“But I think it’s that level of trust that is lacking between the north and the south that will see us in this ongoing hamster wheel...we will be in this continuous cycle unless there is trust in how the funds can be utilised.” (Respondent K)

Furthermore, mistrust influenced by colonial histories is also compromising the negotiating positions of Global South countries at COP.

“It’s put us in a position where negotiating is never going to be easy because we are so dependent on them [Global North countries]...We are reporting to them to get their approval, to get what they say we are doing right and what we are doing wrong and how we are going to meet their standards. And I really think that there is a need for Africa or the Global South to come up with our own measurements, our own reporting platforms which understand our landscape...it will probably serve us better.” (Respondent J)

5.7. Personal-practical

One theme links the personal and practical spheres. The practical sphere can be a source of *motivation* to leaders as practical actions show what is possible and can inspire bigger changes. Being open to embracing opportunities as they emerge (*opportunism*) is a leadership characteristic that can lead to progress in the practical sphere (Table 12). These two sub-

themes are described in **Appendix 2** as neither met the criteria described in Box 5, replicated below for ease of reference.

Box 5: Icons and criteria used to identify the most important sub-themes that emerged from the interview results.

-  Sub-themes that were raised by more than 40% of respondents (i.e., at least six respondents)
-  Sub-themes that were highlighted as being unique to the African context
-  Sub-themes that are unique findings of this study with the potential to make a significant contribution

The lack of results is in itself an interesting finding, as there are few direct linkages between the personal and practical spheres in the context of climate change institutionalisation in local government. This may be owing to the dominance of the political sphere. In other settings, such as one's personal life, there may be greater linkages between personal beliefs and actions (as described in **Section 5.2.3.** under the theme *passionate, inspirational and resilient*). Figure 13 below highlights the intersection between the personal sphere and the practical sphere, in relation to other spheres.

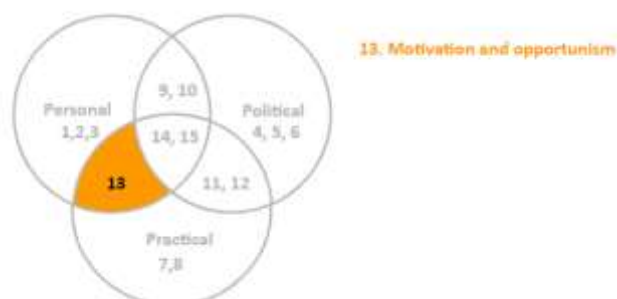


Figure 13: Graphical depiction of the intersecting Three Spheres of Transformation, highlighting the intersection between the personal and practical spheres

Table 12: Summary of emerging themes and sub-themes at the intersection of the personal and practical spheres

Themes (1)	Sub-themes (2)	Link to the interview schedule	Number of respondents who highlighted the sub-theme
Motivation and opportunism	Implementation is a motivation	Question 5	2
	Taking opportunities as they come	Question 5	1

Having explored the intersections between the Three Spheres of Transformation, the penultimate section in this chapter looks at the intersections across all Three Spheres of Transformation.

5.8. Transecting the Three Spheres of Transformation

A few themes and sub-themes cut across more than two Spheres of Transformation and, therefore, do not neatly fit into the previous sections. These results are presented in Table 13 below. The first theme summarises feedback from participants on how the Three Spheres of Transformation interact with each other and some ideas on how the conceptual model could be presented differently. The second theme collates sub-themes that influence all Three Spheres of Transformation. Figure 14 below highlights the intersection between the personal sphere, the political sphere and the practical sphere, in relation to other spheres. Box 5 is replicated below for ease of reference.

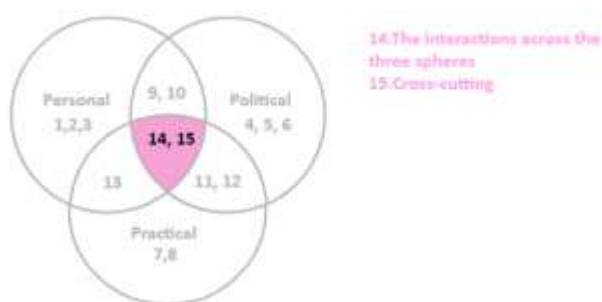


Figure 14: Graphical depiction of the intersecting Three Spheres of Transformation, highlighting the intersection across the personal, political, and practical spheres

Box 5: Icons and criteria used to identify the most important sub-themes that emerged from the interview results.

-  Sub-themes that were raised by more than 40% of respondents (i.e., at least six respondents)
-  Sub-themes that were highlighted as being unique to the African context
-  Sub-themes that are unique findings of this study with the potential to make a significant contribution

Table 13: Summary of emerging themes and sub-themes transecting the Three Spheres of Transformation

Themes (2)	Sub-themes (6)	Link to the interview schedule	Number of respondents who highlighted the theme
The interactions across the Three Spheres of Transformation	Interdependent 	Question 6	2
	Dissonance 	Question 6	2
	Reordering	Question 6	1
Cross-cutting	Differences between the Global South and the Global North   	Question 9	8
	Unhealed nation   	Question 6	6
	City networks	Questions 3 and 8	4

5.8.1. The interactions across the Three Spheres of Transformation

This theme has three sub-themes. The first describes the *interdependent* nature of the Three Spheres of Transformation, and the second speaks to the *dissonance* that results in a misalignment between the vision leaders put forward and implementation on the ground. The final sub-theme suggests that the Three Spheres of Transformation be reordered to place greater emphasis on the political sphere (**Appendix 2**).

Interdependent

The emergence of leaders and the establishment of supportive structures mutually influence and depend on each other.

"In fact, it's so interdependent that I don't think you can pinpoint a starting point; that's how interdependent it is...If people had a voice and they could influence politics that would be great, as much as if politics could influence how things work for the people. You can't say where it starts, and you can't say where it stops." (Respondent J)

"It's almost like it's a chicken and egg situation – Did the leaders emerge because there was an environment in which they could step up and showcase their leadership? Or did the leaders drive the establishment of these structures? I think, ultimately, both are needed. You need those individuals, but you also need the system in which they are able to be the leaders that they are. Because these types of people will easily get frustrated and leave if they're not given an environment where they can flourish and live out their strategic ideas." (Respondent M)

Dissonance

A key limitation to climate action is the disconnect between the personal, political, and practical spheres (Respondents E and F).

"You may get political support but then when it comes to putting money where their mouth is, there's a disconnect. The systems aren't set up to enable that next level of practical transformation. A lot of the [time], you'll have politicians saying, 'Yes, yes, climate change, we support it'. For example, in Durban, the climate action plan was approved. But when you delve down into what was approved, it was a plan, which didn't have any budget attached to it, with no thinking around how this is going to be implemented. It was basically approved to tick a box that it's been approved." (Respondent E)

It is common for regulations and policies to conflict with the interests on the ground, implying that leaders are not adequately able to translate the interests of communities into the political sphere, which impacts the practical sphere. Policies and plans are very high level, often resulting in details that are then needed to move from the planning phase into the practical sphere. There is a lack of flexibility, which means that local government is also not able to respond to changes with ease (Respondent F).

5.8.2. Cross-cutting

Throughout the interviews, participants contrasted various realities in the Global South with those of the Global North. A second recurring cross-cutting theme was South Africa's legacy of apartheid and the ongoing redress influencing leadership and governance. The final cross-

cutting theme relates to the role that *city networks* are playing in supporting urban leadership globally and supporting climate change institutionalisation and implementation (**Appendix 2**).

Differences between the Global South and Global North



Most respondents noted that leadership and governance in the Global South differs greatly from that of the Global North. Reasons cited include cultural differences, different challenges, different levels of interest from the public, years of democracy, and differences in finances and capacities. (Respondents A, B, C, E, H, N, and O). Despite these differences, there seems to be a consensus on the importance of climate action and prominent global mayors across the North-South divide are seen to be “singing from the same hymn book” (Respondent D).

“The global North leaders tend to be maybe a bit more charismatic and well informed, taking a local and global perspective. They can say these things and act on them with relative safety. [It] requires a lot more boldness, audaciousness for someone in a developing country to say, ‘let’s take action’.” (Respondent I)

Despite many differences, similarities were raised; for example, both African and American city officials face challenges when trying to transition towards renewable energy due to national government regulations, which serve as a barrier.

Unhealed nation



Post-apartheid South Africa is still grappling with the inequalities of the past, and meaningful redress is yet to be realised. The “gap between the theory of a rainbow nation and the reality can only be closed once the structural and economic legacy of apartheid is addressed, which requires multiple reconciliation processes at multiple levels” (Mokoena, 2019, p. 6). Persistent inequality has resulted in vast differences in lived experiences, opportunities to gain knowledge, and personal aspirations (Respondents B, E, I, and O).

“In the South African context, we have to realise that we are an unhealed nation. That filters down on the individual level. We have untransformed systems and structures post-apartheid. The impact of this cannot be stressed enough. People don’t realise how that filters into everyday life. It dictates a certain way of doing things [and] how bureaucratic things are.” (Respondent B)

“There is a tendency for climate people to be, maybe it’s changing now, but historically, it’s tended to be white privileged people who have that commitment, so that worldview limits what is possible, not as a criticism but, you know, your unconscious biases...” (Respondent I)

“How do you get the people who hold the knowledge? And often, this is, it’s divided on racial lines, economic lines; people who are fortunate and who have the knowledge. How do you get that knowledge? Not just the knowledge, but then the next step, the influence into the system, because otherwise, it just looks like this

environmental movement that people are pushing for. And I think nature has been used in the past to separate communities. So, there's a lot of scepticism – How do you come across as genuine?” (Respondent O)

“People working in local government [compared to sustainability experts in non-government organisations and the private sector] tend to be from a previously disadvantaged background. Whereas people from a more privileged background have the time to philosophise about worldviews and belief systems. People from previously disadvantaged backgrounds aspire to own a house and a car to show that they have risen above the poverty they grew up in” (Respondent E)

These ambitions are sometimes misconstrued as a lack of commitment and passion for the cause; however, they are rooted in structural inequalities (Respondent E). Respondent O echoed a similar perspective relating to meat consumption.

Most South Africans are living in poverty and are desperate to improve their circumstances, which can detract from their worrying about climate change, which is often perceived as a longer-term threat (Respondents A, J, and K).

“You can’t think about climate change when your children are starving. If you don’t have enough money to satisfy your child’s needs today, you’re not thinking about how climate change is going to affect their future” (Respondent A)

5.9. Conclusion

The results presented in this chapter reiterate the important interactions between leadership (the personal sphere), how leadership can influence governance systems (the political sphere) and vice versa, and how such influence can either help or hinder the implementation of climate actions (the practical sphere). Given the hierarchical nature of local government, top-down leadership is critical for the institutionalisation of climate change. Emergent, bottom-up leadership should, however, not be overlooked and can help to sustain momentum, particularly during times of political instability or times when political will is lacking. A key benefit of institutionalising climate change is that implementation becomes less dependent on the personal sphere and more embedded within the governance system.

It is clear from the findings that inspiring and mobilising leadership, as well as influencing governance systems, takes skill, tactics, and strategy – ‘design thinking’, knowledge, time, and dedication. Climate champions have several characteristics in common: they tend to be technically knowledgeable, passionate, optimistic, brave, strategic, and strong communicators. They share a worldview that transitioning towards a low-carbon climate-resilient future is not only necessary but within reach. They utilise several strategies to influence others and influence decisions, budget allocations, governance structures, processes, and plans to prioritise climate change considerations.

Given that the research focused on local government in South Africa, it offers insights into leadership and governance in the Global South context, which was found to differ significantly from the Global North in terms of capacity, resources, and priorities.

The results are discussed in more detail in the following chapter by drawing on the literature from **Chapters 2 and 3** and linking back to the research aim and objectives outlined in **Chapter 1**.

Chapter 6: Interpretation of the Results

6.1. Introduction

The current study aimed to understand leadership traits and strategies that may help to facilitate the institutionalisation of climate change considerations into local government planning and decision-making. In this chapter, the overarching aim of the work is revisited by explaining the meaning and significance of the research findings, the extent to which they support or contradict the existing body of knowledge (**Chapters 2 and 3**), and the insight they offer in relation to the research objectives stated in **Chapter 1**.

The chapter opens with an interpretation of the key findings (**Section 6.2.**), starting with a reflection on the Three Spheres of Transformation and how they intersect (**Section 6.2.1.**). Next, the barriers faced by climate champions and the strategies they employ to institutionalise climate change are discussed (**Section 6.2.2.**), followed by reflections on how climate change leadership and governance differ in the Global South compared with the Global North (**Section 6.2.3.**). The chapter closes by outlining the limitations of the research (**Section 6.3.**).

6.2. Interpretation and discussion

6.2.1. Reflections and intersectionality of the Three Spheres of Transformation

The Three Spheres of Transformation (O'Brien and Sygna, 2013) provides a useful heuristic and conceptual framework to guide the research. While useful, the model presented as concentric circles, inadequately capture the complexity and interaction that emerged from the interviews. Based on the results, it is clear that the three spheres are not only *interdependent*, but they also intersect. While not visually represented in the original heuristic, the authors do acknowledge that the three spheres are connected and interrelated (O'Brien et al., 2023). The value of the current study is that it demonstrates some of these critical connections by explicitly describing how each sphere interacts with the other in particular as informed from a southern African 'gaze' and experience. This research also demonstrates how the model can be applied as a tool of inquiry to a specific local context and the value of such an application in understanding the role of leadership in effecting institutional change to support climate action implementation.

Leadership and institutions

Leaders shape the institution, but their behaviours are also shaped by institutional constraints (**Sections 5.3.1., 5.3.2., 5.5.1., 5.5.2.**). This finding is well supported by the literature (Faling et al., 2019; Scoones et al., 2020). The strategies they employ to institutionalise are

underpinned by their personal characteristics, be it knowledge, skills, or attributes. For example, *bold, effective communication* (**Section 5.2.2.**) and *multidisciplinary, interconnected thinking* (**Section 5.5.1.**) emerged as top skills required for effective city-level climate change leadership. These skills support issue framing, which was one of the most prominent strategies (**Section 5.2.2.**). The success of issue framing lies in linking climate change to institutional constraints, emphasising how climate action links to issues that voters care about (**Section 5.2.2.**), the core mandates of sector departments (**Section 5.4.1.**), and political priorities (**Section 5.5.2.**). In this way, issue framing also helps to break down silos and promote cross-departmental collaboration (**Section 5.3.1.**). Similarly, embodying the spirit of *Ubuntu* positions leaders well to understand *broad, meaningful engagement and collaboration* (**Section 5.5.1.**) and deliver climate actions aligned with the *community-driven* (**Section 5.3.2.**) nature of local government and is linked to *service delivery* (**Section 5.4.1.**).

Strategies are also crafted to overcome disabling characteristics of the political sphere (discussed further in **Section 6.2.2.**). Strategies refer to the institutional work undertaken to create, maintain or disrupt institutions (Lawrence et al., 2011) (discussed in **Section 2.3.1.**) This interaction between the personal and political spheres ultimately defines the practical sphere, i.e., the actions prioritised for implementation. This is a critical finding as it confirms that, indeed, leadership styles are better suited to facilitating climate change institutionalisation within the context of city governments in South Africa.

Leadership styles, characteristics and other features

The leadership styles identified as the most relevant to climate change in the literature (**Section 2.2.3.**) certainly align with the research findings. *Multidisciplinary, interconnected thinking* resonates with Complexity Theory; *broad, meaningful engagement and collaboration* underpin Integrative Theory; *passionate, inspirational, and resilient* and *bold, effective communication* both align with Transformational Leadership Theory; and Policy Entrepreneurship Theory links to being *bureaucratically-savvy and politically astute*. A somewhat surprising finding is that the leadership theory that offers the greatest explanatory power in the context of local government is, in fact, Contingency Leadership Theory (Box 1, **Section 2.2.2.**). It suggests that effective leadership is contingent upon matching the leader's style to the specific characteristics of the situation and that the best solution to a problem depends on a range of factors, including the people involved, the stated goals, technology availability, and the wider organisational and societal context (Nawaz & Khan, 2016). This context is especially important because local government is characterised by frequent political changes (**Section 5.5.2.**). The dynamic landscape requires leaders who are adaptable and capable of applying their strategies for institutionalising climate change to new contexts. Additionally, leaders must be able to ensure that climate change finds resonance within the local specificities of the city's ever-evolving biophysical, socio-economic, political, and policy contexts (**Section 3.3.1.**).

The role of leadership is even more critical when climate change has not yet been embedded within the city's plans, strategies, regulations, budgetary processes, performance management systems, and decision-making structures. Top-down leadership is critical in these circumstances, as political will is needed to support the institutional change required to embed climate considerations. Once institutionalised, the role of top-down leadership is diminished somewhat as the governance system and bottom-up leadership are well positioned to ensure a continued prioritisation of climate change initiatives through institutional inertia unless deliberately altered. This is best captured by Respondent G.

"When you have mainstreamed, whether there is political leadership change or not, the water sector will remain with climate change elements in it, same for infrastructure and every other sector." (Section 5.2.2.)

An official from one metropolitan municipality described how a period of strong political will was followed by a period of no political interest after a new political party came into power and how technical leaders were able to sustain progress by building on opportunities that were realised during the previous administration (Respondent D). This is a compelling finding as it offers deeper insight into how top-down and bottom-up leadership interact with political cycles.

There has been limited research on the leadership characteristics needed to champion and institutionalise climate change within local governments, especially in Africa. The research makes a strong contribution by identifying that *technical knowledge* of climate change is important (Section 5.2.1.), but *technical knowledge* alone is not sufficient; it must be complemented by *multidisciplinary, interconnected thinking* and being *bureaucratically-savvy* and *politically astute* (Section 5.5.1.) to understand and articulate how climate change relates to a range of developmental issues, political priorities, and public concerns (Section 5.2.2. and 5.4.1.). This finding echoes Roberts (2008), who emphasises the importance of understanding climate science to understand the implications of climate change at a local level. This way, climate leaders can appeal to technocrats, political leaders, and the public. *Technical knowledge* helps build the credibility and rapport needed for climate champions to engage outside their specialist areas, embrace multidisciplinary, and tackle more systemic issues relating to climate governance (Section 5.2.1.). This is an interesting and unique finding that warrants further investigation.

A lack of political support is often interpreted as opposing climate action, but this is not necessarily the case (Section 5.2.1.). Rather, this research has shown that it may be rooted in a lack of understanding of climate change, its impacts and solutions and can be overcome by strong communication and capacity building. This explains why *bold, effective communication* (Section 5.2.2.) and *broad, meaningful engagement and collaboration* (Section 5.5.1.) were found to be two of the most valuable skills a climate champion can possess, and issue framing emerged as one of the most impactful strategies (Section 5.2.2. and 5.5.2). It also aligns with many other research investigations, which suggest that a compelling case for climate action

cannot solely rest on emissions and risk reduction. Rather, climate action needs to be framed in line with socio-economic and developmental outcomes (Janetos, 2012; Bloomberg Associates, 2021) and political priorities (Ziervogel & Parnell, 2012; Mukheibir et al., 2013).

The research presented in this work also reaffirmed that the political sphere is characterised by *siloed structures and planning*, while climate change requires cross-departmental collaboration and *partnerships* with various stakeholders (**Section 5.3.1.**) (Roberts & O'Donoghue, 2013; Ziervogel et al., 2014). Furthermore, *competing developmental priorities*, the need to secure votes through *service delivery*, and the *community-driven* nature of local politics (**Section 5.3.2. and 5.4.1.**) make strong communication and *broad, meaningful engagement and collaboration* all the more important (**Section 5.2.2. and 5.5.1.**).

African leadership attributes

Ubuntu was identified as a key dimension of climate change response in an African context (**Section 5.2.3.**). African leadership is collectivist and people-centred, and strong climate leaders lean into this strength and ensure that climate change messaging shows inextricable links to socio-economic development rather than positioning climate change as an environmental issue. Scholars have highlighted the value of using the philosophy of *Ubuntu* to inspire sustainability thinking (Gwekwerere & Shumba, 2021) and argued that the ethical positioning of *Ubuntu* could address common global challenges such as climate change (Okoliko & David, 2021).

The results also emphasised the importance of senior leaders, such as the mayor, city manager, and executive director, demonstrating their support while underlining the critical role of bottom-up leadership in lobbying for support and ensuring continuity, especially during political change. The research offers deeper insights (**Section 5.5.2.**) into *the technical-political interface*, a topic scarcely covered in the literature.

Political buy-in was also shown to be critical for securing support from other sector departments within the city administration. There can be a disconnect between the political vision and the technical administration, with technocrats sometimes being critical of plans they deem unrealistic. Tensions can emerge when politicians do not consult technocrats before making decisions, when commitments are made at a high level but don't filter down to those responsible for implementation and when political leaders are threatened by or mistrust technical leaders (**Section 5.5.2.**). This finding, in particular, resonates with results from a Bloomberg Associates (2021) survey of 292 cities, which showed that 80% of cities indicated that climate change is an important issue for their mayors; however, this had not filtered down as only 69% of municipal departments and 50% of Chief Financial Officers reviewed across the globe viewed climate change as a priority. Of the cities that indicated that the mayor prioritises climate change, only 28% were implementing action at scale, demonstrating a significant misalignment between mayors serving as climate champions and

action materialising on the ground (Bloomberg Associates, 2021). This implies that directed mainstreaming (**Section 2.4.2.**), which relies on a top-down approach, may be less effective.

Due to the power dynamics inherent in the hierarchy, technical staff may also fear approaching political leaders, avoiding engagement (**Section 5.3.1.**). The interviewees also mentioned that gaining access to and securing time with political leaders is often difficult. They complained that political leaders undermined the effectiveness of governance structures and stakeholder consultations by cancelling their attendance with short notice (**Section 5.5.2.**). These challenges are not documented in the literature, offering unique insights and contributing to a nuanced understanding of political barriers (**Section 2.4.3.**).

Climate change and politics

Climate change is, not surprisingly, also inherently political (Eriksen et al., 2015; Nightingale, 2017); politics underpins all Three Spheres of Transformation, with political changes having far-reaching impacts. At a *personal level*, political change can demotivate technocrats as they fear progress will be lost (**Section 5.5.2.**). New political leaders are also guided by their ideologies and worldviews (Respondent A). At a *political level*, new priorities often emerge following a political change. It can also result in vacancies within the technical administration as Heads of Departments and the City Manager are politically appointed positions and are often removed from office at the start of a new political term. At a *practical level*, political change can also promote a focus on short-term *service delivery* initiatives at the expense of more strategic long-term projects (**Section 5.5.2.**). Navigating “messy” politics can be challenging for technocrats responsible for climate change (Respondent H) who tend to be trained scientists uncomfortable with dabbling in such spaces, preferring to fall back on technical solutions (Respondents K and O).

“This is such a messy space that we work in; politics is very, very messy.” (Respondent H)

“I think one of the main issues around it is the fact that it’s a very science-based sector; climate change starts with an environmental or scientific problem, and we try to understand it with that lens...” (Respondent O)

There can be a disconnect between the three spheres, which manifests in undelivered political promises, approved plans that are never implemented, and an inability to translate communities’ interests into practical action (**Section 5.8.1.**).

Incremental or transformational leadership – the best of both worlds?

Institutionalising climate change within local government was seen as an incremental process with the potential to result in transformational change (**Section 5.3.2.**), challenging the perspective that integration and transformation are paradoxical (**Section 2.4.1.**).

This perspective aligns with the continuous transformation approach to institutional change described in **Chapter 2 (Section 2.3.1.)**. The significance of incremental change has been highlighted in the literature: “Less dramatic than abrupt and wholesale transformations, these slow and piecemeal changes can be equally consequential for patterning human behaviour and for shaping substantive political outcomes” (Mahoney & Thelen, 2009, p. 1). Based on Mahoney and Thelen’s framework (2009), it is unsurprising that the political sphere within South African cities has given rise to a gradual mode of institutional change. The theory posited that institutional layering is the dominant mode of change in contexts where high veto powers exist and there is little room to interpret rules. In such settings, breaking or bending the rules can attract negative attention, resulting in initiatives being blocked. As a result, champions find that the most effective way to achieve their goals is by working within the system (Mahoney & Thelen, 2009) and ‘rocking the boat’ by introducing new practices and structures that seek to alter but not replace the existing institution.

The hierarchical nature of local government (**Section 5.3.1.**), the power dynamics that characterise the *technical-political interface*, particularly the influence politicians must appoint City Managers and Departmental Heads (**Section 5.5.2.**), and the punitive performance management systems (**Section 5.6.2.**) contribute to the context of high veto powers, giving rise to incremental change. This is further supported by the dominance of bureaucratic processes – any suggested reforms must fall within the remit of existing legislation and regulations (**Section 5.3.1.**). In this way, current choices are limited by past decisions, and institutional patterns are self-reinforcing, synonymous with the concept of path dependence (**Section 2.3.1.**) (Rixen & Viola, 2015). Policy decisions are, therefore, never made on a ‘blank slate’ (Raco & Street, 2012). Even for politicians who may not be subject to the power imbalances described, the fragility of coalition politics dominating South African cities has created an environment where the threat of a vote of no confidence is always looming. This has shifted the focus to short-term *service delivery* with more strategic endeavours, such as institutional reform, deprioritised. In such contexts, where decisions can be easily overturned and political will is lacking, it becomes necessary to build a solid evidence-based approach and rally support through broad engagements. It can also take time to secure the resources necessary to initiate implementation. For these reasons, the political sphere is, indeed, *geared for incremental change* (**Section 5.3.2.**). This echoes findings from Rennkamp (2019) which concluded that layering is the dominant form of institutional change in South African climate policy.

Transformation in city leadership – what role if any?

Referring to the Conceptual Framework for Transformational Adaptation (Figure 1, **Section 2.3.2.**), there have been notable policy shifts corresponding to the first domain of transformation, such as the Climate Change Bill (discussed further below) and the emergence of city-level Climate Action Plans (**Section 3.3.1.**). Innovation, corresponding to the second degree of transformation, is, however, prohibited by the punitive performance management systems in place (**Section 5.6.2.**). Lastly, there has been little progress in the third domain, which requires entrenched ideologies, structures, and power dynamics to be challenged and the root causes of vulnerability to be addressed (**Section 2.3.2.**) (Pal et al., 2019). Despite this, several respondents felt that transformation could be possible following an incremental approach (**Section 5.3.2.**).

6.2.2. The barriers faced by climate champions and the strategies they employ to mainstream climate change

Several barriers faced by climate champions emerged from the research, many of which resonate with the existing literature, as discussed in **Section 2.4.2.** (Mitchell et al., 2006; Pasquini et al., 2013; Uittenbroek, 2013; Cuevas et al., 2015; Runhaar, 2018; Robinson, 2019; Wamsler et al., 2020; Rogers et al., 2023). Given the socio-economic context in South Africa (**Section 3.3.1.**), climate change is not a priority for voters, and local governments have several *competing developmental priorities* to contend with (**Section 5.3.2.**). The public and politicians often perceive climate change as a far-off threat and don't see how it relates to the core of the municipality, that is, providing basic services to communities. Municipal leaders can overcome this barrier by utilising issue framing to demonstrate how climate change links to *service delivery* (**Section 5.4.1.**). Climate champions have collaborated with cities' communications departments and used the media to raise public awareness (**Section 5.2.2.**). Joining international *city networks* has helped to profile climate change and create opportunities for political involvement. *City networks* also encourage mayors to make public commitments, which can help to demonstrate leadership and draw attention to the issue of climate change internally and externally (**Section 5.8.2.**). Several personal characteristics were identified during the interviews that support these strategies – *technical knowledge* (**Section 5.2.1.**), *bold, effective communication* (**Section 5.2.2.**), *multidisciplinary, interconnected thinking, broad, meaningful engagement and collaboration* (**Section 5.5.1.**) and *bureaucratically-savvy and politically astute* (**Appendix 2**).

Given the highly bureaucratic and hierarchical nature of local government in South Africa, coordination and collaboration across different city departments can be challenging. Breaking down the silos is, however, critical for effective climate action and leaders have an important role for leaders to play in supporting cross-departmental collaboration (**Sections 5.3.1. and 5.5.1.**). A key strategy employed by climate champions has been to request to serve as members of established decision-making structures and legislated committees such as the Disaster Management Committee. This creates an opportunity for them to build relationships

with colleagues from other sectors, identify opportunities to integrate climate change within initiatives led by other departments and include items relating to climate change on the committee's agenda to help raise awareness and build support (**Section 5.3.1.**). A critical committee is the IDP committee, responsible for developing the city's short-term plan and revising the annual plans and budgets. Embedding climate change within the IDP was highly recommended by interviewees. Establishing new committees dedicated to climate change is another strategy for breaking down city silos; for example, Johannesburg has established a Climate Action Forum (City of Johannesburg, 2021) (**Section 5.3.1.**). Lastly, due to the prominence of the hierarchy, support from senior political and technical leaders is critical, and building this support by engaging with and capacitating leaders is a key strategy for institutionalising climate change (**Sections 5.5.1, 5.5.2., and 5.6.2.**). An example of this is the South African Local Governments Association's political induction training (**Section 5.2.1.**).

Climate change functions are often positioned within environmental departments, reinforcing the false message that climate change is purely an environmental problem. Environmental departments typically have neither the political clout nor the mandate to coordinate city-wide responses. Strategically situating the climate change function is a key opportunity to strengthen climate governance; ideally, the climate change function should be situated within the office responsible for strategic planning and coordination of city departments (**Section 5.3.1.**). This resonates with responses shared in other studies: *"It is a problem that climate change is housed within the Environmental Resources Management Department because it's always on the back foot, the mandate to address climate change should be housed in the City Manager's Office"* (Taylor et al., 2014, p. 64). An example of this is Cape Town's Resilience Office that happened to be established during a time of severe drought and helped to contribute towards the city's effective response. The Resilience Office is led by an Executive Director who reports directly to the City Manager with the authority to work transversally across departments (Ziervogel & Morgan, 2022). To motivate climate change to be positioned more strategically, leaders must be able to make a strong case for why climate change response requires cross-departmental coordination and should not be seen as an environmental problem. Motivating for such a change will require the courage to engage senior technical and political leadership and a willingness to embrace change.

The lack of current climate change legislation means there is currently no mandate to create an impetus to take action. As a result, *climate change plans* have historically suffered from low levels of implementation. It should be noted that on the 23rd of October 2023, South Africa's National Assembly passed the Climate Change Bill. The Bill is currently under consideration by the National Council of Provinces (Parliamentary Monitoring Group, 2024).

To address the legislative gap that currently exists, climate champions have employed several strategies. Issue framing was referenced by respondents as a powerful tool. Champions frame climate change as a developmental issue requiring cross-sectoral collaboration and tailor messaging to speak to the core mandate of different departments (**Section 5.2.2.**). Another successful strategy is identifying interested colleagues from other departments and building

their capacity to act as climate champions. As this is done voluntarily, it does have its limitations. A more impactful approach is to formally embed climate change key performance indicators within the scorecards of colleagues in other departments to secure their time in supporting climate action planning and implementation (**Section 5.6.2.**). This recommendation aligns with managerial mainstreaming highlighted in **Section 2.4.2.** Hiring dedicated specialists serving as climate advisers to sector departments could be very effective (**Section 5.6.2.**).

The depth of insight into the *technical-political interface* is one of the most valuable contributions of this study, demonstrating the complexities of leadership within local government. Rather than simply citing political will and political change as barriers, this study sought to identify strategies to overcome such barriers. The results emphasise that the institutionalisation of climate change depends on both technical and political leaders playing an active role and supporting each other. Managing the relationship between political and technical leaders is, therefore, crucial. The *technical-political interface* also exists in a state of flux with frequent *changes in political leadership*.

Managing the transition between political administrations is key to ensuring the continuity of climate initiatives. The research supports what is already well known: support from political leadership has a major impact on whether a city can prioritise a climate change response (**Section 5.5.2.**). The role of technical staff should, however, not be underestimated; they are responsible for the daily activities needed to support climate change institutionalisation. Their *technical knowledge, bold effective communication skills*, and passion underpin their ability to advocate for support from other departments and lobby for political support (**Sections 5.2.1., 5.2.2., and 5.2.3.**). They are ultimately responsible for ensuring the continuity of the city's climate change agenda. A key strategy has been approaching a new administration early on, demonstrating one's willingness to support their vision and demonstrating how the climate change response aligns with their priorities. Timing is critical to allow sufficient time for projects to be delivered before the end of the electoral cycle (**Section 5.5.2.**). Institutionalisation helps ensure continuity because climate change initiatives are less likely to be impacted by a political change if they are embedded within the city's strategic plan, budget, and sector plans (**Section 5.6.1.**) and if climate champions are already able to influence decision-making through the committee structures (**Section 5.3.1.**).

The lack of financial and *human resources* also emerged as a critical barrier directly impacting leadership and mainstreaming climate change into action. As climate change is not mandated due to the lack of legislation, it is unfunded. Under-resourcing has created a dependency on donor funds. Donor funds often have strings attached (discussed further below) (**Section 5.6.2.**). Two strategies proven successful are embedding climate change criteria within the city's budgetary process and ensuring that climate champions are represented within budget steering committees (**Appendix 2 – city budgets**). The City of Tshwane has successfully initiated climate budgeting. A key enabler is green procurement. Cities have substantial buying power, and aligning the city's procurement policy with its climate change objectives

can ensure that electric vehicles are purchased for the city's fleet and stormwater pipes damaged in flood events are replaced with pipes designed to withstand higher levels of inundation (**Section 5.6.2.**).

The lack of funding also impacts the allocation of *human resources*, and climate change functions face capacity challenges regarding the number of staff and the level of skills and knowledge. Donor funds are typically for what is termed 'technical assistance' – research, studies, plans, etc. – but donors are rarely able to hire staff or support implementation. The model of technical assistance relies on the appointment of consultants to deliver projects. This is problematic as the internal capacity to undertake the work is underdeveloped, and much of the knowledge gained is outside the municipality. This issue has far-reaching consequences for institutionalisation because knowledge that is not internalised cannot be institutionalised (**Section 5.6.2.**). Efforts to build internal capacity include establishing long-term *partnerships* with universities with a focus on co-delivery and knowledge transfer (Taylor et al., 2021; Vogel et al., 2021), participating in *city networks* to receive training and tools (**Appendix 2 – city networks**), delivering training to sector departments, embedding climate change champions within sector departments, and embedding climate change indicators within the city's performance management system (**Section 5.6.2.**).

6.2.3. Leadership capabilities

Building on the barriers leaders face and the effective strategies that can be employed to embed climate change within city government, attention now shifts to an interpretation of the tasks and leadership capabilities required to advance climate change institutionalisation. In **Chapter 2**, the distinction between leadership and management was made (**Section 2.2.2.**). The research findings highlighted that certain strategies required for climate change institutionalisation depend on management skills for example, managing *financial resources*, embedding climate considerations within performance management systems and procurement processes and monitoring and evaluating results.

Table 14 is derived from examining the specific tasks and best practices that help to enable climate action implementation based on a review and interpretation of city climate action plans, the broader literature (**Chapter 3**), and the key findings from this research. Where relevant, the icons from **Chapter 5** Box 5 (repeated below for ease of reference) are used in Table 14 below.

Box 5: Icons and criteria used to identify the most important sub-themes that emerged from the interview results.

-  Sub-themes that were raised by more than 40% of respondents (i.e., at least six respondents)
-  Sub-themes that were highlighted as being unique to the African context

-  Sub-themes that are unique findings of this study with the potential to make a significant contribution

Table 14: Tasks and leadership capabilities required to advance city climate action

Tasks to support climate action implementation	Leadership capabilities
Managing uncertainty: Making decisions based on the best available science (Sections 3.2.2., 3.2.3., 3.3.2., and 5.6.2.) (Mehta et al., 2019).	Adaptive and flexible leadership that embraces continuous learning, diverse stakeholder perspectives, and the ability to adjust strategies based on new information and changing circumstances (Sections 5.2.1. and 5.5.1. and Appendix 2 – open-minded and good listeners) (Susskind & Kim, 2022).
Climate change baselines and forecasts: Compilation of greenhouse gases inventories, mitigation scenarios and climate risk, and vulnerability assessments (Section 3.2.2.) (Pietrapertosa et al., 2019; City of Johannesburg, 2021).	Technical knowledge  to make sense of baseline studies and forecasts and apply it to decision-making (Section 5.2.1.) (Betsill & Bulkeley, 2007).
Vision setting: Defining a compelling and aspirational future state that guides and inspires actions and decisions related to climate change, including setting clear goals, identifying strategic priorities, and communicating a shared purpose to stakeholders (Section 3.2.3.) (City of Johannesburg, 2021; C40 Cities, 2023).	Visionary leadership that establishes clear goals, inspires collective action, and mobilises resources to drive transformative change towards a sustainable and resilient future (Sections 5.2.2. and 5.5.1. and Appendix 2 – strategic, visionary thinker) (Wilby & Vaughan, 2011).
Strategic planning: Developing climate change strategies and plans based on the latest available science, local context, and national and international commitments (Section 3.2.3.) (City of Johannesburg, 2021; C40 Cities, 2023).	Strategic leadership: Critical and analytical thinking, systems thinking, future-oriented mindset, creativity and innovation, decision-making skills, adaptability, and effective communication and collaboration (Appendix 2 – strategic, visionary thinking) (Ojogiwa, 2021).

Securing political support: Making linkages between climate change and political priorities to secure political support for climate responses (Section 2.4.3.) (City of Johannesburg, 2021; C40 Cities, 2023).	Political astuteness:    Effective communication, building relationships and coalitions, influencing and negotiation skills, strategic framing of the issues, showcasing the benefits and potential impacts, and aligning climate action with political priorities and interests. Navigating the complexities of the <i>technical-political interface</i> and changes in political leadership (Sections 5.5.1. and 5.5.2. and Appendix 2 – bureaucratically-savvy and politically astute) (Hartley et al., 2015; Van der Wal, 2020).
International diplomacy: Influence national policies, advocate for local perspectives, shape the global climate agenda, access financial support for climate actions, collaborate with peers worldwide, and gain recognition for their efforts in addressing climate change (Section 3.2.1.) (City of Johannesburg, 2021; C40 Cities, 2023).	Diplomacy skills to overcome mistrust:   Effective communication and negotiation skills, cultural awareness and sensitivity, strategic networking and relationship-building, knowledge of international climate agreements and policies, ability to advocate for local perspectives on the global stage, and the capacity to navigate complex political dynamics to secure financial support and collaborate with international counterparts in addressing climate change (Wamsler et al., 2020). Understanding <i>differences between the Global North and Global South</i> and building trusting relationships to support project implementation (Section 5.6.2.).
Climate financing: Attracting financing for climate action (Section 2.4.3.) (City of Johannesburg, 2021; C40 Cities, 2023).	Financial knowledge: Financial constraints   (Section 5.6.2.) are a key limitation, projects must make <i>financial sense</i> to be implemented  (Section 5.4.2.). Strong understanding of climate finance mechanisms and sources, effective communication and advocacy skills, strategic alignment of climate projects with funding priorities, ability to build <i>partnerships</i> and coalitions, financial acumen for project planning and budgeting, and the ability to demonstrate the economic and social benefits of climate initiatives to attract funding and investment (Samuwai & Hills, 2018; United Nations, 2022; UNFCCC, 2023).
Integrate adaptation and mitigation responses: Aligning efforts to reduce greenhouse gas emissions with strategies to enhance resilience and adapt to the impacts of climate change,	Multidisciplinary, interconnected thinking:   A holistic understanding of climate change science and impacts, systems thinking to identify synergies and trade-offs, strategic planning and decision-making skills, strong collaboration and coordination abilities,

ensuring a comprehensive and coordinated approach (Section 3.2.3.) (City of Cape Town, 2021; City of Johannesburg, 2021; C40 Cities, 2023).	proficiency in risk assessment and management, and the capacity to balance short-term mitigation actions with long-term adaptation strategies (Sections 5.2.1. and 5.5.1.) (Sharifi, 2021; C40 Cities, 2023).
Secure public support: Raising public awareness on climate change to build support for action and influence behaviour change (Section 2.4.3.) (City of Johannesburg, 2021; C40 Cities, 2023)	Community engagement:  Meaningfully engage with the public, linking climate change to <i>service delivery</i> issues (Section 5.4.1.), demonstrating compassion and <i>Ubuntu</i> (Section 5.2.3.), effectively convey complex scientific concepts in a clear and accessible manner, tailor messaging to diverse audiences, build awareness and understanding of climate change impacts and solutions, inspire action and behaviour change (Section 5.2.2.), engage stakeholders through inclusive and participatory processes, and navigate potential resistance or scepticism by fostering dialogue and addressing concerns (Section 5.5.1.) (Moser, 2016)
Innovation and learning: Actively seeking and adopting new technologies, policies, and practices and documenting lessons learnt (City of Cape Town, 2021; C40 Cities, 2023)	Fostering a culture of curiosity and experimentation: Encouraging interdisciplinary collaboration, embracing a growth mindset, facilitating knowledge-sharing and collaboration, leveraging emerging technologies and data analytics, encouraging risk-taking and resilience in the face of setbacks, facilitating continuous learning and adaptation based on feedback and new insight, reforming performance management systems to encourage innovation (Sections 5.2.1. and 5.6.2. and Appendix 2 – city networks) (Bellinson & Chu 2019; Matos et al., 2022).
Multi-stakeholder engagement and cross-departmental collaboration: Convening multi-stakeholder meetings and workshops to support climate change mainstreaming Promoting cross-departmental collaboration across sector departments (Section 5.5.1.) (City of Cape Town, 2021; City of Johannesburg, 2021; C40 Cities, 2023)	Broad, meaningful engagement and collaboration:   Strong facilitation and moderation skills, active listening and empathy, the ability to create a safe and inclusive environment for dialogue, strong communication and interpersonal skills, conflict resolution and consensus-building skills, and the capacity to manage diverse perspectives and interests to foster collaboration and collective decision-making (Section 5.5.1.) (Bhagavathula et al., 2021; Nonet et al., 2022)
Policy mainstreaming: Ensuring that climate change priorities are	Policy influence: Strong analytical and research skills to identify climate change implications, policy analysis

reflected in all city plans and policies (Section 2.4.) (City of Johannesburg, 2021; C40 Cities, 2023)	and development skills, the ability to integrate climate considerations into various policy areas, stakeholder engagement and collaboration skills, persuasive communication skills to advocate for climate change integration, and the capacity to navigate bureaucratic processes and influence decision-making to prioritise climate action (Appendix 2 – bureaucratically-savvy and politically astute) (Pasquini et al., 2013)
Influencing internal processes: Embedding climate change considerations within city budgeting, procurement and performance management processes.	Bureaucratically-savvy and politically astute: In depth understanding of internal management processes and an ability to devise strategies to embed climate considerations within such processes.
Monitoring, evaluation and reporting: Monitoring progress on climate action implementation and reporting it widely (Appendix 2 – monitoring, evaluation, and reporting). (City of Cape Town, 2021; City of Johannesburg, 2021; C40 Cities, 2023)	Data collection and analysis skills and knowledge of relevant monitoring frameworks and indicators: Proficiency in using monitoring and evaluation tools and methodologies, ability to develop performance metrics and targets, strong analytical and problem-solving skills, effective reporting and communication skills, and the ability to use evaluation findings to inform adaptive management and decision-making for continuous improvement in climate change actions (Section 5.2.1. and Appendix 2 – monitoring, evaluation, and reporting) (Ssekamatte, 2018)

6.2.4. Reflections on how climate change leadership and governance differ in the Global South and the Global North

Respondents often drew comparisons between the Global South and Global North throughout the interviews. It was noted that the Global South is still recovering from colonial oppression and grappling with a multitude of challenges, including poverty, unemployment, low levels of *service delivery*, weak governance, and lower levels of technical and financial capacity within government institutions (**Section 5.8.2.**). Climate change is thus often less of a priority for voters; voters are concerned with issues that are perceived to affect their immediate and material well-being (**Sections 5.3.2 and 5.8.2.**). Respondents shared that in the Global North, climate change is often a political priority but also a politically divisive issue (Dunlap, 2011; Brulle, 2020, Vihma et al., 2021). It has been argued that while right-wing governments in the Global North ideologically oppose climate change, this is not the case in the Global South (Yamin, 2023). African economies are still largely resource-based and labour-intensive (Guliwe, 2019). This means that transitioning to a low-carbon economy, which is technologically advanced, could result in large-scale job losses, making the transition more

challenging. Several Global South countries are still at the planning stage of climate action and face major obstacles in realising implementation. One of the challenges is the dependence on donor funds to pursue climate change initiatives and, in some cases, the resulting interference from donors, which often results in little impact on the ground and which can breed mistrust between donor countries and recipient countries. Global North countries are still, in some cases, benefiting from the climate crisis at the expense of the Global South through climate colonialism by promoting their technological solutions. This dynamic also contributes to the *mitigation bias* that exists as Global North donors prioritise mitigation finance to support technology sales, leading to *mistrust between the Global South and the Global North* (Abadie et al., 2013, Mahony & Endfield, 2018). Respondents called for African leaders to be bolder in stating their needs and exert greater influence during *international climate negotiations*, speaking from a place of power rather than victimhood, knowing that Africa has wisdom to share regarding *indigenous knowledge* and collective leadership values that prioritise people (**Section 5.8.2.**).

A critical finding is that Global South leadership is far more people-centred, particularly African leadership, which encompasses the spirit of *Ubuntu* (**Section 5.2.3.**). *Indigenous knowledge* is valued and has been retained for the most part, contributing to community-level resilience in some instances (**Section 5.2.1.**). Respondents felt that climate change is not a politically divisive issue in the Global South. The example cited was that in South Africa, both the governing party and the official opposition party support climate action, whereas in the United States and Europe, climate denialism is a key feature of political discourse (Respondent D). These differences are summarised in Table 15. There is a clear link between the leadership capabilities needed (**Table 14**) and the characteristics of the Global South, for example, *technical knowledge*, building public support through *broad, meaningful engagement and collaboration* and *bold, effective communication*, and multidisciplinary thinking to connect *service delivery* issues to climate change risks and opportunities.

Table 15: Leadership and governance differences in the Global South compared to the Global North

	Global South		Global North
✓	Spirit of <i>Ubuntu</i> prioritises people-centred climate action and broad consultation. There is strong community activism (Sections 5.2.3., 5.3.2., and 5.5.1.)	✗	More individualistic societies undermine collective action and place less value on consultation. (Sections 5.2.3. and 5.3.3.)

✓	Climate change is not such a politically divisive issue and climate denialism does not feature as prominently in politics (Section 5.5.2.)	✗	Climate change can be a more politically divisive issue in some Global North countries and in some instances climate denialism is central to the ideology of political parties (Section 5.5.2.) (Dunlap, 2011; Brulle, 2020, Vihma et al., 2021).
✓	<i>Indigenous knowledge</i> is valued and strengthens community response (Section 5.2.1.)	✗	<i>Indigenous knowledge</i> is less valued and, in some instances, has been lost (Section 5.5.2.) (Fernández-Llamazares et al., 2021).
✗	Lower levels of <i>technical knowledge</i> , few politicians are experts in their field or tertiary educated (Section 5.2.1.)	✓	High levels of <i>technical knowledge</i> , politicians are typically experts in their field (Section 5.2.1.)
✗	Limited financial and <i>human resources</i> (Section 5.6.2.)	✓	Greater access to financial and <i>human resources</i> (Section 5.6.2.)
✗	<i>Competing developmental priorities</i> due to lower levels of basic <i>service delivery</i> and multiple socio-economic challenges (Sections 5.3.2. and 5.4.1.)	✓	Easier to address and prioritise climate change as basic developmental needs have largely been met (Section 5.3.2.) (Yazdani & Dola, 2013).
✗	Climate change is not a key issue for voters and does not feature strongly in political campaigns and manifestoes (Section 5.3.2.)	✓	Climate change is more of a priority for voters, political organisations have strong positions on climate change (Section 5.3.2.)
✗	Resource-based economies with high levels of unemployment are more challenging to transition to low carbon (Section 5.3.2.)	✓	Service-based economies with high employment rates can be easier to transition to low carbon (Section 5.3.2.)
✗	Planning stage of climate action (Section 5.4.1.)	✓	Implementation stage of climate action (Section 5.4.1.)
✗	Climate colonialism is undermining efforts to adequately respond to climate change (Section 5.6.2.)	✓	Not subjected to climate colonialism and, in some instances, benefit from it (Section 5.6.2.)

✗	Newly formed democracies are still grappling with widespread <i>maladministration and poor governance</i> (Section 5.3.2. and Appendix 2)	✓	Mature democracies with established governance systems (Section 5.3.2. and Appendix 2)
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6.2.5. The value of Bhaskar’s critical realism approach

Adopting a critical realism approach to interpreting the research findings provided valuable insights into the complexities of institutionalising climate change considerations into local government planning and decision-making. The three most useful concepts were stratified reality, transformational casualty, and contextual embeddedness.

Critical realism posits a stratified reality consisting of multiple layers, namely the empirical, the actual, and the real. This framework allowed for a deeper understanding of the underlying mechanisms (actual) that generate the observable phenomena (empirical) related to climate change institutionalisation in local government. For example, rather than simply stating that political will is a barrier to climate change, the research unearthed the political realities that influence why climate change may not be prioritised and power dynamics that characterise interactions between the technical administration and political leadership that make it difficult to secure political buy-in. The research also identified that a root cause of inadequate political will is that politicians may not understand how climate change affects their constituents.

The concept of transformational causality suggests that causal relationships are complex and involve interactions between various mechanisms across different levels of reality. This perspective helped in understanding the interactions between different spheres of transformation (for example., personal, political, and practical) and how they influence leadership strategies and institutional change processes.

Critical realism emphasises the contextual embeddedness of phenomena, highlighting how they are shaped by historical, social, political, and economic factors. This approach helped in understanding the unique context of South African cities and how factors such as *competing developmental priorities*, the legacy of apartheid, and how climate colonialism influences the climate change agenda.

6.3. Limitations of the study

Recognising the limitations of the study is important for transparency and can be used to inform future studies. Six limitations have been identified and will be discussed below.

Firstly, the decision was made to undertake in-depth interviews, which resulted in a small sample size of 15 participants, all of whom could be considered insiders. The scope of the study was limited to South African cities and as such those with insider perspectives, who were

engaged in existing systems of climate change planning and governance were prioritised. Future research could build upon this by including perspectives from others engaged in climate action outside of city systems, for example grassroot movements and civil society actors. While an effort was made to ensure a representative sample across different cities, genders, races, and specialisations, the limited sample may skew the results. Due to the small sample size, the data analysis was not disaggregated by participant type, rather results from government officials, practitioners and researchers were analysed together.

Secondly, my positionality as the researcher (described in **Section 4.8.**) should be noted. My familiarity with the participants could potentially skew the results; in particular, participants were very candid, and many also mentioned the value of *city networks*, given my association with C40 Cities.

Thirdly and notably, there is minimal academic literature on leadership within South African cities, particularly on the topic of climate change. Both leadership and institutional change theories have largely emerged from the Global North. While this research aims to fill this gap, a lack of robust and context-specific literature could compromise the study.

A fourth limitation relates to the research philosophy. As discussed in the previous section (**Section 6.2.5**), applying a critical realism lens helped to uncover deeper insights as to why certain leadership characteristics and strategies were better suited to facilitating climate change institutionalisation in South African cities. It should however be noted that it was beyond the scope of this research to conclusively identify the underlying structures and mechanisms that influence climate leadership and governance in South African cities. This warrants further investigation and is recommended for future studies.

A fifth limitation relates to the mainstreaming-transformation paradox (**Section 3.4.2.**). Respondents shared that local government is geared toward incremental change, which is supported by the Gradual Change Theory (Mahoney & Thelen, 2009) based on the defining features of the political sphere. The theory suggests that champions achieve their goals by working within the system in contexts with high veto powers and limited room for rule interpretation. Rather than pursuing a radical shift, they incrementally try to alter the institution by 'layering' new practices and structures. This is compounded by the reality that politicians who may not be subject to high veto powers are nevertheless impacted by the fragility of coalition politics, which prioritises short-term *service delivery* over strategic long-term initiatives. The perspectives shared by some interviewees run counter to the argument some scholars have put forward, stating that incremental change cannot result in transformation (**Section 2.4.1.**). Testing the validity of these claims is beyond the scope of this research and is recommended for further investigation. Lastly, while the study sought to understand the differences between Global South and Global North leadership and governance, it did so from a Global South perspective; none of the participants had direct experience working for a Global North city which may have skewed the results.

6.4. Conclusion

The research demonstrated the interconnectedness of Three Spheres of Transformation within the specific context of South African cities, showing the value of the heuristic in understanding the linkages between leaders, the political and governance context, and implementation. Rather than representing the three spheres as concentric circles, the research argues that there is merit in explicitly showing the overlap (Figure 7 in **Chapter 5**) as it allows careful reflection of how the spheres intersect.

The research is premised on the idea that particular types of leadership and, indeed, leadership strategies may help to facilitate the mainstreaming of climate change responsiveness into planning and decision-making. The research findings confirmed this assumption. However, rather than neatly aligning with one of the leadership theories known to apply to climate change, the research found that Contingency Leadership Theory offers the most value. This speaks to the significant influence the political sphere has on leaders, determining which leadership capabilities and strategies are most effective in driving change (**Section 5.3.**).

The research also demonstrates a clear link between the barriers faced by leaders and the strategies they employ to institutionalise change. Going beyond the identification of barriers, with the support of a critical realism approach, it tries to explain the underlying drivers of such barriers and provides a deep understanding of how barriers manifest in South African cities (**Section 6.2.5.**). Importantly, the research emphasises the role of leaders in overcoming institutional barriers. The research also identifies the specific tasks and leadership capabilities required to advance climate action implementation within city government (**Table 15**).

The leadership and governance context in the Global South compared to the Global North is shown to be a stark contrast. The developmental context in the Global North, with its greater access to resources, technical capabilities, and higher levels of public awareness, has supported Global North cities in advancing climate action implementation. The developmental context in the Global South is far more complex and challenging; however, there are several strengths that we can lean on. In the Global South, *indigenous knowledge* is valued, climate change is a less politically divisive issue, and our emphasis on community and collective leadership, in principle, helps to guide broad consultations and human-centred climate action (**Sections 5.8.2. and 6.2.4.**).

The final two sections of this chapter explained the value of adopting critical realism as the guiding paradigm (**Section 6.2.4.**) and discussed the limitations of the study. A number of limitations were highlighted, including the implications of the sample size and composition, my positionality as a researcher and the limited available literature to name a few.

Several lessons for strengthening climate leadership and governance have surfaced in the research. These are consolidated into practical recommendations in the final chapter.

Chapter 7: Conclusion and Recommendations

7.1. Introduction

A synthesis of the main research outcomes is presented in this chapter. **Section 7.2** summarises the findings and explains how they relate to the research aim and objectives. **Section 7.3.** puts forward recommendations on how the learnings can be applied in the real world and identifies opportunities for further research.

7.2. Summary of the research findings

The research aimed to uncover the leadership traits and strategies essential for integrating climate change considerations into local government planning and decision-making in South African cities. The research objectives aimed to identify suitable leadership styles for the institutionalisation of climate change, understand the political dynamics within city government in South Africa that influence climate change institutionalisation, and to contextualise and tailor the Three Spheres of Transformation Conceptual Model (O'Brien & Sygna, 2013) to reflect the realities of South African cities. A summary of research findings linked to each objective is provided. Lastly, this section summarises the *key differences between the Global North and Global South* that emerged throughout the research. This was not a primary research objective; however, the differences help to explain the limited applicability of existing theories.

7.2.1. Leadership traits and strategies

The research reveals that successful climate change champions have a combination of *technical knowledge* (**Section 5.2.1.**), *multidisciplinary, interconnected thinking* (**Section 5.5.1.**), and political astuteness (**Sections 5.5.1. and 5.5.2., and Appendix 2 – bureaucratically-savvy and politically astute**). Technical expertise alone is insufficient; leaders must navigate bureaucratic complexities, communicate effectively (**Section 5.2.2.**), and engage *in broad, meaningful engagement and collaborations* (**Section 5.5.1.**). The study emphasises the importance of leaders being able to position climate change as a developmental issue intertwined with socio-economic priorities rather than an environmental concern (**Section 5.2.2.**).

Climate change champions face various barriers, including a lack of interest from political leaders and the public (**Sections 5.4.1. and 5.5.2.**), limited resources (**Section 5.6.2.**), and *siloed structures and planning* (**Section 5.3.1.**). Effective strategies include issue framing (**Section 5.2.2.**), embedding a climate lens within the delivery of basic services (**Section 5.4.1.**), ensuring that climate change features as an agenda item within existing decision-making structures, establishing dedicated climate committees to support cross-departmental collaboration (**Section 5.3.1.**), joining *city networks* to access additional support (**Appendix 2**

– *city networks*), and integrating climate change within the city’s budget (**Appendix 2 – city budgets**) and performance management systems (**Section 5.6.2.**).

7.2.2. Political dynamics in local government

Political changes were identified as having far-reaching impacts, affecting motivation, administrative vacancies, and shifting the focus toward short-term *service delivery* initiatives. The study sheds light on the complex and often fraught relationship between political leaders and technocrats. The research underscores the role of senior political and technical leaders in demonstrating support and emphasises the need for bottom-up leadership to ensure continuity during political changes (**Section 5.5.2.**).

Given the organisational constraints inherent in local government, the default approach to institutional change is incremental (**Section 5.3.2.**). Factors contributing to this context include the hierarchical nature of local government, power dynamics at the *technical-political interface*, and a punitive performance management system, which results in high veto powers. Bureaucratic processes and the rigidity of existing legislation further limit reform options, leading to self-reinforcing institutional patterns known as path dependence. The instability of coalition politics prioritises short-term *service delivery* over institutional change, emphasising incrementalism in the political sphere of South African cities (**Section 6.2.1.**).

Embracing an incremental approach does not necessarily imply a less transformative agenda (**Section 5.3.2.**). Rather, participants argue that incremental change can result in large-scale, catalytic change, which aligns with the continuous transformation approach. The nature of institutional change in government requires broad consultation, a solid evidence base, policy and regulatory change, and adequate resourcing (**Table 14**). These prerequisites take time to amass, and at the same time, *service delivery* in the short term remains the city’s core focus, leaving little time to undertake substantive reform. As such, the most effective way to effect a transformative change and ensure sustained prioritisation of climate change initiatives is to approach it in smaller steps (**Section 6.2.1.**), such as pursuing the strategies outlined above. This context explains why being *bureaucratically-savvy and politically astute* emerged as a prominent leadership characteristic (**Appendix 2**).

It should be noted that the transformative potential of incrementalism can only be realised with strategies that aim to fundamentally change how city structures and systems operate. Stand-alone technical solutions will not bring about transformative change; however, appealing it may be to show action on the ground. The political sphere does, however, prioritise tangible projects over strategic initiatives aimed at driving systemic and catalytic change (**Section 5.3.2.**).

7.2.3. Tailoring the Three Spheres of Transformation Framework to the South African context

A key research objective was to contextualise and tailor the Three Spheres of Transformation Framework (O'Brien & Sygna, 2013) to reflect the realities of South African cities. The conceptual framework was very useful in guiding and structuring the interviews and organising the research findings. The research tested the model's applicability to a real-life setting and demonstrated how the model can be used as a tool of inquiry for investigating the leadership dimensions for a specific local government context.

Unpacking each sphere of transformation within the context of South African city governments in detail revealed deeper complexities and insights (Figure 16). The research findings emphasise the intersectionality of the Three Spheres of Transformation. I argue that the model, presented as concentric circles (Figure 15), inadequately captures the complexity and interaction across spheres that emerged from the interviews (Section 6.2.1.).

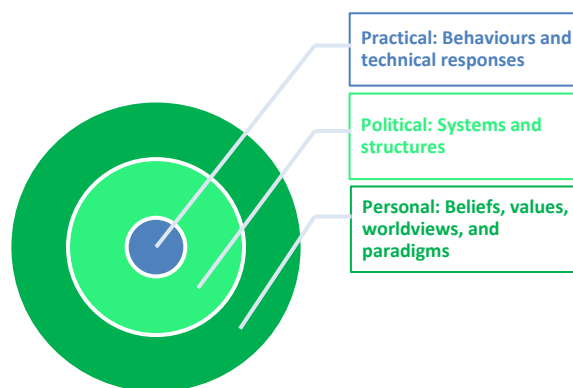


Figure 15: The Three Spheres of Transformation (replication of Figure 2)

(Redrawn based on O'Brien and Sygna, 2013)

The redrawn model (Figure 16) presents the Three Spheres of Transformation as intersecting circles. In addition to the personal, political, and practical spheres reflected in the original heuristic, the redrawn model further introduces four new overlapping spheres: the personal-political, political-practical, personal-practical, and the intersection of all three.

In this research, the personal sphere was interpreted as a useful concept for understanding leadership. "Discourses and paradigms emerge from the personal sphere and influence the framing of issues, the questions that are asked or not asked, and the solutions that are prioritized in the political and practical spheres. Changes in the personal sphere often result in 'seeing' systems and structures in new ways..." (O'Brien and Sygna, 2013, p. 6). This

research builds on this understanding by explicitly linking the characteristics that emerged from the personal sphere to leadership theories (**Section 2.2. and 6.2.1.**), highlighting the knowledge, skills, and capabilities required to effect change. A key finding is what constitutes effective leadership is shaped by the specific institutional constraints and the broader contextual setting. Contingency Leadership Theory was identified as offering the greatest explanatory power in this regard (**Section 6.2.1.**). Furthermore, the research uses Institutional Change Theory (**Section 2.3.**) to advance an understanding of how leaders can influence the political sphere. The political sphere in South African cities was found to be geared towards incremental change (**Section 6.2.1. and 7.2.2.**).

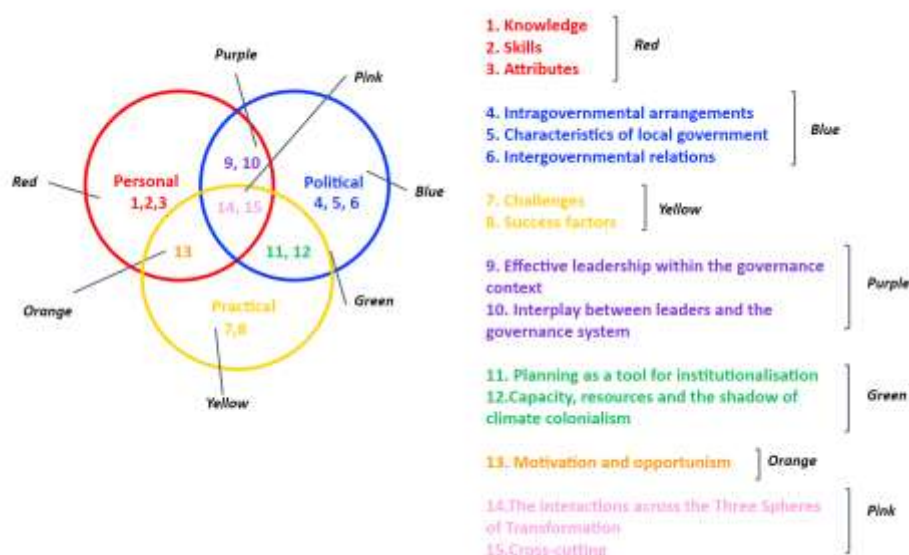


Figure 16: Graphical depiction of the intersecting Three Spheres of Transformation with emerging themes (replication of Figure 7).

7.2.4. Global South versus Global North

Several comparisons were drawn between leadership and governance in the Global South and Global North (**Section 5.8.2.**). The unique challenges faced by the Global South and particularly African cities are inextricably linked to the leadership characteristics and strategies that surfaced during the study. In a context where climate change is perceived to be less of a political concern, with the electorate prioritising job creation and basic service provision, linking these issues and climate change becomes paramount. This is evident in the identified leadership characteristics – *multidisciplinary, interconnected thinking, broad,*

meaningful engagement and collaboration, and *bold, effective communication skills* (**Section 6.2.4.**).

The leadership theories most commonly used to explain climate change leadership, such as Complexity Theory, Integrative Theory, Transformational Leadership Theory, and Policy Entrepreneurship Theory (**Section 2.2.3.**), did have some merit, however, they were not able to capture the nuances within the South African context.

The study presented here calls for bold African leadership in *international climate negotiations*. It emphasises collectivistic leadership, an idea central to the concept of *Ubuntu*, which requires a commitment to the greater good rather than acting in one's self-interest. The study also emphasises the value of *indigenous knowledge* systems (**Section 6.2.4.**), which are often based on holistic, experiential, and relational ways of knowing that are deeply intertwined with spirituality, oral traditions, and community values (Whyte, 2017). Returning to the literature presented in **Chapter 1 and 2**, it is clear why Contingency Leadership Theory, which emphasises the importance of the local context, emerged as the most fitting theory given that most leadership theories and the evidence supporting such theories are American in character and therefore not easily applied in the African context (House and Aditya, 1997).

7.3. Practical application and recommendations

Based on the research findings, several clear recommendations can be put forward to strengthen climate leadership within South African cities and create a more enabling environment for climate change institutionalisation.

7.3.1. Building strong climate leaders

The first recommendation is to develop training programmes that encourage and equip leaders to navigate institutional constraints (**Sections 5.2. and 5.5.**). Leaders must adopt a mindset that they can either work around or work to change the governance system. Incremental adjustments and thinking about institutional design where leverage points can be found and built upon (Polski & Ostrom, 1999; Chan et al., 2020) can indeed result in transformative change over time. In addition, these programmes should support leaders in acquiring *technical knowledge*, enhancing their *multidisciplinary, interconnected thinking*, and honing their communication and engagement skills. The programme should inculcate the values of *Ubuntu*, encouraging leaders to embrace collective action, which prioritises community well-being and contributes towards socio-economic development.

7.3.2. Strengthening the technical-political interface

The second recommendation is to facilitate ongoing dialogue and collaboration between political leaders and technocrats, addressing power dynamics and building mutual trust and understanding to ensure the effective implementation of climate change initiatives (**Section**

5.5.2). Technocrats can reduce the disruptive effects of political instability and change by advocating for climate change considerations to be embedded within the city's strategic plans, budgets, and performance management systems. Technocrats should approach political change intentionally to ensure continuity and enable long-term planning, earning trust early on and demonstrating alignment with the new administration's priorities to secure their support.

7.3.3. Elevating the climate change function

Climate change leaders in cities need to be aware of where they get the most traction for change. The climate change function within cities, as this research has confirmed, is still largely situated within the environmental departments, perpetuating a false narrative that climate change is solely an environmental issue and undermining efforts to pursue climate change institutionalisation (**Sections 5.3.1. and 6.2.2.**). Positioning the climate change function within a more strategic office, such as the City Manager's office, that has greater influence over strategic city-wide processes, such as compiling the city's budget and greater convening power to support cross-departmental collaboration will go a long way to strengthening climate governance and enhancing climate leadership.

7.3.4. Overcoming financial and capacity constraints

Climate leadership in cities is also shown to be informed by good knowledge on how and what lubricates a city – that is the finances of the city. To overcome financial constraints (**Section 5.6.2.**), it is recommended that cities integrate climate change criteria into their budgetary process and advocate for sustainable procurement policies that align with their climate action goals. Support from the National Department of Cooperative Governance and Traditional Affairs and provincial government who are responsible for developing IDP guidelines and reviewing municipal plans and budgets will be important for making climate change integration mandatory (Respondent L). Legislative reform to mandate climate action will provide a basis for securing internal resources and reducing the dependency on donor funds. Cities should also be emboldened by the National Treasury and the Department of International Relations and Cooperation to articulate their needs to donors rather than allowing donors to steer projects based entirely on their own agendas (**Section 5.6.2.**). Climate leaders in cities must therefore either have good knowledge on financial operations or be able to draw on city financial experts who can assist them in understanding such matters.

Leadership should also be continually built into the institutional fabric and not curtailed by always getting external consultants to inform the city on key climate change priorities. The social learning opportunities for such leadership development can be very beneficial for practical climate change institutionalisation. Funds should thus be channelled towards developing internal capacity by hiring new staff or developing the skills and knowledge of existing staff. Municipalities should aim to wean themselves off a dependency on consulting

firms by ensuring that municipal staff play an active role in all projects and include capacity building and knowledge transfer as key project deliverables. Doing so will ensure that they retain ownership of the process and deliverables, acquire the skills needed to undertake similar work in the future, and internalise the knowledge gained to champion the work further.

Many cities have already established long-term *partnerships* with universities and research institutions; this has proven to be a successful strategy, and such collaborations should be encouraged. The training programmes mentioned above will support internal capacity, primarily if targeted at sector departments and not solely environmental or climate change professionals. Informally embedding climate change champions has reaped benefits; however, formalising these roles by integrating climate change initiatives into other departments' job descriptions and performance management indicators can be even more impactful (**Section 5.6.2.**).

7.3.5. Empowering Global South leaders

The fifth recommendation is to advocate for a more assertive stance by African leaders in *international climate negotiations*, emphasising the unique strengths and wisdom of the Global South. Rather than pandering to donors, Global South leaders should be clear about their needs and proud of their wealth of *indigenous knowledge* and solutions. People-centred approaches, inspired by the spirit of *Ubuntu*, offer immense value, potentially enhancing participatory governance and resulting in more inclusive and equitable outcomes (**Sections 5.8.2. and 6.2.4.**). The inaugural Africa Climate Summit co-hosted by the Government of Kenya and the African Union in 2023, for example, marked a step in the right direction by elevating the voices of African leaders within the global climate discourse (Süleyman, 2024).

7.3.6. Address knowledge gaps

The final recommendation is to encourage further research on leadership characteristics specific to championing and institutionalising climate change within diverse Global South contexts by unpacking the unique characteristics of the political sphere and practical spheres and identifying the successful strategies which may be employed to overcome the barriers encountered and realise successful outcomes. It might be interesting to undertake a similar study for cities in another country and compare the results to understand how interactions across the spheres manifest and operate in other contexts.

The value of applying leadership theories and institutional change theories to a specific local climate governance context was demonstrated in this study. Further multi- and trans-disciplinary research is recommended to deepen the understanding of how climate change can be embedded in decision-making. This study was also enriched by applying a critical realist approach (**Section 6.2.5.**). The research did not intend to conclusively identify underlying structures and mechanisms; rather, it used the approach to help uncover deeper insights. This remains a gap that is recommended for future studies.

7.4. Conclusion

The research results presented in this dissertation resonate with the growing calls for leadership that can rise to the challenge of the climate crisis:

“Leaders must lead. No more hesitancy. No more excuses. No more waiting for others to move first. There is simply no more time for that. It is still possible to limit global temperature rise to 1.5 degrees Celsius and avoid the very worst of climate change. But only with dramatic, immediate climate action” United Nations Secretary-General Antonio Guterres (United Nations, 2023).

Despite leadership continuously garnering scholarly attention, applying leadership theories to the climate crisis has remained a significant gap in the wider research arena (**Section 2.2.3.**) This study contributes towards understanding the role leaders can play in driving institutional change within the context of South African cities.

The various elements from this research (e.g., Figure 16) has also emphasised the importance of both technical and political leaders, providing deep insights into how they relate to one another. Various dimensions of knowledge, skills, attributes, and leadership capabilities have also been identified that will be required to drive institutional change. Demystifying these leadership capabilities is important because it shows us that leaders do not necessarily need to be born with exceptional talents, rather, there are skills and knowledge that can be acquired through personal development and learning.

The challenging and complex political dynamics that constrain climate governance within this context were discussed at length and cannot be ignored. Existing structures, systems, and norms do not only influence what practical solutions are deemed possible, they also affect what leadership styles and strategies are most likely to be effective in driving institutional change.

Furthermore, the political sphere determines the mode of institutional change. A compelling finding from the study is that incremental approaches, if targeted strategically, can drive more radical transformative change, this is known as continuous transformation. The study has also pointed to and identifies effective strategies for achieving continuous transformation by probing with city practitioners ways in which climate considerations can be embedded within city decision-making structures and systems.

The conceptual model used for the study, the Three Spheres of Transformation Framework, proved useful in guiding the research and organising the findings but required adaptation to reflect the complexities of South African city governments. The model was thus ‘deepened’ and redrawn to capture the intersectionality that emerged from the research findings (Figure 16 a, b, c, d, e).

Building on these insights, the recommendations put forward in this final chapter aim to support city officials, politicians, and climate change practitioners to drive continuous transformation. The recommendations include:

- developing training programmes for leaders,
- facilitating dialogue between political leaders and technocrats,
- elevating the climate change function within city structures,
- overcoming financial and capacity constraints,
- empowering Global South leaders in international negotiations, and,
- addressing knowledge gaps through further research.

My experience in supporting city governments inspired this research, and it is my deepest hope that it will be useful and encouraging to those with the challenging, but essential task of leading the institutional work required to systemically embed climate change within city governments.

Appendix 1: Ethics Clearance Certificate



Research Office

HUMAN RESEARCH ETHICS COMMITTEE (NON-MEDICAL)
R14/49 Shah

CLEARANCE CERTIFICATE

PROTOCOL NUMBER: H20/11/87

PROJECT TITLE

Leadership for the institutionalisation of climate change considerations in local government

INVESTIGATOR(S)

Ms N Shah

SCHOOL/DEPARTMENT

Animal, Plant and Environmental Sciences/

DATE CONSIDERED

20 November 2020

DECISION OF THE COMMITTEE

Approved
Risk Level: Minimal

EXPIRY DATE

08 March 2024

DATE

09 March 2021

CHAIRPERSON

(Professor J Knight)

cc: Supervisor : Professor C Vogel

DECLARATION OF INVESTIGATOR(S)

To be completed in duplicate and **ONE COPY** returned to the Secretary at Room 10004, 10th Floor, Senate House, University. Unreported changes to the application may invalidate the clearance given by the HREC (Non-Medical)

I/We fully understand the conditions under which I am/we are authorized to carry out the abovementioned research and I/we guarantee to ensure compliance with these conditions. Should any departure to be contemplated from the research procedure as approved I/we undertake to submit an amendment of the protocol to the Committee. **I agree to completion of a regular progress report. For Minimal and Low studies, this is due annually on 31 December. For Medium and High Risk studies, this is due twice annually on 30 June and 31 December.**

Signature

15 / 03 / 2021

Date

PLEASE QUOTE THE PROTOCOL NUMBER ON ALL ENQUIRIES

Appendix 2: Additional quotes

Personal sphere

"I think it might be quite difficult to pinpoint specific characteristics or conditions for leadership that would facilitate, enable or drive mainstreaming. But I think what would be very valuable is understanding the process, the conditions or the factors around leadership, that are facilitative of driving mainstream. I think it might be difficult to pinpoint anything just because it's so personal as well...the personal sphere might be the most difficult one to to really unpack fully just because it touches it crosses a lot of disciplines as well - psychology, industrial psychology, those types of fields. But I think it's definitely worth exploring and pulling that into the institutional, political and those practical spheres as well because as we know, nothing ventured, nothing and gained. We need to start looking at that, and I think it's very brave to do that" (Respondent M).

"If you look at the cities in SA, the cities that have been able to do a lot in terms of moving the need towards their sustainability goals, it's been championed by certain people. And you look at those people and you see oh this person was enthusiastic, go getter, they believed in something and they believed they could do it and they had the ability to talk to people and bring people together and get people to do things that they wouldn't normally necessarily do. So it has a lot to do with their personality, the characteristics of the individual" (Respondent K)

"I think leaders in any crisis are important, so it's worth trying to understand the type of leader that's going to be relevant for responding to climate change" (Respondent O).

Technical knowledge

"SALGA completed a series of Provincial Members Assemblies and at all of the provincial members assemblies, which was attended by the troika , meaning The Mayor, the Deputy Mayor, the Speaker, it was also attended by the Chief Whips, CFOs and Municipal Managers. There has been a request for really detailed sessions to be held on climate change and just transition. The political and administrative leadership within the municipalities are feeling that they need to educate themselves. There was blame that not enough has been done to educate them but also introspection in the sense that they felt that they were not paying attention. They were not attending the sessions that they were required to attend where these issues were discussed... now they realise that the time is now and otherwise this boat is going to leave without them, and there are serious implications, because we may end up with ghost cities or towns" (Respondent L).

"...the connections are not made between climate response and institutional changes required to facilitate the response" (Respondent C).

"The field progresses very fast, you need to be up to speed with what's going on"(Respondent D).

"I think one of the biggest things is that we need to come together to build the capacity of municipal leadership on climate change. We need to have some champions there that are going to not only make sure that there's implementation happening within the municipality, but are actually going to engage robustly with the National Government and in the Parliament, and so on, on the importance of the role of local government in climate action implementation..." (Respondent L).

"You can't use yesterday's thinking today" (Respondent A).

"You need to be a leader that also gives yourself a lot of time to read and to understand concepts because if you are to lead, you need to lead with conviction and that would be developed through reading because the climate change space evolves a lot. So you need to read a lot, you need to understand a lot so that you can be able to guide your team and to convince other role players in the space to be able to take you seriously as a leader. But if you don't really understand what you are supposed to be persuading people about it becomes a challenge because then you can't argue and make your points clear" (Respondent N).

"The buy-in at the political and managerial level. It comes down to understanding what climate change is as a concept and how it manifests" (Respondent B).

"The link between climate change and the co-benefits isn't there at that level... I'm talking about municipal managers, city managers. There are no trainings really available there on climate change leadership" (Respondent N)

"We have quite a good well structured committee. Councillors that do by and large understand climate change obviously there's a sort of spread of the understanding but we get decisions quite easily" (Respondent H).

"In local government, climate change remains to be something elusive, less well understood ...at the political leadership level, but also even in the administrative levels...I find that we are having to actually explain what is climate change. What is causing climate change?" (Respondent L).

"Climate change is a new but hyped thing" (Respondent J)

"In first world countries, politicians appointed to portfolios are often specialists in that field" (Respondent F).

Indigenous knowledge

We need to place greater value on our *indigenous knowledge* and see it as an asset that we have to share with the world. Respondent L shared the opportunity of leveraging our *indigenous knowledge* to enhance our power within the global negotiations, rather than entering the negotiations with a victimhood mentality:

"We want to go there, we want to hold them accountable and somehow we end up losing ourselves. We are losing the indigenous knowledge, the wealth that sits with us that we believe could be able to make a contribution. We are undermining our own wealth of knowledge, our own diversity that would contribute to resilience because we are busy wanting to hold them accountable, which I fully understand but that cannot be the only thing that we do" (Respondent L).

"I think we have maybe more appreciation for our environment as well, for nature. A lot of the South African way of life is very respectful towards nature. But with Generation Z that's coming up, even millennials, they're losing it. I don't know if kids nowadays value the importance of our environment as much as the older generations which grew up much more in tune with the environment" (Respondent M).

Passionate, inspirational and resilient

"The first thing that comes to mind is passion for the cause and dedication... it's that internal motivation that they need and where that comes from, or what feeds that, can be a million things. But I think you need that dedication, that passion, that will, that's internally driven" (Respondent M).

At a personal level, it's something that you truly really need to believe in (Respondent J).

"Someone has something that they believe in strongly and they want to see change" (Respondent K)

*Climate champions are "willing to treat climate change as an **existential crisis** and because of that [they] treat it as very urgent. [They] act on it and aim to inspire others to act on it"(Respondent B).*

*"First and foremost... they are **genuinely concerned** about climate change, they are concerned for people... they are driven by their conscience telling them that this is what they need to do" (Respondent H)*

*"I think it has just to do with whether people **really believe in their work**. And they really believe in the change that they're trying to achieve" (Respondent I).*

"You want someone who's not gonna say, 'oh, we're busy with savings delivery and as a result we can't be paying attention to climate change or climate change is an unfunded mandate" (Respondent L).

*"Climate change is a very very difficult field to work with, not just because it's messy and all that, but because it's **emotionally very draining** as well. When you see COPs come and go and insufficient progress is being made and you see where the projections are it is very draining on your motivation and your outlook on life even" (Respondent H).*

*"In this system you kind of need people who are **willing to to rock the boat** a little bit" (Respondent I).*

*"You need to **practice what you're preaching**...live those values. You can't saying. We all need to use less energy if you're driving around in a SUV" (Respondent I).*

Ubuntu

"Something that we have that we should be embodying more, is the spirit of Ubuntu. And I think in a lot of the Global North it's not the case. There's not really this community... it's not as integral as it is in our way of living. Our way of thinking and way of interacting with with others" (Respondent M).

Open-minded and good listeners

Strong leaders are open to the ideas of others (Landry, 2008; Harrison, 2018), including opposing views and debates which challenge their ideas (Raelin, 2016). This was raised by respondents A, E, G, L and I:

*"What I've found is that **good leaders talk last**. They don't talk first because they don't want everyone to automatically align with their view point" (Respondent A).*

*"People who are willing to **question their own views**" (Respondent I).*

Bold, effective communication

*"Someone who is able to **convince** people that this is the right thing to do, this is the right thing to support and show why" (Respondent K).*

"If I'm saying Nadia let's do this, you can benefit like this and this and this then you're able to say, hang on, okay that makes sense for me, if it's going to make me look good, if it's going to make my life easier, if it's going to make my work easier then I'm with you, show me how. Having that ability to show others how that thing can benefit them and not say this is about me and me and me and my. At the end of the day it's about benefiting others. Benefiting people on the ground, making sure that it makes an impact on people's daily lives" (Respondent K).

"We try to, as a climate secretariat make each line function that's participating feel that climate change is as much a part of their work as the service delivery function they're doing" (Respondent H)

"Everyone says it, it's nothing new. Climate change, climate risk, climate impacts need to be positioned or or seen as it's not an environmental issue. It's a development issue. So I think that's really step one...It's not tree huggers, it's nothing like it actually the furthest thing...It impacts people's lives, economies, daily life. If we are a developmental state. We cannot, not look at climate risk and climate impacts. So I think that's the number one strategy, is that it's a developmental issue, not an environmental issue only...I think the moment that there is that switch, particularly with politicians, if they realize that, then change can start" (Respondent M).

"I think it's how we are framing climate change. It all depends on how you contextualise climate change" (Respondent A).

"We are closing off the coal industry but there are some exciting things that might be opened. I think that it presents an opportunity" (Respondent L).

"The Mayor says he wants this to happen which is great, but also they've got to want to do it from their own working perspective" (Respondent H).

"Making public statements, you know, signing up to these big commitments, saying we are committed to net zero emissions, or climate, resilience and inclusive climate action... I think that's hugely valuable, maybe they don't enable institutional change as much as they enable change up there" (Respondent I).

"Whenever he opened his mouth to talk about anything, there will be sustainability issues creeping through" (Respondent G).

"It's really that leadership that believes in making a big impact and transformational leadership... you need to be bold and courageous and the willingness to take risks and manage trade-offs. Persuasive leadership is needed, so that you can get others to listen to you and take climate change into consideration in decision making. (Respondent N).

"You kind of just you want to like feed off that energy, and then kind of get pulled along with it" (Respondent I).

"It goes back to making climate change personal, not about the environment or technical solutions which can solve that environmental problem. Yes you can't put food in your child's mouth because you've polluted the river and that river can't nurture the trees that we need to (get fruit). Those kinds of linkages so that the person living in poverty can also see what their impact is on the environment. So there's those disparities between the set of circumstances that exist but also the messaging that comes with addressing climate change" (Respondent K).

Doers not just thinkers

"You need a combination of a vision for the future but also being willing to do the work because there some people who speak wonderfully, they can talk big but they don't have the kind of credentials, the hard work, or the experience to back it up" (Respondent I).

"These individuals often see an opportunity and grab it, drive it and leverage the system to support them, so they need to be strategic thinkers but also not just up in the clouds, they must actually be able to drive it. It's very few people that can do both. I think it's really about being able to think strategically, but follow through and drive something to fruition" (Respondent M).

"Someone that is very active, that is not just sitting and waiting for things to come to them, they roll up their sleeves and get on with it" (Respondent L)

Strategic, visionary thinker

"The ability to think strategically to do strategic positioning, I think those type of characteristics that really make a person dynamic in how they go about leveraging opportunities" (Respondent M).

"They really have a clear vision of what's needed, dogged determination like we're going to do this, and it's possible. On the other hand it's about being a bit more diplomatic about how you do it... being very smart and strategic about how you do it, and careful..."Enrolling the rest of society into that vision is really important" (Respondent I).

This is you've got the National Climate Change Adaptation Strategy, for example, that has, I think it's like over 200 actions now, where do you start with all of those actions? So it's about pushing for the transformative ones and knowing like actually

low hanging fruit, you can probably get some credit for it and show that, you know, I've done something but in the broader scheme of things, have you really made a significant change? (Respondent O).

Self-awareness

"It's one of those things that you ask yourself and you answer yourself – oh my goodness. All this change, how does it make me feel?" (Respondent J)

"A strong sense of self, they need to know themselves, they know different triggers, they know what drives them, they know what depresses them, somebody who is very self aware is an absolutely amazing leader. Someone who is aware of their own weaknesses, and areas of development, where they need others to help them" (Respondent K)

Local focus, global perspective

"She's very committed to the well being of the city and the people in the city. She really understands global issues and is really well informed" (Respondent I)

"Really being able to connect the local to the global and understanding how the local really feeds into the global...They move in the various levels and they've got a holistic view, understanding that we need all levels for us to be able to have global climate action" (Respondent L).

Decisive and assertive

*"As a leader you need to be quite assertive at a certain point and stop the bullsh** from flowing" (Respondent A).*

"With everyone that I've interacted with, they are very assertive. No one is saying "Er it could be climate change" (passive voice). No one is not sure. Everyone that you speak to is sure" (Respondent J).

Lived experience

"With that Corridors of Freedom Programme, we had a mayor who was themselves a champion for that work and he believed in it. I think having a lived experience, living in Soweto, knowing how difficult it is for people who worked in Sandton and lived in Soweto to get up in the morning, get themselves ready and be at work at 8am, how difficult that is, you are able to champion for a change for how that person commutes everyday. Not having that you lose touch with the things that will really make a difference in people's lives. The politics can be positive if the change agent has a lived

experience that they believe strongly in that they can advocate for and then is in a position of power that then enables them to change the system and to force people to work together in a city” (Respondent K).

“After you’ve had those flooding events, two years in a row...the politicians are experiencing it themselves. And no one wants that to happen again” (Respondent O).

Political sphere

Siloed structures and planning

“Climate change is holistic, it’s in the whole municipality, every single department is impacted by climate change” (Respondent J).

“Every department has its own budget, its own KPIs, its own head of department and its own people who have to do that work, and to some extent that’s required...But there are certain areas of work which are cross cutting by nature but they are not cross cutting in how the departments have been structured, and how the are budgets and KPIs and responsibilities are allocated” (Respondent K).

“So one department can say we’ve provided our roads and stormwater perfectly, it’s fine but then the housing people will say but it’s not appropriate in the areas we’ve allocated for human settlements, we’ve got more housing that’s coming that way, the size of the stormwater drainage is not going to be enough. There are things that have to be siloed but there are other things that have to be cross cutting to have shared responsibility and shared budgets so that one department can’t say that they’ve achieved something when it impacts negatively on the other. So it’s that nature of local government and the budgeting model that is being used that disables collaboration, that disables transversality across the different departments and sharing of responsibility. It’s just how the system is structured, so if we can change that, that would be first prize” (Respondent K).

“The local government system and the management systems that exist need to facilitate and support, transversal management, cross sectoral coordination. And that’s intergovernmental, so between the different spheres of government, national, provincial, local, working together, but also intra-governmental, the different departments. So it’s that vertical as well as a horizontal mainstreaming (Respondent M).

“I found that attending the EMT sessions, was really good. It was structured in away which enables leadership across different structures. The level of engagement was really good. It helps to break down the silos because you get leaders from different

departments engaged on a wide range of topics, discussing how to work together and align” (Respondent E).

“Climate change has been developed as a sort of phenomenon that’s been locked into the environmental sector and pigeon holed as something that environmentalists do. Environmentalists by their very nature are more technical in their approaches” (Respondent H).

“Because it’s been pitched like that, like hey we have this environmental problem what are the solutions to this environmental problem instead of saying hey we have this human problem, how do we manage this human problem? Because it hasn’t been humanised, it hasn’t been personalised, I think that’s why there is a lack of this research which is focused on what does it take for us as individuals, as collectives and as institutions to resolve this or help address this challenge.” (Respondent K)

I think broadly, environmental issues have not been taken, you know, seriously or have been considered important within local government, and as a result, climate change having been positioned as a as an environmental challenge has that suffered the same fate as the other environmental challenges that we have been facing. If we continuously say it is an environmental problem people will always continue to relegate it further down. If we say that it is a socioeconomic, environmental problem then we’ll be able to position it strategically within the local government discourse (Respondent L)

“Another way is for a champion to not just want to have a unit or a business unit on climate change but actually think about how to have champions across all departments in the municipality. We are all advocating for mainstreaming climate change by setting up <dedicated> business units within the municipality, <usually within> the department responsible for environment, other departments think they are responsible for climate change, not us. It needs a lead who’s very strategic, by getting the heads of the other departments to nominate climate champions within their own departments...I always compare it to finance. Every department has got an accountant. You’ve got a finance person in Electricity, in Water and Sanitation, in Parks. Then I ask myself, why can’t we have a climate change person just like the finance? Then they pull together all the finance things and report to the office of the CFO. I think climate change should be like that, the climate action plan of various departments must be reported to the Climate Change Director. If we are bold enough and have someone that not only wants to build an empire, but have climate change professionals embedded within other departments to pull everything together and then report it to them” (Respondent L).

“Departments are working in silos in the municipality. Sometimes you get duplication of meetings, you’ve been to a meeting with this department and it’s the same discussion with the other department. Everyone is working in silos and it’s purely because within our KPIs in the municipality and the different departments we haven’t mainstreamed climate change” (Respondent J).

"Trans-sectoral coordination is so critical because climate action doesn't happen in one department. It absolutely requires coordination between all the different departments in a local government and that enabling environment needs to be created to facilitate coordination" (Respondent M).

"Different line functions in the city operate better than others. Some are really good and others are really dysfunctional. How do you get all these people, the city official that's sitting on the desk and responsible for solid waste collection, how do you make him interested in doing this work, while considering climate change as well because it comes as an extra burden. Now he's got a climate change project that he's got to implement, on top of all his work and it's very difficult to get some people to do it. It's also difficult to create a system that everyone will follow" (Respondent H).

"Champions break down silos by fostering collaboration across departments" (Respondent C).

"The energy for the climate committee comes from a lower technical level, if I didn't have an agenda item, there won't be a committee. It's an avenue which could be better leveraged". (Respondent D).

"In Durban we created our own governance structure, how we would like to see that addresses breaking down silos and decision making across sectors" (Respondent H).

"None of the other departments made reference to the city's climate change policies when developing their own policies, hence stifling climate change mainstreaming" (Respondent A).

"The whole IDP process, is not integrated at all, it's just one document with each department's section" (Respondent E).

Bureaucracy and hierarchy

"Some of the hierarchy is borne from the law, there's this stipulation that you need to have A, B and C" (Respondent D).

"The political sphere is very well regulated through the Constitution and Municipal Systems Act. This means the systems and structures will be difficult to change. This may be a disadvantage since, the political structures of a municipality oversee the administrative, more technical structures (Respondent C).

"I think that committees are often structures which are not well attended and the level of engagement is generally low. If these structures are used to work together towards

outcomes, it can work. But often it's time consuming, people just sit there..." (Respondent E).

"We don't have the Climate Change Act yet. I think the Climate Change Act is going to change that because the governance part of it, there's a requirement for all district municipalities to create these multi stakeholder forums for climate change. I think that's going to be a big game changer, (currently) there isn't a legal requirement for there to be any sort of governance structure for climate change in cities" (Respondent H)

"How do we get their political bosses and their administrative bosses to encourage them to do the work or make them do that work more because it's necessary or even to get those political bosses convinced that it is necessary to do these actions. We try as much as we can to work from the bottom up and to develop projects that are going to meet our climate change needs while being realistic on what will be done and what can be done" (Respondent H).

"Combine all those bylaws, the clean air, waste, water, energy. These are what helps us to be able to implement and to be able to mainstream climate change into the decisions that are being made in the city, into the decisions that are being made for development as well (Respondent J).

"The Mayors that come in tend to over complicate things. Technical Cluster for example is not law. Section 79 is law. Mayoral Cluster and Council is law. Every other thing is not law and adds to the bureaucracy. Technical Clusters were intended to enhance cross-departmental coordination, but in reality it ends up adding layers. It's become so entrenched that after a while you wonder what purpose it serves. I'm not sure that some of these clusters are useful" (Respondent D).

"Climate change is often referred to as an area that has no mandate because there is no legislation... people are used to doing things because there is some sort of enforcement linked to a certain legislation, and if there is no such it becomes a bit difficult to convince them at a practical level to implement particular projects" (Respondent N).

Competing developmental priorities

"There are many other competing socio economic priorities. We need to not make it one or the other climate change versus socio-economic priorities, but it needs to be more holistic..." (Respondent A).

"Because of the lack of knowledge, competing priorities in cities, budgetary constraints and [lack of] political leadership – climate change may not be perceived to be a priority" (Respondent E).

"It's very complex and very difficult to know what to do to get people to a level of common understanding of what's most important, what needs to be prioritized. It's not impossible but I think we've got a way to go just in terms of awareness and understanding" (Respondent I).

"The playing field is not level. The Global South is still recovering from colonialism, and in South Africa, apartheid. We have different priorities that we need to address, not to say the Global South is not addressing climate change. I think we are and we do have champions in the Global South who are doing great work. But it cannot be compared due to the unequal playing field" (Respondent B).

"The Global North has already been industrialised, they've developed carbon intensive economies with the goal of being productive and prosperous" (Respondent B).

"More efforts, time and money is spent on these things which could have a positive socioeconomic impact in the short term. Whereas with climate change, the changes that we want to make, these are more long term, we'll only be able to measure the impact after a couple of years" (Respondent J).

"I think it can't be easy because there's many different political factions that are clamouring for the main voice or the decisions to be had. You've got different sectors in the city, a proud business sector, civil society and they are all trying to get a piece so there are many different demands on decision making" (Respondent H).

"The Global South may also be characteristic of a resource based economy and the Global North service based. Therefore, leaders of the Global South are less likely to prioritise the climate change agenda to enable economic growth. It can be argued that it is easier for leaders of the Global North to prioritise the climate agenda due to more developed service based economies which are less carbon intensive" (Respondent C).

Geared for incremental change

"Change is incremental. It takes time to get buy-in, develop trust, develop capacity, fund projects/programmes, get the necessary approvals" (Respondent C).

"It takes time to change people's mindsets, it takes time to break down a structure, or a department that has been built upon years of doing things one way. For certain things, we have to accept that it's going to be gradual" (Respondent B).

Securing votes

"The politics of local government revolves around trying to win votes" (Respondent E).

"My impression is the citizens of the Global North would demand leadership which prioritizes climate response" (Respondent C).

"There were some very good questions being asked about it but there was no one there that was sort of wondering whether this was a good idea. There's good unity behind it" (Respondent H).

"It won't win votes to implement climate change projects" (Respondent A).

"Normal people don't really think or believe that climate change is happening. There is still a notion that it is a conspiracy theory" (Respondent J).

"It used to be just a few crazies doing it and I think that was the time when climate change was considered an environmental issue and crackpot environmentalists with a heavy lobby on the other side trying to discredit it. But the more we're seeing fires and floods and all the rest of it and the stronger the IPCC science gets, the less that the oil lobby has credible information to support its findings and it's going more towards disinformation now than anything. I think because the general public opinion is much more strongly behind climate change, politicians are getting much more strongly behind it because that's what the electorate wants to see" (Respondent H).

"Citizens are really demanding the change that they want" (Respondent B)

In the Global North, voters are demanding climate action so it's a top priority (Respondent E).

Community-driven

"Local government can drive change quicker. Local government has the ability to be innovative, to be as close to the people as possible, and delivering the change required" (Respondent B).

"One of the most important opportunities for local government is the Integrated Development Plans which is a really, in my view, a very great tool that could be utilised by municipalities as a way of bringing in the community, I think it would be something that would be transformational...The IDP offers an opportunity for the municipality to consult and to work with the third arm of local government, which is the community and to firstly understand what are their challenges, and be able to get them to identify some of the ways in which themselves, together with the administrative leadership of a municipality could be able to resolve those issues. And then end up with some sort of a plan that needs to be budgeted for, however, we know that this process is really not being implemented the way that it should, which is a challenge...the plan itself, is not developed in partnership, with the community being an equal partner...that's an opportunity that is really lost" (Respondent L).

"At a local level, leaders are so connected with residents and business" (Respondent H).

International climate negotiations

"It will be interesting to see how Africa catches up, you know all the other cities, what guidance they take from things like the Paris Agreement and the National Government's NDCs" (Respondent H).

"The fact that we were hosting COP17, such a massive event, it was a real enabler. It empowered us to get the Mayor interested and he came on board quickly, doing a local government event for us that started the Durban Adaptation Charter. It was such an important role played by our Mayor there and in a high level segment reporting back to COP was a real sort of enabler that allowed us to reach out to our Mayor and then get him on the journey of becoming a climate change leader. And that journey continued through this ICLEI Resilient Cities Congress and the Mayor's Adaptation Forum...that eventually led to him becoming Vice President" (Respondent H).

Service delivery

*"Climate change is not in the agenda for a voter in Alexandria, there needs are far more pressing, they needs roads and **basic services**" (Respondent A).*

"Leaders of the global south may not make the connection between, alleviating the persisting challenges through their climate change response" (Respondent C).

"In Durban and Johannesburg the knowledge that politicians have of climate change is very limited so they don't fully understand the link between climate change and the issues that they are advocating for" (Respondent E).

"What we don't want to do is make climate change a hinderance for development. We want projects that are going to be implemented and attend to social issues, mainstreaming gender into these projects, mainstreaming youth employment, creation of green jobs, projects that will ensure that there is actual development that will make a difference...improving the aesthetics of the city, the revenue collection of the city, the economic status of the city, the employment rates, we want projects that are going to fulfilling climate change objectives but not compromising any other objectives of the city" (Respondent J).

You rarely get support because you do not have a champion at a Mayoral level. C40 tries to get Mayors involved but Mayors in the developed countries and even in Africa,

are just so busy, bogged down with strikes because of basic services which are not being delivered (Respondent N)

"The challenge in South Africa is that there is service delivery that is inadequate. It's so basic that you almost want to fix the basics first, get the basics right. And that is how we differ with countries internationally, because theirs it's more how do we deliver the sustainability component, that climate change mainstreaming component at the local level is missed <in the South African context>" (Respondent N).

"They don't really understand that climate change is in fact service delivery, it just makes service delivery easier and much more sustainable and everlasting" (Respondent N).

"We want projects that are going to fulfil climate change objectives but not compromising any other objectives of the city" (Respondent J).

Disconnect between planning and implementation

"The theoretical part of it is very ideal, it's just the implementation which gets a bit shaky" (Respondent J)

"I think there was fatigue for climate change because they have so many documents that they produce every year. Their policy cycle is very short in the city, they have people in the room constantly and I think people just get frustrated. The officials are so focussed on developing policy that they are not focused on implementing the existing actions in other team's policies" (Respondent A).

"We understand there's probably a lot more we're missing, like the big capital projects and they're just not tuned into climate change enough and we don't have enough reach to get them interested in it. So one of the problems is being able to ensure that these big catalyst projects are sufficiently considering climate change for example, rebuilding our wastewater infrastructure after the floods. We've seen presentations by the water and sanitation engineers where they were putting forward solutions that can make the infrastructure more resilient to future flooding. But is it reaching the big decision makers? Is the head of water and sanitation who's deciding on spending, is he making the necessary sort of adjustments to their plan because it costs more money, that's not a given" (Respondent H).

"Leaders of the Global North seem to be highly progressive with respect to implementing climate response for example, Germany, Scandinavia etc. Leaders of the Global South seem to be addressing climate change policy and governance e.g. South Africa's Climate Change Bill, regulations regarding Independent Power Producers, establishing a Presidential Climate Commission" (Respondent C).

"<Global North cities say> We've got it and this is what we are doing, this is how far we are, this is how well it's going, these are the challenges, this is how we are going to attend to the challenges. Whereas with us, we want to try and this is what we anticipate are going to be the challenges and this is what we'll do. But before we can even do it we need someone to believe in us enough to even try it and we can prove that we can do it and then we can look at the change that comes with what we are doing. I think that's the difference, one is ahead of the other" (Respondent J).

Financial sense

"Maybe that's one other thing we need to be doing a lot more of, and it's a little bit more difficult for adaptation, but we really need to be showing how we are saving the city money in doing some of the work" (Respondent H).

"Green Building Council South Africa...issued a paper on the business sense of green buildings. That spoke to a lot of property owners, if it means it's going to affect my bottom line positively then I'm sold" (Respondent K).

"The dependence on revenue from water and electricity. Water is scarce, we live in a water scarce country and electricity is, you know what's happening now with load shedding and Eskom. We also can't rely on that dirty fuel to keep us going for the next 50 or 100 years but cities rely on the income or revenue that they get from selling water and electricity to their residents. So how do you as a city leader say to your residents that we need to save water...that's the good climate change message to send but it's not a good income revenue message to send, your CFO won't be happy with you sending out that message. So there's this balance that we need to make...So if the financing models for cities can be changed so that the things that advance the climate change agenda are not the very things that cities rely on for their income and subsidising indigent communities and providing service delivery in other areas that can't afford it, it needs to be changed to an alternative model that will still benefit cities and people. It's quite a challenge. What is the alternative model then? How do we then do this? That will maybe help the emergence of leaders who focus on climate change and mainstreaming it into city planning. The resources side may be the reason for the lack of championship, pushing the agenda for climate change to be embedded within cities" (Respondent K)

"If they put in a budget to electrify <a community>, of like 100 million <rands>, for them to be able to now bring in another energy solution, they can then request additional money from the Green Climate Fund to top up what they have and to be able to provide that energy solution instead of electrifying using coal" (Respondent L).

Multidisciplinary, interconnected thinking

"Someone who is a people's person, somebody who is able to connect diverse functions within the city, able to connect the dots and understand that its not just about their own little corner. They say, hey we need to get the budget person in here, hey we need to get the fire department here, someone in strategy here and not just the usual suspects who are responsible for the so called climate related sectors, who's able to see that this is going to start affecting communities, how do we engage with them. So somebody who has got a broader view, of the cross cutting nature of climate change..." (Respondent K)

"(Climate champions) have an ability to make connections between their personal beliefs and the technical, policy, and institutional infrastructure required to effect real change, they see the pathways to effect change and the individual components" (Respondent C).

"People responsible for climate change in local government are intersectional environmentalists at heart, whether they know it or not" (Respondent B).

"I think it takes someone who is open minded as well to accommodate the fact that it has impacts on gender, on youth, racially we don't think the same, we don't react to climate change the same. Economically we don't think the same" (Respondent J).

"It's their ability to convince people to make those linkages to identify opportunities and knowing how to approach them... I think that's really important" (Respondent M).

"It starts from a scientific perspective, but it ends up being cross-cutting, various departments and ministries and even segments in society like business, government, local government, all spheres of government and then civil society, so it's complex, right? And you need a particular type of leader that can both work across different knowledge areas. And that can also work across different institutional environments, right? And you cannot have, I don't think you could have a one dimensional leader, someone who's just a specialist on meteorology, for example, or on climatology, you know, they're just not gonna understand many aspects of it, right? So you would need kind of a well versed diverse leader who can coordinate across these different sectors and these different spheres. And that goes into what type of leader is appropriate" (Respondent O).

Broad, meaningful engagement & collaboration

"He really knows how to bring people in, doesn't burn any bridges" (Respondent I)

"There is a world out there, in universities and NGOs. If you are not interacting with that world then you are stunting everything" (Respondent D).

“People who are able to be more inclusive in their approach...who can speak across different cultural groups and appeal to human needs and values like across the you know, cultural and racial age and the gender divide” (Respondent I).

“Not trying to do things themselves but bringing together a group of people that are able to do things and make them believe that they can and do it” (Respondent K).

“We’ve been in quite a few workshops and seminars, with the general public or NGOs or academia, and the one thing we are hearing time and time again is that city leadership are hard to access. People are battling to access the city leaders here and it’s creating big problems. I’ll give you an example: A Durban Coalition, they call this range of civil society, engineers, people with some serious skills and seeing what was happening, how the city was battling to deal with the floods. They’ve been trying to work with the city leadership to set up this partnership between this Durban Coalition and the city to offer their services. And they are just battling to get city leaders into their meetings. There was a big one planned for 3 or 4 weeks ago, where they invited people from The Presidency and province and it was supposed to be this big meeting in Durban to plan how to take us forward. And it was myself and a couple other senior managers that were there and it was incredibly embarrassing because we had these 18 different organisations unloading on ourselves on how the city is not taking them seriously. And as much as they recognised our presence there and they thanked us for being there and they weren’t saying this was about us, they unloaded their frustrations and understandably so you know, incredible frustrating when you’ve worked hard to set something like this up and you then get told that no one important is going to be there. That’s the other sort of big thing that needs to be addressed. City leaders need to be showing that sort of leadership attending those sort of meetings and they must have these demands on their time all the time. But somehow there needs to be a way of figuring out what’s the important stuff and what can lead to better outcomes and then prioritising those. I think a lot of the stuff isn’t that important that doesn’t seem <important, gets prioritised>. It’s hard to know what’s in their heads” (Respondent H).

Weak and unsupportive intergovernmental relations

“At a national level, you have a very policy driven leadership style. There is so much work going on, on paper. It get very hard to then get it implemented when it gets to a local level” (Respondent J).

“What enables mainstreaming is this cooperative governance notion, and I’ll say it’s a notion because it’s there in the institution, in the Municipal Systems Act, Local Government Act, cooperative governance is there, all these 3 spheres of government are complimentary to each other. One doesn’t dominate the other, there needs to be cooperative governance between the 3 spheres and how that works is that they should draw on each other but also on all of society to make this happen, to make the system work. But it doesn’t happen like that in reality, National Government is the big brother and they dominate and they tell what local government should and can’t do etc, and

local government has accepted that unfortunately because they have also been performing in a way that will convince big brother that hey, you are not big brother, we are equals here, we can do the work, where the action happens at a local level and we know what we are doing, they haven't been able to convince national government of that" (Respondent K).

"The Ministry of Environment is considered to be very Junior Ministry. If you look at how the issues of the just transition are playing out, you can see, the Ministry of Mineral Resources and Energy it's able to talk completely at odd with the Minister of Environment, saying "Who are you? We're not going to listen to this"...the issues of environment just continue to be at the at the bottom of the ladder. (Respondent L).

"At the moment, to be honest with you, there isn't much...It feels like there is a continuous battle. We've got the Intergovernmental Relations Act that has been put together to be able to get the 3 levels of government that we have in South Africa to work together. And that didn't really quite work. And then there has been now this move to adopt the this district development model which basically has been brought in to do what the Intergovernmental Relations Act has not been able to achieve. And to look at opportunity for all levels of government to come at a district level and plan together and budget together, and implement together as well as monitoring and evaluation. However, it's still a challenge because what I see is that especially local government, it comes as an afterthought" (Respondent L).

"I've also witnessed that National Government always bundles together, provincial and local government as one. I've also seen that when we talk about, for example, things like the just energy transition, local municipalities, meaning the small ones, they really get left behind. And I do not understand how we can do that, and only just focus on districts and metros, because local municipalities are also responsible for some of the key sectors like air quality, waste management, water, sanitation & electricity. There's a challenge of integration vertically and horizontally within government. I don't know how we are going to do this? For us to be able to achieve robust and ambitious climate action we need all the levels of government to be able to work together. I actually believe that local governments must take the lead in terms of implementation, because that's their responsibility, that's their constitutional mandate. The National Government must provide the enabling environment, they need to set policies and legislation. That must become very clear in terms of what is the role of national, what is the role of the province, and what is the role of the municipality? What is the role of the community and other stakeholders? ...I know that in South Africa the Minister has been saying 'Let's get the Climate Change Act passed because it will become very clear in terms of what is the role of local government. But what we saw in the Bill itself, It doesn't quite provide that leadership, so that that's really the challenge. I think there is a lot of work that we need to do as a sector to be able to make sure that local governments are actually a critical part, that they set the agenda in terms of implementation, that international partners are aware of the role of local government. I understand that there are all sorts of governance challenges with local government, but we have to find a way. We have to find a way, because if not we are doomed. There

is no area that is called national government or province. There is only a local government” (Respondent L).

The Integrated Development Plans are also reviewed and approved by other spheres of government. Metropolitan municipalities and district municipalities are required to submit their IDPs and budgets to National COGTA, whereas local municipalities are required to submit the same to provincial COGTA. The IDP and budget is then reviewed against a set of criteria which does not include climate change considerations.

“When you look at that criteria that they are using, it's not very strong on environmental issues, it's not strong on disaster management issues, it's not strong on municipal health. There are certain issues that are that are prioritized, which is which are mostly a basic services - water and sanitation, electricity, waste management. The municipalities are able to pass their IDPs and their budgets. On the compliance side and we don't have a very strong mechanism that would say to the municipality, ‘you know you have been facing disasters, we cannot approve this plan, and we cannot approve this budget, because it doesn't include adequate provision for disaster, management or climate change’” (Respondent L).

Citing examples from Cape Town, challenging national government and attempting to improve engagement with national government over key issues has been a strategy. Cape Town has legally challenged national government to allow the city to procure renewable energy. They are also exploring the case for taking over the rail network (Respondent I).

Departmental positioning

The positioning of the climate change function varies in South African municipalities. In most Category A municipalities, the climate change functions are located within the environmental department, City of Tshwane is an exception with the climate function being situated in the Mayor's office. Some city officials have noted this placement as a key barrier for climate mainstreaming since environmental departments typically do not have the political clout, resources or mandate to coordinate and influence policy and actions across the administration. In addition, the position undermines efforts to frame climate change as a developmental challenge rather than an environmental challenge. A key strategy is to motivate for the climate change function to be situated in a more strategic office with a mandate for long-term strategic planning and coordination. The importance of buy-in from strategic and political offices has been noted. Placement within these departments have been found to have a positive influence on mainstreaming efforts although it does make the function more susceptible to the impacts of political change:

“A sector who is in the same position as the other sector and cannot be commanding the sector to do certain things over and above what they are doing. When it's me

commanding you, it doesn't have an effect. When it's someone above both of us commanding us it works" (Respondent G).

"In Tshwane when they set up the City Sustainability Unit (CSU) they had an amazing Mayor, Ramakgopa who believed in the CSU and what it could potentially do for the city and that's why it was put in the Mayor's Office to say I am the Mayor, I'm the champion for this and I have this team that believes in it" (Respondent K).

"If you think about it that has been the struggle for environmental issues in municipalities for decades, because they are always seen as a token little department sitting over there" (Respondent L).

"The challenge is that most of the climate change functions are not sitting at a central level, there are more sitting on the side, it will just be some department in the municipality. For example, if it is to sit in the city manager's office or even the mayoral office, there's a sense of authority and then you can dictate your indicators and targets to all those departments and entities for implementation on the ground. But if you are just a department, you must push what you are doing with the department but you must not come and give us added responsibilities. So that's why they end up not getting translated into targets and indicators that get implemented on the ground. They don't get funded because no one wants to take the risk of something that he or she doesn't understand or is not convinced about, and no one wants to prioritise that and commit budget, which is the critical problem" (Respondent N).

"The challenge is that if you have resources, but those resources are not located within a strategic department like the City Managers office, you lose budget every time politicians come and go" (Respondent N).

Maladministration & poor governance

"In terms of protocols and internal processes, there is a perception that everything is very slow. Things are not as efficient" (Respondent B).

"The sphere of local government and government in general is often inefficient and therefore may influence the rate of change" (Respondent C).

"Aspects of local government are archaic with outdated regulations which are no longer relevant and outdated systems which have not been designed to closely monitor impact" (Respondent F).

There is a lack of accountability at a political level. Politicians make promises to communities in exchange for their votes however once in office there isn't a transparent performance management system in place which hold them to account:

"You can say that this councillor is a bad leader, what metrics are there to measure the performance of politicians?" (Respondent F).

"There is a deep rooted culture of corruption which has an impact on the practical sphere" (Respondent B).

"There's no use adding vision and bold plans on top of a corrupt system...If you don't have a system that has integrity and it's corrupt, how can you do anything really let alone respond to climate change" (Respondent I).

The calibre of political leadership present in South African cities has been questioned. It is evident that some politicians are insincere, don't have good intentions and often fail to deliver on their promises:

"Politicians say will say what they think people want to hear, but don't align their actions based on what people want to see. You don't see implementation happening in response to service delivery protests, but when it's election time, you'll see politicians going out and making a hundred thousand promises" (Respondent E).

As a result of maladministration, local government is not perceived as a reputable employer. Local government culture is so tainted, people would rather venture into the NGO space or the development cooperation space and not be tainted with the local government culture – nepotism, and the slow laid back culture:

"Local government can break the spirit of the most highly motivated person, it can really shatter someone's good intentions. It really has the potential to do that" (Respondent B).

"There needs to be a shift that happens at a local level that cleans up their act, complies to the Auditor General's requirements around good governance, clean governance, if corruption can be weeded out, if people can be appointed on merit and be able to do the work. You'll find in some instances, people are appointed because of their political affiliation and not necessarily because they can do the work and then you give somebody a Head of Department role and they have no idea what that Department's role is within a city, they've just been appointed as the Head of Economic Development or Human Settlements because they are ANC or DA or whatever party is in flavour at that time. But they don't have the skills to lead that department and contribute significantly to what that department should do for the city" (Respondent K).

Young democracy

"I went to Denmark in 2019 and it's a well-run country, everything works and they were like no guys, don't be fooled, we've been at this democracy thing since the 11th"

century, we've got hundreds of years on you, finding what works and what doesn't work in democracy. That's why we're a mature democracy. You guys are only 20-odd years old, you can't be so hard on yourselves but at least learn from others what has worked and what hasn't. We don't realise how young we are in the game" (Respondent K).

"We went to the Netherlands on a research trip and the Netherlands, basically, that country runs down to a fine art and it is because of centuries of good leadership" (Respondent O)

City budgets

"The budget specifically, I think it's one of the most important mechanisms for mainstreaming and channelling funding towards climate activities and the political sphere in your framework is really important to channel financing towards activities. But in terms of mainstreaming the argument is very often that it needs to use existing funding streams...But if you use your existing funding streams, especially your capital and operational budgets. If you use those existing streams to finance, climate responsive projects, and so forth which might in some cases require more funding, you deplete your existing revenue, so you need to supplement it in some way, and that way is by getting dedicated climate funding as well, which often is not that cross-cutting. It's very difficult in local government to fund cross-cutting projects. That's also something that came out in my research a lot, that funding those cross-sectoral projects is incredibly difficult...those structures, those management systems need to be facilitators of that" (Respondent M).

"There is much of a need to really convince them at that level <political leaders> so that they can be able to hear because you can present 1000 times, but for them, they characterise what you're saying as not important, that would not see the light of day. They might adopt some things but practically when you are trying to get budgets passed, they won't defend such budgets" (Respondent N).

"Politics are driven by finances. So with all the decisions we have, MANCO (management committee), SCM (supply chain management) sitting, the various forums that take place, the community forums, the political leadership in communities, everything is driven by money. When it comes to politics, money is a motivator" (Respondent J).

Geared for incremental change

"There's an incremental improvement over the years, once people are used to doing climate change projects and reporting on them in our system and that then you can always ramp up effort as evidence to suggest that. For us that's very much been the

approach we've used. We haven't come in with this big sort of top down approach. We have a little bit, obviously we have our Heads of Units and champion Mayor saying that climate change is important and we must do it but we've very much worked with our functions from the bottom up saying this is what we need, but what can you do and how do we best achieve this?" (Respondent H)

Securing votes

"Because politically people need to vote for you, they need to support you...You want to make the people happy in order for you to get the political support" (Respondent J).

Community focussed

"Things that are commonly agreed by the politicians, by the officials, and by residents and civil society, then it's much easier to get traction" (Respondent I).

"Practically it needs to make sense to everyone and not compromise anyone" (Respondent J).

"But the community really needs to buy into this. They need to understand why because usually this happens that poor people are usually being asked to make sacrifices. Right? I've seen that municipalities often leave opportunities like this, and to be able to communicate. The city of Joburg, for example, in other cities started to introduce the Bus Rapid Transit Systems and there was a war with the taxi drivers. They never use that opportunity to educate the masses so that they can have the support of the masses" (Respondent L).

"Especially in a space like municipalities where the people matter, it's all about the people" (Respondent J).

Practical

Monitoring, evaluation and reporting

"The conundrum around mainstreaming is that it's very difficult to measure mainstreaming if it's done successfully because it gets diffused into everything... it gets more difficult to identify those areas where we've mainstreamed" (Respondent M).

"Most of our plans don't really have anything. We need to make sure that those plans at a practical level, have indicators and clear deliverables which can be translated into what the departments are doing" (Respondent N).

“Some report really willingly and engagingly and others you never hear from them. You just have to understand that that’s the reality and you can only report on what you hear” Respondent H.

“Climate change practitioners often look for examples of projects which have some adaptation benefit and then label it a climate change project...if the city drills boreholes to increase the water availability in a township, that [action] does have climate adaptation potential...but if the city didn’t do it explicitly for climate change adaptation and it was actually just meant for service delivery then do we actually take ownership of that intervention or was it just a happy coincidence?” (Respondent A).

Mitigation bias

“There is no praise in preventing a disaster, whereas there is praise in the direct savings gained from mitigation projects” (Respondent F).

“It was difficult for adaptation projects to be recognised initially, but they’re getting more attention now” (Respondent F)

Making reference to the floods in Durban and the efforts to raise awareness over the past 16 years, Respondent O shared that with politicians experiencing flooding two years in a row, it’s now become more of a priority:

“So when it’s happening right now, that’s when you start to get action” - Respondent O

External partners

“Cities get finance from different bilaterals, development agencies, or organisations like C40, ICLEI, UK Pact, different funding sources which sometimes get the projects started. Like I said with the budgeting, if it’s not budgeted under the Environmental Department then it is unlikely that any other department is going to take on an initiative that is specially targeting climate change goals unless there is external funding or some other trigger that enables that to happen” (Respondent K).

“The financing through grants, for example the BRT systems have been financed through the integrated transport infrastructure fund and that had a specific climate change goal initially because of the World Cup and realising that transport is a major emitter and so we need to do something around transport and mobility in our cities. It really came from that investment initially with planning for the World Cup and then National Treasury provided that grant to cities to look at integrated transport planning. That’s one area where you see that grants have had an influence and there

are different grants, energy efficiency, grants from DMRE which have focused on cities retrofitting their buildings and street lights etc” (Respondent K).

Partnering

“Working with businesses, the city's done a lot of that less in the climate space, more about job creation and kind of green economy stuff” (Respondent I).

“In KZN through that Transformation River project they have now brought in other municipalities, so that they can be able to apply for their climate finance together, not as one municipality, but now as a region of municipalities that are facing similar issues, and want to work on common issues” (Respondent L).

“We could actually strengthen these existing programmes to talk to climate change, because they are already there” (Respondent J)

Personal - political

Technical political interface

It's not very easy because decision making in government is usually done at a high level, director general, deputy director general and municipal manager, city manager and also politicians” (Respondent N).

“You need a Mayor who is able to command that particular respect at that level, speak to the Members of Mayoral Committee... so that every member of Mayoral committee can see this <climate action> as critical and would for example have his or her own target. We need to reduce emissions, by doing XYZ projects that are practical on the ground. And in that way, if you've got MMCs from all departments, not only environment, coming from the political head, the Mayor, going to the executives and then at the technical level that cascades into those targets and the business planning processes...That way you don't have hinderances, or pushbacks because everyone understands the vision, everyone understands that it has to be done and what needs to be done. So you get support everywhere.” (Respondent N).

“I think a lot of the times we get so bogged down with all of these governance discussions and process changes, sometimes it's just that the people need to be replaced” (Respondent A).

"You also need the governance structure to actually adopt all of that and simulate it and build it into the delivery models" (Respondent I).

"Pitching climate change at a technical level is a mistake, you need political support" (Respondent D).

"The current Mayor is focused on cleaning up the city...if I was working in the Waste Department...I would feel inspired to do my job better" (Respondent I).

"We've had previous Mayors who just bulldoze decisions and don't consult or do things that make you wonder why? What is the purpose of this? Really? Why are you doing it this way? It's not really going to help anyone, it's just your idea. Leaders are also able to inspire others to come along for the journey" (Respondent I).

"Technocrats need to be able to wear both pants. You can't just be technical, you need to wear both the technical and political hat. That's what public service is about. Here we think that if you have a Masters in environmental science and you're a Director, that is all you need, the technical knowledge. But you need to reflect on how your work impacts people and how you relate to political leadership?" (Respondent F).

"For you to get the top executive of the municipality to sit and discuss climate change you need politicians to persuade them. But sometimes that is not enough because we could have an MMC who could be a champion and want to ensure that there is more participation at a technical level by different departments but you still won't be able to win...You need to have a Mayor who has that agenda, a very very important agenda on the table to push sustainable service delivery" (Respondent N)

"Politically and administratively, there is an isolation there, there is a need for those two structures to come together in order to inform how things are operating from the top to us at the bottom. Especially because of the instability of our political landscape, the next person who's going to come in probably is not going to care about climate change. As much as the Head of Department is aware that climate change is a priority in the city, from a political point of view, the Mayor is saying that climate change is a priority. The conversation it's so high level that there is such a gap between the political leadership and then there's so many layers of everyone else and then there's the climate change specialist. So everyone else in the middle has no idea, they are just getting the direction that you need to attend this. The city manager was at COP. But in none of the conversations that the Mayor has had with anyone regarding climate change, is the city manager involved." (Respondent J).

"We see this when there are changes in political leadership...we see the impact of their ideologies and beliefs" (Respondents A).

"When the new Member of Mayoral Committee joined the department, city officials in her team felt as though all progress had been lost and that they would be starting afresh" (Respondent A).

"When there is a political change everyone is kind of a bit flustered, it affects their motivation" (Respondent I).

"They want to do things that show immediate impact because they want to show their value to the system" (Respondent A).

"Taking a more short-term approach so that you can be popular...with the voters, and climate change requires a much longer term view. So I think that's at odds" (Respondent I).

"The impact of political parties changing, mayoral and council changes really have an impact on what a city can achieve. There are also budget implications to the change" (Respondent B).

"Let me tell you, people are so sceptical, they are so reluctant to sign anything. We are trying to have these meetings, the resilience forum... now you need the Head of Department to sign and the Divisional Head, no one wants to sign off on anything individually because there is so much of instability that no one wants to be accountable to say I said yes to the climate change team. Everyone is so reluctant, and we can feel it as the junior staff, the people who are doing the actual work. We can feel that we can never get a straight answer because of the political instability. It's so murky" (Respondent J).

"Politically climate change has now become mandatory, whatever group you're in climate change has to be included" (Responded J).

"For climate change to be prioritized, securing buy-in in the first year of a new administration is critical, this leaves the administration with four years to implement the project (barring any unexpected changes). Politicians are less likely to commit to delivering projects towards the latter years of an Integrated Development Planning cycle as they may not be able to deliver it before the next election" (Respondent A).

To ensure that there is continued political interest in climate change strong and dedicated officials are required they're going to go back and they're going to have this conversation every time there is a mayoral change (Respondent H).

"For that to be resolved...you need to institutionalise it throughout the whole organisation which would mean each and every player knows <and has bought into> the vision... it gets routed through plans, policies and strategies. It gets included in the IDP and then goes into the departmental plans, city manager scorecard, the target goes to all the departments and entities, then you've got resources" (Respondent M).

In my previous life, it was something that we were trying to get to, let's look at the structure, let's see what the roles and responsibilities...So whenever there are coalitions its <climate actions are> already institutionalised in the organisation &

therefore it doesn't have much of an impact, because the scorecard has already been drafted, everyone has to deliver according to that and that is crafted in such a way that its intertwined or integrated in the service delivery (Respondent N).

Leadership deficit

"The Disaster Management Act states what is required but quite often the responsibilities are just delegated down to the head of the disaster management unit and we're not having the city manager and the people that are supposed to be there and it's not as integrated with province as it should be. In theory, that's a really good structure for us to use and we are reporting on there. But with all these things, you know, how they are implemented, how well they are sort of attended, how seriously they are taken by city leaders is a big issue" (Respondent H).

"The technical task team which we'd set up in 2016, to drive climate change, so that's heads of units, two down from the City Manager, line functions that are responsible for implementing climate change projects related to service delivery. They were meeting quarterly and it was building towards them driving implementation of the strategy but that's in a bit of a hiatus at the moment as well. We were struggling to get that going again" (Respondent H).

"With the difference in leadership, we have a limited pool, the calibre of leaders in the Southern region of Africa... we need leaders who stand up for something, who believe in something, and who see that through and that can cascade to from the President to the city leaders" (Respondent K).

Bureaucratically-savvy and politically astute

It was noted that some leaders are able to overcome the bureaucracy inherent in the political sphere. Respondent D reflected on the role played by her previous Executive Director:

"He recognised that to take a report to Technical Cluster is a waste of time, let's parachute it straight to Mayoral. It has never been clear how that happens. You would think that there is a linear process but leaders are sometimes able to overcome the bureaucracy".

"You need someone to actually get in, to have the energy to navigate like a very difficult system...very rigid boundaries within which you can operate, and a lot of bureaucracy and red tape" (Respondent I).

Respondent D also noted that committees can be “ignored or rejuvenated” based on who is leading. She cited the example of a previous Mayor setting up a structure to gain insights on *service delivery* concerns and progress at a community level. She noted that it is possible to “dismantle the system” if there is a will to do so as several committees are not a legal requirement:

“Leaders can shape structures. These are quasi-committees, how you configure them is entirely up to you”.

In addition to being bureaucratically savvy, a high level of political acuity is needed, even for technical staff:

“You can’t just be technical, you need to wear both the technical and political hat. That’s what public service is about” (Respondent F).

“You can be the brightest mind and have the most know-how, but your political acumen is zero, and then you know, that’s just wasted knowledge.” (Respondent O)

Resistance to change

“That’s where the recalcitrance appears, with some of the officials, they just don’t want to do it. It doesn’t matter how persuasive you are, they just have their view and their cynicism, and they just won’t do it. And you can’t really weed out those people, either. They are part of the administration. It’s very hard to fire people who are not necessarily doing the job or towing the line” (Respondent I).

“I wish there was a way to change the whole mindset of how municipalities are being lead. If we could start the whole process again and put climate change as the foundation” (Respondent J).

“If they are not going to be willing to change their mindsets about integrating climate resilience and climate change mitigation in their day-to-day work, then we are not going to be successful” (Respondent L).

“We need an acknowledgement by the system itself by national, provincial and local government that this system of governance and operations is not working for us as cities, we need it to change. There needs to be voices within local government that say hey, can you help us advocate? It’s fine that we can whisper to them and say actually you need this to change as externals but it needs to come from them realising that it’s not working and there is a way to change it, so there’s that sort of leadership that’s required, leadership who is able to say the system isn’t working, the system is dysfunctional and acknowledge that. Acknowledging that doesn’t mean you have failed, as individuals or as people, it’s just the nature of the system and how its unfolded, it hasn’t panned out the way it was intended to. We need that kind of

leadership, and we've lost that in the past 15 years or so I'd say, that type of Mayor who is able to say things need to change. The Mayors these days are just too focused on the politics instead of the systems of governance, whether it's working for them or not. Not realising that if they are able to change that system then the politics will be easy. You don't have to convince people to vote for you if you've changed a system which doesn't work for them and they are able to see the results" (Respondent K).

Political - practical

Climate change plans

"Our climate change strategy and implementation plan cuts across a variety of sectors" (Respondent H).

"You need to have very clear implementation plans, clear timelines, clear deliverables, clear targets... we often have policies or strategies but there is no plan to implement them" (Respondent N).

"The CAP has already been adopted by Council. The IDP committee are not trying to negotiate the CAP. They agree that it must be adopted. The whole process of having the CAP approved by Council is therefore a huge thing. If you have not taken it to Council then it becomes questionable, people are not interested in it, you are bothering them (Respondent D).

Influencing sector plans

A key strategy for institutionalising climate change has been for climate change teams to influence the strategies, policies and plans of other city departments with the goal of embedding climate change.

"The one thing that we try to do in the city is to make climate change not an environmental issue at all but a cross cutting issue that goes to every line function and that every line, every person who's responsible from a line function for service delivery or for some sort of facet of the functioning of the municipality should consider how climate change affects them" (Respondent H).

"Once it's in another department's plan, it's much easier to implement, than it being in a stand alone climate change plan" (Respondent E).

"The other challenge is that there are lots of silos, co-creation is quite critical in government. You've got planned strategies, you need to cocreate those because its

only when you cocreate those that people feel part of them and then they feel its our baby. If it's not cocreated you will try to communicate (and fail) because they don't get the genesis of it. It will be difficult to persuade them" (Respondent N).

This strategy is more effective when climate change is integrated into sector plans from the start, rather than at the end when the plan is already developed and the opportunity for inputs is limited.

"We have a disaster management framework and we had to make inputs into it in an effort to mainstream climate change...In reality disasters are going to happen but climate change is an afterthought...At the moment we are trying to influence already written, already approved and already implemented and been working for years documents to include climate change" (Respondent J).

Policy integration also depends on strong relationships and a willingness on the part of sector departments to engage on climate change.

"We've had mixed results, some (officials from other departments) have been really good and engaging and working hard and reporting and others we just cannot get to the table" (Respondent H).

"If you've established a relationship with the Integrated Development Planning Director and made a mark, s/he will ensure that the climate change office is consulted. Because they know you will trouble them and want your things to feature" (Respondent G).

"Different departments and entities already have business plans which become their scorecards and annual plans. That is where the rubber hits the road in terms of convincing them to do something because when you get funded from the IDP that translates all the way down to your scorecards, those indicators are accepted and used by these departments. It is very very difficult and the best way to do it is to co-create your strategies, your plans all the way and then take it through the business plans. Or when departments and entities are developing their business plans, be there to help them craft it" (Respondent N).

Financial resources

"Hunger is another aspect. When you are a beggar you aren't saying this is what I need, I am not taking the support on offer" (Respondent G). There are opportunities to learn from how other countries are managing donors. In Kenya, donors don't come into the system with a list of their needs. If there are donors interested, they are given a list!" (Respondent G)

"The deal that our President received at COP is mostly loans, and the honest truth is none of this is going to reach the people that it needs to reach when it comes to just

transition. It really sucks and that's why people are so quick to make climate change a conspiracy theory" (Respondent J).

Human resources

"I think that in the practical sphere, something that I feel is very important is information, access to information, value-added information, not just random data, excel sheets, maps, but things that are relevant to policy, to local government, to their actual needs. So relevant information. But then also, those people with the skills and the capability to take the information and turn it into policy and action...Information is an input into the process and it's also an output. Information goes into the system; it's integrated throughout the plans, structures, policies, systems, and the output is often instruments, such IDP or the SDF, wherein this information is mainstreamed or a dedicated adaptation plan, mitigation plan" (Respondent M).

"When we conduct trainings to a large extent we only invite the environment people or climate change people. In my view, we should be inviting all of the departments, the engineers, the planners, we need to have them, they are the ones that need to be trained. Because the environment and climate change people, they are overtrained but they are having difficulty" (Respondent L).

"I must say the outsourcing of knowledge creation is an issue. It really is. They are losing a lot of the value in doing that. But I also absolutely understand why they're doing that. Because they don't have the capacity. They don't have the capability, they need to outsource it... It costs, it takes time, it takes money co-create and it's not something that local government has" (Respondent M).

"I think a lot of the smaller municipalities, the Mayors, just haven't had a way in because the membership fees for ICLEI is too much and C40 is a smaller group that doesn't cater for these hundreds and thousands of municipalities. So maybe the opportunities for them to get in are not that great. They don't have a big team of environmental people that are bringing this to their attention and pushing it. And so that must be a lot more difficult for them. There's far fewer resources, far far less capacity in such organisations" (Respondent H).

"This is where you need a lot of worker bees, the people that do the work, the technical people that drive work, but they need that guidance from both the leaders and the institution to guide the focus of work. In the practical sphere it needs people with the skills and the capability to plan projects, to execute the projects, to design the project, and so forth." (Respondent M).

"There is a lack of personnel as for climate change. In every single department there should be someone who has an understanding of climate change, climate change champions or specialists, should be embedded in all of these departments for monitoring purposes, reporting purposes, accountability purposes" (Respondent J).

"They're essentially outsourcing their knowledge. And we all know how it goes. It goes out to tender, the deadlines are incredibly tight. There's no time for co-development, there's no time for co-creation of this knowledge, or even just knowledge transfer, so at the end of the project, it's a report, and they <the consultants> shove it in their hands <of city officials>, and they <the consultants> take their paycheck, and they walk out.... And the knowledge keeps sitting outside of the institution that actually uses the knowledge. It's incredibly frustrating because you can say, 'Yeah, we have this report'. But had they internalised it? ...Does it mean something to them? (Respondent M).

"I think there is quite a range of principles and tools and opportunities that have helped African cities over the last 10 years develop their capacity that enables them to start planning projects for climate change or developing institutional capacity, establishing climate change offices and stuff like that. I don't think its quite reached the governance side as much as it should have by now" (Respondent H).

"We need to be looking at these professionals who are most likely inclined to just do what they've been doing all along. We need to be introducing professional training programs on climate change, on just transition for those that are already in the system and then working with institutions of higher learning to be able to look at the curriculum and review it and make sure that it's in line with what we are trying to achieve so it wouldn't be very difficult for a new engineer that just joined the municipality to think out of the box" (Respondent L).

"They <Global North> have more capacity, the teams are much bigger, there is much stronger leadership and governance because they have more capacity. They are far more advanced on how climate change is governed and integrated across city departments" (Respondent E).

"There is a perception that the Global South need to be doing more, that it's not producing the leadership needed to mainstream climate change" (Respondent B).

"You can see the amount of effort, they've got dedicated staff, dedicated departments" (Respondent J).

"I met a lot of officials who really personally valued the work we were doing. But were not willing to try and integrate it into the day-to-day work, because they feel it was just too much. And so they face those challenges of what their scope is, what they're actually employed to do and some of it falls outside of the responsibilities. But then again, going back to the leadership point is that some people, will do it anyway, because they feel strongly about stuff" (Respondent I).

"Annual performance plans can be devolved to reality, the real critical issues pertaining to climate action" (Respondent L).

"Make sure that climate change is an indicator for the project or that we are able to monitor the climate change impacts... Once we can get those into performance management documents for departments, for seniors and for the municipality as a whole, only then can it be effective. It's getting climate change integrated, strategically aligned to all of the municipality's activities" (Respondent J).

"If there's KPIs, that in a way force them to look at certain things, that's come up as really important in really low, capacitated local government, very rural municipalities, where they say nobody is going to do anything if we don't measure them against something. So we need KPIs. But then, in very capacitated governments that have successfully mainstreamed climate change to a large extent, such as Cape Town, they also mentioned KPIs. So it's something that comes up across the board as important to make sure that the system is able to function and feed into climate action" (Respondent M).

Personal - practical

Implementation is a motivation

"From the perspective of the leader, that is also an external driver to be able to see realisation. I think that's a really important thing for somebody to stay motivated, is to see realisation and I think that's really where they are able to see it <in the practical sphere>" (Respondent M).

"I think it's just the motivation that comes with it. In the South the motivation comes with the hope of getting funding. Whereas in the North, it's really just making the change. What we want to do is at least get one or two projects off the ground so that we have something to showcase. Not because of the change but because we want to have something to showcase to advocate for any funding that comes up" (Respondent J).

Taking opportunities as they come

"A lot of our work has emerged fairly organically and in response to opportunities. It's been a lot less deliberate in the sense of following a plan and more sort of cooking by as you go along, adding ingredients and tasting it and finding what works. I think that's quite a risky sort of approach" (Respondent H).

Transecting the Three Spheres of Transformation

Interdependent

“There is a cycle at play, if there is political support for an initiative and practically it makes sense it is likely to be implemented, if there are benefits for the public, this will increase political support in the future and therefore strengthen the political mandate to continue similar initiatives. This is of course in an “ideal world, if things were simple and the politics weren’t exactly as they are” (Respondent J).

Reordering

“I think it's also just my frame of reference, where I almost put the institutional sphere or political sphere at the centre and I see it as the thing that really enables both the personal and in the practical sphere...the political sphere is those structures and processes that are able to facilitate the people in that practical sphere to make things happen...At the centre where the practical sphere is, which I do agree that it's really where things happen, where everything comes to fruition, in that project design, project implementation and so forth. But I think the weight of the political sphere is much greater” (Respondent M).

City networks

“I think there is a lot more that we could do to nurture or to even to encourage these unconventional approaches and innovative approaches, that municipalities are taking by highlighting them, by publicizing them, but also by making sure that those that they have not been thinking that way can have an exchange with those that are thinking like that and I think the scope is there for collaborations (Respondent L).

“Some leaders seem to be really enjoying that space, like the C40 political platforms or the ICLEI political platforms and they really rise to it and they get the benefits which are considerable...We’ve had 3 Mayors in Durban in the last 6 years or so who’ve stepped up and become leaders in the space, certainly in South Africa. The last two Mayors have been C40 Regional Vice Chairs. James Nxumalo was ICLEI’s Vice President...Unfortunately the coming and going of mayors presents a challenge for the city to maintain that leadership role (Respondent H).

City networks also provide support and encourage municipalities to improve their climate change reporting:

Whenever we can, when we are working with other African cities or South African cities, we always say, join Covenant of Mayors, get your political leaders interested in doing that, because they’re the ones that are then going to tell their city officials “right now you must report on this” Respondent H.

City networks offer opportunities for Mayors to attend international climate events and showcase their leadership. They also emphasise the important role Mayors have to play.

"Having access to these big events or to go to international events where the importance of the issue like climate change is reinforced in their mind and then having a role to play there as well. I think that's very important. I think that's what we do really well, really treating Mayors as these revered people, not just the people that get elected to lead a city but the importance of their role and building it up, is a very good idea because then it gets traction" (Respondent H).

"C40 is a very important network that facilitates <information sharing>...then there's South South North which is a knowledge broker. I think those networks are incredibly important in facilitating that process and really driving that practical sphere. It's also something I mentioned in my research that networks are really important, formal and informal" (Respondent M).

One city shifted their approach to goal setting after committing to the Paris Agreement Goal to be carbon neutral by 2050. This was supported by their involvement in C40's Climate Action Planning Programme.

"They would see what's possible, and then model their goal against that rather than looking at what we really want, and how do we get there?" (Respondent I)

Research gap

Environmental issue

"It's maybe a topic that is more on the political sciences, public administration side, and maybe even business administration, MBAs, fields that do research around governance and leadership and so forth. In the climate space. I think, is quite weak on that aspect. There are very important people looking into these types of things, but not enough" (Respondent M).

"I think one of the main issues around it is the fact that it's a very science-based sector, climate change starts with an environmental or scientific problem and we try to understand it with that lens. But, you know, there's been some work, especially on adaptation that links it to human systems, in terms of the impacts on settlements and on cities and then the economy" (Respondent O)

New concept

"Climate change is not a very old field, there is still that thing of wanting to convince sceptics to believe that the science is real, and a focus on producing credible evidence to prove that it's real. The notion of wanting to really convince the sceptics and the leaders themselves is the problem other than discussing about leadership and how to effect change in government" (Respondent N).

Limited interest

"I think the reason that there isn't a focus on climate change is that with governance there is a notion that there are other things that take priority before climate change unfortunately... In Africa, where the socioeconomic landscape really has priorities that are higher, when it comes to governance they would rather be looking at those higher priorities which have more of a tangible impact on human lives e.g. education, social services, grants..." (Respondent J)

"Climate change is also seen as a developed country concept. Politicians in developing countries... they don't see climate change as important and therefore leadership and governance of climate change goes down in their priority simply because they don't associate this as something that would bring development and that would bring service delivery and be able to end poverty" (Respondent N).

Too scientific and technical

"There's not much research when you connect the implications of governance and climate change. Whereas if you pull the two apart, there is a whole lot of research on climate change and a whole lot of research on governance. There hasn't been a bridging of the gap, bringing them together, because climate change has always been an isolated topic, it's extremely scientific... there's GHG emissions, you can't really touch it (Respondent J).

"I think a lot has to do with the fact that climate change is seen as a technical problem to solve with technical solutions" (Respondent K).

Research dissemination

"Maybe it's not that well communicated, maybe it's a case that it's being studied quite a lot but it's not finding its way into mainstream science databases and search functions, that would be something to look at" (Respondent H).

Inadequate evidence

Responding to climate change requires a major transformation, as we know, and maybe we don't have enough evidence of that having happened to be able to say, well, these are the things that that enabled it...maybe it's simply a case of just not having enough <evidence>, having seen the required kind of change to know. Okay, Well, that really worked (Respondent I).

Lagging behind

"Governance and institutions are lagging a little bit behind in terms of the research. So there's a lot of research being done on adaptation, but not necessarily for adaptation. We really need to be looking into the things that would enable action - so the conditions that we need to set up or understand better in local government to enable climate action and adaptation" (Respondent M).

Unhealed nation

"Guys can you stop telling me about planting tree when I can't put food in my mouth, when I'm struggling to feed my children. They're telling me I must take care of this tree" (Respondent K).

"The honest truth is no one cares about a flood until there is a flood. It's very hard to convince someone who is barely making it that we really need to <care about climate change>... they don't care about it because at the moment they are worried about the situation that they are going through right now. Which is what makes the whole climate change thing so difficult, I can't give you the instant gratification of showing you, this is what is going to happen, this is how quick it's going to happen and this is how it's going to make your life better. I need to now say, plant this tree, in the next 10 years... in actual fact they don't care about the next 10 years, if you say I must plant a tree, it better be a fruit tree so I know that next season I'm eating. That's basically the whole analogy of climate change, you say I need to plant a tree, even if it's an alien tree if it gives them bananas they are going to plant it because at the end of the day their main objective is to get some food. If you tell them it's going to finish the water sources...well at the moment they are just worried about the food. They'll worry about the water when we get to it" (Respondent J).

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