MUNICIPAL CLIMATE CHANGE GOVERNANCE: A PATHWAY TO RESILIENCE-BUILDING AND VULNERABILITY-REDUCTION

A CASE STUDY OF KINGSTON, ONTARIO

by

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A thesis submitted to the Department of Sociology

In conformity with the requirements for

the degree of Doctor of Philosophy

Queen's University

Kingston, Ontario, Canada

(April, 2023)

Abstract

In 2019, Kingston became the first municipality in Ontario to declare a ‘climate emergency’. This declaration stimulated further commitments to reduce greenhouse gas emissions and to enhance community resilience to adapt to climate change impacts. The present research aims to evaluate Kingston municipal government’s climate policies to understand strengths, weaknesses, and areas for potential improvement. Formulated upon the analytical frameworks of adaptive governance and political ecology, this qualitative research triangulated content analysis of the documents produced by the City of Kingston with semi-structured interviews with the City officials and social justice advocates whose works are related to climate policies and the most vulnerable population in the face of climate change. The results of this study are summarized through three main arguments. First, adaptive governance and resilience thinking elements are present in Kingston’s climate policies. However, they need to be further and more explicitly developed to shape the policies in future. Second, Kingston emphasizes scientific framing and technical solutions for reducing emissions over the contextual and human security framing and adaptation. Consequently, the idea of climate vulnerability and importance of justice-oriented approach to avoid maladaptation and unintended effects of adaptation on marginal groups is not integrated in its climate change plan so far. Finally, to address this gap, Kingston needs to create a new policy document with a stronger equity and justice orientation within both adaptation and mitigation.

Keywords: adaptive governance, political ecology, resilience thinking, vulnerability, adaptation, mitigation, climate change policies, justice lens, Kingston

Acknowledgements

First and foremost, I would like to thank my supervisor, Professor Marcus Taylor. I am very grateful for his incredible support, mentorship, patience, and knowledge that has guided me step by step through this challenging journey towards the end. I was extremely lucky and have no words to thank him adequately, for all he has done to help me in getting the most out of my PhD and this doctoral dissertation.

I am grateful to the many other professors at Queen's University, and its Sociology Department, for their teaching and guidance that helped me to develop my knowledge and critical thinking skills. Special thanks to Dr. Annette Burfoot, Dr. Matin Hand, Dr. Elaine Power, and Dr. Victoria Sytsma. Thanks also to my external committee member Dr. Elizabeth Schwartz. I am humbled and honored to have them all as the members of my doctoral defense committee. My sincere thanks to all staff members of the Sociology Department of Queen's university, especially to Ms. Celina Caswell, for her amazing guidance and help from the first day I was accepted in this program.

Also, I would like to extend my gratefulness to the participants of this study, Mr. Robert Kiley, Ms. Bridget Doherty, Ms. Julie Salter-Keane, Ms. Ruth Noordegraaf, Ms. Joanne Borris, Ms. Judy O'Leary, Dr. Susan Belyea, Dr. Jeremy Milloy, Ms. Judy Fyfe, Mr. Jamie Swift, and Sister Frances for spending time, despite their busy schedule, to participate in my interviews. This study would not have been possible without their insights and contributions.

I am deeply grateful to financial support I have received as a graduate student. I appreciate the Queen's Graduate Award (QGA), the International Tuition Award (ITA) and a Principals International Doctoral Award (PIDA) that I received through the department of sociology, as well as the Graduate Research Fellowship that I received through the department of Global Development Studies. Many thanks to Ban Righ Center of Queen's University and its staff members for all their supports. It is truly a home away from home.

I cannot adequately express my gratitude to my parents, my siblings, their partners, and all my family members who put their hearts and souls in my life and have been my rock over the years. I extend my love and gratefulness to them overseas. Thinking of them brings tears to my eyes as I miss them a lot. Also, I would like to sincerely thank Mrs. Anne Antonia Claros here, for always being there for me like a family member. I will never forget her kindness and generosity in her time and love toward me and my son, Radmehr.

Also, many thanks to my amazing friends who have been supporting me over the years. Writing these lines is bringing back lots of memories of all dear friends with whom I studied, progressed,

played, laughed, and cried. It is not possible to name them all here, but I express my love and appreciation to all of them. They are in my heart, forever.

This doctoral dissertation is dedicated to my beloved son Radmehr Rahbar, who was with me through this long journey everywhere. It was not easy for him as a little one, but he was incredibly compassionate, loving, and smart to understand his ‘busy mom’. I cannot wait to build him the incredible future and life he deserves.

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List of Abbreviations

CLP	Climate Leadership Plan
GHG	Greenhouse gas
ICI	Industry/Commercial/Institution
IPCC	Intergovernmental Panel on Climate Change
KCAP	Kingston Climate Adaptation Plan
WGCA	Working Group on Climate Action Report to Council

Chapter 1

Introduction

This dissertation provides the first systematic analysis of climate policies and planning within the City of Kingston, Ontario. Within the framework of urban climate change governance, climate policies typically covers two areas: mitigation and adaptation. Mitigation efforts are aimed to "address the causes of climate change", while adaptation strategies try to "deal with consequences of climate change" (Reckien et al. 2018: 208). In doing so, mitigation strategies mostly utilize technical solutions to reduce Green House Gas (GHG) emissions while adaptation plans focus on minimizing the exposure of the citizens to the impacts of climate change. In this study, the combination of both mitigation and adaptation efforts will be referred to as climate policies.

The study is notable because in 2019 the municipal government was the first in Canada to declare a 'climate emergency', triggering a range of commitments that accelerated climate change policymaking and action within the city. Questions remain, however, as to the nature of these commitments: their balance between mitigation and adaptation strategies; their pursuit of governance changes to promote resilience; and their relative engagement of equity and justice perspectives. This dissertation – based on close documentary analysis and closely structured stakeholder interviews – seeks to engage these key issues within climate change policymaking. Using a perspective rooted in environmental sociology, it seeks to constructively engage policymaking, identifying strengths of current approaches while noting weaknesses and gaps that need addressing in the pursuit of more resilient and equitable urban futures.

1.1 Context: The roots of environmental sociology

The complex world humans live in is characterized by various types of hazards and uncertainty that can be exacerbated by environmental issues caused by climate change. The rapid expansion of knowledge of global climate change was initially led by the natural science community (Brule and Dunlap 2015). Since 1988, the Intergovernmental Panel on Climate Change (IPCC) has regularly summarized, and integrated vast amounts of data produced by various scientific disciplines to inform the global community of the source, nature, and impacts of climate change. However, social sciences, particularly sociology, had an only marginal role in this account.

Although a growing body of literature and empirical research on the social dimensions of climate change has been developed, social science approaches were not well integrated into the major national and international reports and remained a minor component of the wider field of climate change research. As a result, there was a tendency within climate change research dominated by natural science perspectives to frame climate change as a global environmental problem apart from its social context (Bjurström and Polk 2011). Nonetheless, this tendency began to change over the past decades through the growing recognition that natural and human forces and fates are intertwined, thus natural sciences cannot comprehensively conceptualize climate change without the contributions of social sciences. This recognition increased the willingness of social scientists, particularly sociologists, to expand and integrate sociological theories toward environmental issues and climate change impacts (Brule and Dunlap 2015). This offered a renewed urgency to the field of environmental sociology, which studies the relations of environment and society and focuses on both the symbolic construction and material explanations of

environmental problems as well as their causes, consequences and potential solutions. To do so, environmental sociology investigates the social causes of environmental problems as well as the political and economic interests that creates environmental conflicts. Additionally, environmental sociology sheds light on inequitable outcomes of environmental change, such as climatic shocks and stresses (Lockie 2015). Advocating for equitable environmental policies, environmental sociology often seeks to explain the distribution of environmental consequences based on racial, gender, class, ableness and overall socio-economic inequalities.

1.2 The importance of urban climate policies

In the context of environmental sociology, this dissertation investigates the municipal climate policies for building resilience and reducing the vulnerability of urban population in Kingston, Ontario, Canada. Kingston is the first Ontarian municipality that declared a climate emergency in 2019.[1] Declaring a climate emergency carries a significant meaning as Kingston's Council acknowledges the existence of global warming. It also incorporates two crucial promises that: first, the government will reduce or mitigate its greenhouse gas (GHG) emissions, and second, the government will utilize its resources wisely to enhance the resilience of the community while adapting to the impacts of the global warming.[2] Put simply, a government that declares a climate emergency is committed to formulate its climate related policies and plans towards both the mitigation

[1] City council declares climate emergency in Kingston | The Kingston Whig Standard (thewhig.com)
[2] What is a Climate Emergency, and what does it mean? - The Weather Network

of GHG emissions and adaptation to the negative impacts of climate change that already exists.

This impetus is reflected in the results of an academic survey of 63 municipalities across Canada (Guyadeen, Thistlethwaite, and Henstra 2019). In evaluating the quality of 63 Canadian municipalities' climate change plan on the basis of their fact base, goals, policies, implementation, monitoring and evaluation, inter-organizational coordination, participation, and plan organization and presentation, the survey ranked Kingston as the leading municipality. Nonetheless, this first-ranking position is related to the mitigation efforts rather than adaptation strategies based on the overall results of this study (Guyadeen et al. 2019). As the survey noted, "Canadian municipal climate change plans prioritize climate change mitigation over adaptation." (Guyadeen et al. 2019: 121).

In part, the emphasis on mitigation is justified. There is a clear recognition that cities are significant sources of greenhouse gas emissions and therein major contributors to climate change (Boyd and Juhola 2015). However, at the same time, urban areas can be particularly vulnerable to climate change hazards such as heat waves, droughts, and floods, since they concentrate large populations, infrastructure, and economic activities (Romero Lankao and Qin 2011; Hordijk and Baud 2011). Considering the vulnerability of urban areas to the negative impacts of climate change due to their "high concentration of people, property and infrastructure", the gap in sufficient adaptation policies and planning is concerning (Guyadeen et al. 2019: 133).

Given the above, due the high potential vulnerability of urban areas to climate change hazards and based on the existing gap of adaptation consideration in Canadian municipalities, conducting a study on Kingston, as a mid-sized city that is ranked first for

quality of its climate change plan is important. On this basis, the present study seeks to analyze Kingston's climate policies and its plans toward building resilience and reducing the vulnerability of residents, especially those populations groups that might be considered marginalized. In doing so, this research acknowledges the strengths of Kingston's climate policies in addition to detecting the gaps and shortcomings in these policies in terms of integration of adaptative efforts encompassing equity and justice concerns. The overall purpose of the study is to provide suggestions for the City of Kingston to address current gaps in City planning to advance towards improved climate resilience goals. The study therefore complements and extends Guyadeen et al. (2019) in terms of capturing the complexities of Kingston climate policies to improve its quality.

1.3 Federal- municipal climate policies in Canada

Since the Toronto Conference on the Changing Atmosphere in 1988, Cananda has taken steps to respond to climate. These responses were initiated by a number of municipalities that acknowledged the challenges of climate change and developed and implemented their own responses. However, questions remain about potential conflicts over the costs and mechanisms of climate action, especially with regard to the role of federal, provincial and municipal governments, and what barriers municipalities face in attempting to respond (Robinson and Gore 2005). Despite the latest federal government climate change plan recognizing the active and crucial role that municipalities should play, these uncertainties around financing still exist . As Parker, Rowlands, and Scott (2003) note, "local action is essential" in tackling climate change (181) yet, as set out by Robinson and Gore (2005), "Internationally, few authors have specifically delineated a role for municipalities in climate change response (Betsil 2001 ; Bulkeley 2000; Lindseth 2004;

Yamal, O'Connor and Shudak 2003)" (106). As a result, as Betsill (2001) notes, the effectiveness of local efforts to mitigate climate change is questionable in the absence of corresponding and supportive policy change in the higher level of government. According to Robinson and Gore (2005) the division of responsibilities across three levels of government in Canada poses a challenge for overcoming climate policy barriers. Municipalities tend to follow provincial mandate and the relationship between provincial economies and emissions reduction supports influences progress on climate change. The potential for the federal government to work in direct relationship with municipalities can cause tension with provinces yet recent development toward a "new deal" for cities could open the door to federal-municipal action on climate change. In sum, increased financial and technical support could give municipalities more time and opportunity to address climate change, especially with new jurisdictional power, including new opportunities for municipal taxation.

1.4 An overview of Kingston's geopolitical situation

Kingston is a small Canadian city located along the shores of Lake Ontario, at the beginning of the St. Lawrence River and at the mouth of the Cataraqui River. It is situated between Canada's capital city of Ottawa (200 km), Canada's provincial capital city of Toronto (250 km), Montréal Quebec (300 km), and New York (609 km). The city of Kingston covers a total surface area of 451.19 square kilometers (174.21 square miles). The population of Kingston according to 2021 Census is 132,485.[3] Kingston, which served as the former capital of province of Canada (1841-1844), is home to Queen's

[3] Profile table, Census Profile, 2021 Census of Population - Kingston, City (CY) [Census subdivision], Ontario (statcan.gc.ca)

University, the Royal Military College of Canada, and St. Lawrence College, and has the most PhD graduates per capita.[4]

Kingston's climate projections are based on the Intergovernmental Panel on Climate Change (IPCC) and anticipate an increase in extreme weather events. This data projects that summers are going to be hotter and dryer and winters milder in Kingston. This will reach to the point where four days of intense heat over 30 degrees Celsius in 2019 is expected to reach 30 days by 2050. Extreme heat often means a rise in drought conditions which yield scarce crops and threaten farmers' livelihoods. In addition, hot and dry conditions coupled with a lack of rainfall, and windy conditions, increases the threat of wildfires in the region. On the other hand, intense rain and flooding threaten the city's infrastructures, damaging ditches and roads.[5] The weather modeling of Kingston indicates that the average temperatures of all seasons are going to increase to the point where, in the 2050s, the city's climate will resemble present day Columbus, Ohio. This means that heat waves, extreme winds, intense rain, and outbreak of disease like Lyme disease (which is spread primarily by ticks) will be increased in Kingston.[6] According to climate projections, warmer winters lead to higher chance of fluctuating temperature around zero degrees, resulting in more ice storms and freezing rain. Additionally,

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[4] https://www.cityofkingston.ca/explore/about-kingston

[5] https://www.queensjournal.ca/story/2019-03-14/investigations/how-climate-change-will-shape-kingston/

[6] https://www.cityofkingston.ca/documents/10180/2304312/Understanding+Kingston+Climate+Data/9ecee56e-a7fe-446f-8c66-557c502be0e9

Kingston's climate change will lead to higher precipitation averages, which increase the risk of flooding.[7]

In response to the threats posed by climate change, Kingston's municipal government sought to achieve the dual goal of reducing the city's contribution to global warming while striving to create plans and policies to reduce the vulnerability of its residents and the city to changing weather patterns and extreme climate events, including "hotter and drier summers, higher intensity rainfall events, warmer winters, icing conditions, and new types of pests and diseases."[8]

The City of Kingston is the first Ontarian municipality that declared a climate emergency.[9] The climate emergency declaration which was initiated for the first time in December 2016 is an action taken by scientists and governments in which the governments admit and acknowledge that global warming exists, and that humanity faces a climate emergency.[10] On March 5, 2019, Kingston's Council voted unanimously to declare a climate emergency to protect the community, ecosystem, and economy from climate change hazards.[11] Once a government declares a climate emergency, it is also supposed to establish policies to mitigate climate change effects, to avoid entering the

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[7] https://www.cityofkingston.ca/documents/10180/2304312/Understanding+Kingston+Climate+Data/9ecee56e-a7fe-446f-8c66-557c502be0e9

[8] https://www.cityofkingston.ca/residents/environment-sustainability/climate-change-energy

[9] https://www.thewhig.com/news/local-news/city-council-declares-climate-emergency-in-kingston

[10] "History of Climate Emergency Action by Councils". *CACEonline.org. Council Action in the Climate Emergency. Archived from the original on 2020-10-30*

[11] https://www.thewhig.com/news/local-news/city-council-declares-climate-emergency-in-kingston

ultimate state of emergency.[12] Moreover, in March 2019 the Mayor of Kingston, Mr. Brayon Paterson, joined the Global Covenant of Mayors for Climate and Energy which is the largest coalition of city leaders acknowledging and addressing climate change. Kingston as a member of the Global Covenant of Mayors for Climate and Energy plans is committed to take the following steps:

- "Take stock of local greenhouse emissions and the current effects of climate change."
- "Create an action plan including clear and ambitious CO2 reduction targets."
- "Design resilience strategies and set goals to improve access to sustainable energy."
- "Regularly report on the progress made."[13]

As it is evident in the above-mentioned plans and policies, the focus of these actions and commitments is on reducing GHG emissions and improving the supply of sustainable energy. However, in these commitments there is no explicit evidence of an approach to climate change adaptation – i.e., reduction of vulnerabilities – nor any explicit consideration of questions of equity or justice in undertaking climate actions. As stated above, environmental sociology typically seeks to precisely understand the question of social (in) equities within policymaking (Lockie 2015). In this context, the present study

[12] "How a council can enter into full emergency mode". *CACE. Council and Community Action in the Climate Emergency. Retrieved 2020-01-05.*

[13] https://www.cityofkingston.ca/residents/environment-sustainability/climate-change-energy/global-covenant-of-mayors

evaluates Kingston's climate policies based from both a resilience and a justice lens, as elaborated on below.

1.5 Research questions and research purposes

As Hinkel (2011) states, the success of any research project depends on the clarity of its formulated research questions. To this end, my research questions have been formulated drawing upon the influence of two broad scopes of literature: first, resilience orientated perspectives on adaptive governance; and second, the political ecology and vulnerability approach. The main purpose of this study is to evaluate Kingston municipal government's climate policies through these two perspectives to understand both strengths, weaknesses, and areas for potential improvement.

With respect to resilience building, the concept of adaptive governance is derived from the urban resilience literature. It emphasizes a series of principles for organizing the process of decision-making within institutions that is argued to help manage uncertainties stemming from the complex interactions of social and ecological systems. Properly implemented, adaptive governance is argued to be collaborative, flexible, and a learning-based management process that operates across different scales. This perspective emphasizes that cities must mobilize different social networks and embrace the co-management of resources to deal with global environmental change (Folke et al. 2005 cited in Boyd and Juhola 2015). In doing so, "through collaborative, flexible, and learning-based issue management", adaptive governance can enable the utilization of diverse knowledge and expertise while encouraging the distribution of resources in a manner that promotes resilience (Hurlbert and Gupta 2016).

On this basis, this research seeks to understand the degree to which policymaking in Kingston has utilized or promoted an approach based around adaptive governance. That said, although adaptive governance may enable the building of urban resilience, there are notable shortcomings in the approach. First, adaptive governance perspectives often consider climate change an externally generated stress and threat without adequate conceptualization of the historically unequal forms of power that cause different groups in society to become secure or vulnerable (Taylor 2014). Second, the concept also does not ask which social groups or political constituencies are most able to mobilize to either shape or benefit from government policies in the realm of climate change adaptation (Taylor and Bhasme 2020).

As a result, this research supplements its focus on adaptive governance by drawing upon a political ecology framework that emphasizes the needs and challenges of different classes and groups within society who are rendered vulnerable. As Gallopín (2006) maintains, vulnerability is viewed as the potential of being easily hurt and transformed when facing a shock or stress. So, taking vulnerability into account is an essential component of equitable and just environmental and adaptive governance.

Based on these two approaches I articulate two primary research questions that sustain this dissertation:

1) To what degree is the City of Kingston integrating a form of adaptive governance suitable to address resilience concerns into planning and policymaking?
2) To what degree do the climate policies implemented by City of Kingston embody the principles of equitable governance that take the needs of the most vulnerable population groups into account?

1.6 The research procedure and key arguments

This research is conducted in two main sections. Section 1, including chapters 4 and 5, based upon adaptive governance theory and resilience thinking approach, seeks to answer the first research question of this dissertation. This section incorporates document analysis and semi-structured interviews to investigate the degree to which the City of Kingston is integrating a form of adaptive governance suitable to address resilience concerns into policymaking. Section 2 including chapters 6 and 7 brings equitable and just governance into the perspective drawing on political ecology and vulnerability approaches. This section combines document analysis and semi-structured interviews to answer the second main question: i.e., whether the climate policies implemented by City of Kingston embody the principles of equitable governance that take the needs of the most vulnerable population groups into account.

As set out in my methodology chapter, I use a qualitative content analysis approach to conduct this research. To increase the validity of the results, I triangulated document analysis and semi-structured interviews techniques. For analyzing the data, I used a combination of deductive and inductive coding. The empirical findings of this research led me to make three main arguments:

First, I suggest that there are some elements of adaptive governance and resilience thinking in Kingston climate policies which need to be further and more explicitly developed in future policymaking. For instance, the empirical analysis of documents and semi-structured interviews indicate that the City is cognizant of the importance of encouraging social cooperation and collaboration and the importance of connecting vertical governance to horizontal layers of society that are the essential components of

adaptive governance. However, the evidence from the interviews suggests there are some obstacles in the way of the participation and engagement of all sectors of society in decision-making processes, in a meaningful way to shape the outcome. Consequently, those obstacles can reproduce a lack of trust and awareness of the importance of climate change actions among residents and reduce their collaboration which is essential for successful implementation of adaptive governance.

Second, the data analysis traces some implicit and explicit references to the idea of climate vulnerability in some areas of policymaking. However, based on empirical analysis of the documents and the semi-structured interviews with social justice advocates and City of Kingston officials, I suggest that the importance of justice-oriented approach to avoid maladaptation and unintended effects of adaptation on marginal groups is not integrated in the documents produced by the City of Kingston and is only partially present in the minds of policy makers. In this respect, I argue that Kingston's climate adaptation policies are overly focused on mitigating the GHG emissions and reducing the exposure of residents to negative impacts of climate change yet are fundamentally lacking in addressing important socio-economic causes of vulnerability. While some policymakers are aware of this necessity and acknowledge the gap in current policy, there is yet no structured and strategic method to foreground equity and justice concerns systematically within climate governance.

Finally, I make a broader conceptual argument about the relationship between adaptive governance and vulnerability and present some suggestions and recommendations.

1.7 Structure of the dissertation

This dissertation builds through eight chapters that sequentially establish the required theoretical, methodological, and analytical components of the argument.

Chapter 2, the Literature Review and Analytical Framework, lays the foundations for the primary research questions by reviewing and synthesising the existing literature on adaptive governance – rooted in resilience thinking – alongside vulnerability perspectives – rooted in political ecology.

Chapter 3, the Methodology Chapter, sets out the research design choices of this dissertation that includes research philosophy, research type, strategy, etc. In essence, this chapter explains the methodology behind this study and elaborates on the procedure of my research based on its two main purposes, that is to understand how Kingston municipal government sets its climate policies, and to interrogate to what extent its policies and planning take equity issues into account.

Chapters 4, 5, 6 and 7 contain the results of my data collection and analysis that encompasses two sets of data. The first set of data are produced based on content analysis of four case examples of the most important municipal documents of the City of Kingston related to climate change policy and planning. The content analysis of these documents is presented in Chapters 4 and 6 using different, yet complementary, perspectives and analytical lenses. The second set of data of this research are produced based on semi-structured interviews with the City of Kingston officials and social justice advocates, and will be presented in chapter 5 and 7. This analysis follow up, expand and deepen the textual document analysis provided in chapter 4 and 6. The results of this research is presented in two sections:

Section 1 includes a discussion of chapters 4 and 5 and is based upon adaptive governance theory and a resilience thinking approach. This section incorporates document analysis and semi-structured interviews to investigate to degree to which the City of Kingston is integrating a form of adaptive governance that is suitable to address resilience concerns in policymaking.

Section 2 includes a discussion of chapters 6 and 7 and is built upon political ecology theory and a vulnerability approach. This section combines document analysis and semi-structured interviews to understand whether the climate policies implemented by City of Kingston embody the principles of equitable governance that take the needs of the most vulnerable population groups into account.

The final Chapter, Chapter 8, will summarize the key findings of this dissertation in relation to its main research questions and discuss the interpretation and significance of the results in detail. While acknowledging the limitations of this research, in chapter 8, I will provide some recommendations in relation to practical applications of my findings for just and equitable urban climate policies as well as suggestions for future research in the field.

A copy of the GREB clearance and the semi-structured interview questionnaire sheets are included in the Appendix.

Chapter 2

Analytical Framework and Literature Review

2.1 Introduction

To lay the foundations for the primary research questions, this chapter reviews and synthesises the existing literature on adaptive governance – rooted in resilience thinking – alongside vulnerability perspectives – rooted in political ecology.

The reason that I chose adaptive governance as the first component of the analytical framework is that a growing body of research provides convincing evidence that adaptive governance is an essential component to address climate change in urban settings. As Pieraccini (2019) maintains, "adaptive governance has been singled out as the most appropriate strategy to build the resilience of social–ecological systems" (214). Similarly, Chaffin, Gosnell, and Cosens (2014) state that adaptive governance is increasingly recognized as a mediative strategy to address social conflict that disturb adaptive management of socio-ecological systems.

Adaptive governance "reflects a growing need for environmental and resource management regimes which include concepts of flexibility, resilience, and capacity for change in the planning and implementation process" (Sharma-Wallace, Velarde, and Wreford 2018: 175). As research indicates, contrary to the previous linear and narrow-focused management regimes that failed to achieve ecological sustainability, the core elements of adaptive governance – flexibility, resilience, and capacity for change – make it particularly appropriate for dealing with the uncertain challenges posed by climate

change (Brunner et al., 2005; PahlWostl, 2009 cited in Sharma-Wallace et al. 2018). To further our understanding of these dynamics, adaptive governance research has flourished over the past decade, particularly given widespread acknowledgement that governance failures have exacerbated the costs of unplanned environmental change (Sharma-Wallace et al. 2018).

Secondly, in addition to adaptive governance, I utilize vulnerability perspectives rooted in political ecology to provide a parallel theoretical foundation for this research. Notably, numerous contributions to the literature on environmental change strongly recommend the concurrent application of vulnerability and resilience (i.e., adaptive management) frameworks. Turner (2010) maintains that "vulnerability and resilience constitute different but overlapping research themes" (570) while Maru et al. (2014) state that applying one in absence of the other, especially in extremis, can have significant misleading consequences for research, policy, and practice. As Engle (2011) indicates, adaptive capacity or adaptability is the central concept which connects resilience and vulnerability frameworks together. He maintains that adaptive capacity is the source of resilience and the main component of vulnerability which can be achieved by "combining insights from both resilience and vulnerability frameworks" (647). Increasing adaptive capacity of a system is important in the sense that it enables the system to cope with different forms of shocks and disturbances (Bunce, Brown, and Rosendo 2010).

On this basis, this dissertation draws sequentially on both approaches to provide a comprehensive understanding of climate policies in Kingston. Emphasizing adaptive governance asks questions about how climate change policy is created, while evoking vulnerability interrogates the degree to which these policies consider the needs of the

marginal individuals or communities. The present study therefore articulates a joint framework, comprising both resilience and vulnerability approaches to understand both strengths and areas for potential improvement within the city of Kingston's climate change planning.

To this end, I first overview theories of resilience, showing how adaptive governance emerges from the concerns and concepts of resilience thinking. Second, I review the political ecology approach and its concern with the social construction of vulnerability. I then highlight how each perspective allows me to pose different questions about Kingston's climate change policy framework and provide different entry points into analyzing policies and planning. Pulled together, this chapter establishes key concepts and themes in both adaptive governance and vulnerability approaches that I then strategically use as the foundation for document and interview content analysis in the succeeding chapters.

2.2 Resilience thinking approach and adaptive governance

Although originating in ecology, the concept of resilience is now widely applied in social science contexts (Gallopín 2006). In the social realm, resilience is defined as the capacity of a system, group, or community to reorganize in the face of stressors or shocks like social, political, and environmental change in a way that still retains essential functions, structure, and identity (Adger et al. 2011; Boyd et al. 2008;Walker 2006; Adger 2000). The core idea of resilience thinking is simple: "things change" and a failure to adapt or resisting these changes will increase human vulnerability and limit options and opportunities. Therefore, resilience thinking is about better understanding change

dynamics and identifying what organizational principles provide the capacity to adapt to change without losing core functions (Walker and Salt 2012).

One of the essential components of resilience thinking, in the context of social-ecological systems, is adopting a broad and comprehensive view of the issue. As studies suggest, social-ecological systems contain strong reciprocal feedbacks that occur over different timelines. Consequently, addressing a specific risk without comprehensive accounting of the more extensive system dynamics at play may erode the capacity to address other stressors both in the present and future, thereby potentially destabilizing long-term resilience (Adger et al. 2011; Folke et al. 2005). As Folke et al. (2005) suggest "social sources of resilience such as social capital (including trust and social network) and social memory (including experience for dealing with change)" are two necessary components that a social-ecological system needs to develop adaptive capacity (444).

Alongside adopting this systems perspective, the other significant aspect of resilience thinking is that it laid down the foundation of adaptive governance perspective. Notably, Folke et al. (2005) expanded the ecosystem-based management framework to better incorporate its broader social dimensions, referring to the latter as adaptive governance that requires diverse networks with actor groups that draw on various knowledge systems and experiences for the development of a common understanding and policies. As I stated earlier, this study draws on an adaptive governance approach to investigate the urban climate change policies in Kingston. In this vein, I seek to demonstrate the connection of adaptive governance to resilience, and address how resilience would be a positive aspect of adaptive governance.

According to da Silva et al. (2012) resilience at a city scale cannot be measured directly, other than in terms of changing performance of systems in response to shocks and stresses (126). The complexity of measuring resilience in the urban climate change policies led scholars to split up the concept of resilience into two sub-divisions of mitigation (reducing greenhouse gas emissions) and adaptation (adapting to the climate change impacts that already happened) to make it more manageable for climate change policy making. For instance, Boyd and Juhola (2015) maintain "urban climate governance refers to the strategies employed in both reducing greenhouse gas emissions and adapting to the inevitable impacts of climate change within the urban context". However, they argue this definition does not address the complex "issues of uncertainty and non-linearity" of climate change and the way it affects decision-making in cities (1235). As a result, for the purpose of addressing climate change uncertainty and risk, the literature calls for adaptive and flexible strategies for urban climate change governance which calls for an approach called *adaptive governance.*

Adaptive governance is argued to be an approach toward decision making suitable to handle complex social issues with high level of uncertainty, in which many stakeholders are engaged despite holding diverging and sometimes conflicting interests (Bronen and Chapin 2013 cited in Janssen and van der Voort 2016). As Folke et al. (2005) state, adaptive governance is an analytical framework, and decision-making system employing formal and informal social networks and resources to address and adapt with uncertainty. According to Janssen and van der Voort (2016), uncertainty is caused by lack or deficiency of knowledge about all the requirements of a project in advance or when many changes occur. As they state, the failure of many climate policies and plans is the result

of two issues: first, a deficiency in addressing the complexity and uncertainty within a project, and second, a failure of vertical governance to connect horizontal layers. Adaptive governance can address both issues. This enables adaptive governance systems to better cope with unpredictability of natural systems and social issues because it engages many stakeholders with different interests and tends to improve the decision-making speed of organizations in dealing with uncertainty and risk (ibid).

The core value of adaptive governance is to facilitate a process of continual learning within a system to improve adaptive capacity. This framework accepts that uncertainty is unavoidable, and there is no uniform standard way or prescribed plan to deal with inevitable surprises and disturbances that occur in contexts such as ecological systems. That is why the goal of adaptive governance is to be always prepared for change and to increase the speed of decision making based on timely information (Janssen and van der Voort 2016).

According to the Stockholm Resilience Centre (2012), adaptive governance of social-ecological systems seeks to manage ecosystem uncertainty by creating a social network of [public and private] actors and institutions at multiple organizational level (local, national, and international). These connections can be a powerful source of "leadership, trust, vision, and meaning in ways that help manage conflicts, anticipate, and prepare for uncertainty and change or transform management organizations toward a learning environment" (Folke et al. 2005, Boyd and Folke 2012 cited in Stockholm Resilience Centre 2012).

As the Stockholm Resilience Centre (2012) declares, the key feature of adaptive governance is its tendancy toward "collaborative, flexible and learning-based issue

management across different scales." In this vein, learning is considered as the central value of adaptive governance. As Hurlbert and Gupta (2016) state, adaptive governance responds to the systematic and complex climate impacts and policy problems it creates by "enhancing adaptive capacity and social learning" (343). Learning is a value that is generally considered as an opponent of control, by which adaptive governance seeks to enhance resilience in the complex context of urban climate change policy making. Moreover, maintaining an informed balance between stability and adaptability is another challenge in the urban climate change policy framework. According to Janssen and van der Voort (2016), adaptive governance advocates to maintain this balance by learning and opening an avenue to knowledge from bottom to the top. The fundamental idea behind adaptive governance is that decentralized or bottom-up decision making that engage many stakeholders can address problems more effectively than top-down decision making. That is why adaptive governance strategies values learning and local indigenous knowledge. As Janssen and van der Voort (2016) state, climate policies and plans are typically based on scientific and technological instructions which fail to acknowledge the importance of traditional and indigenous knowledge in building resilience for dealing with new levels and types of climate change risks and hazards. However, research, for example, Port Vila case study cited in Janssen and van der Voort (2016), indicate that failing to value knowledge and experiences of indigenous and local communities in facing climate change hazards, can be problematic in formal urban planning and policy making.

2.2.1 Components of adaptive governance and resilience thinking approach

To operationalize theoretical insights from adaptative governance and resilience thinking, I followed a sequential three step procedure. First, building on the above literature, I extracted eight core components of adaptive governance: 1) collaborative approach 2) flexible management 3) learning-based management 4) operating across different scales 5) employing and mobilizing different formal and informal social networks and resources 6) embracing the co-management of resources in the decision-making system to address and adapt with uncertainty 7) dealing with uncertainty and unpredictability of natural systems when many stakeholders with conflicting interests are engaged 8) connecting vertical governance to horizontal layers of society.

I then extracted eight components from the wider resilience literature, noting that there are overlaps between them: 1) Social memory, which implies experience in dealing with change 2) Being able to embrace and adjust to changes 3) Managing change without abandoning the essential function and identity 4) trust building for successful collaboration 5) including locally developed rules and feedback, learning and experimentation 6) operating the management across different scales 7) leadership to activate social network and bring various actors together, and using social capital 8) promoting and sustaining diversity.

In the next stage I merged the similar categories from both sections of adaptive governance and resilience thinking to create seven main categories that represent a synthesis of core features of adaptive governance supplemented by wider aspects of resilience thinking. The purpose of this is to apply these themes to my analysis of documents and interviews. In short, this process provides the conceptual foundations

upon which I can closely analyze the documents and semi-structured interviews in later chapters. The seven adaptive governance/resilience features are:

1. Trust-building to mobilize diverse social sectors, and encouraging social cooperation and collaboration to benefit from social capital
2. Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback
3. Flexible and learning-based management: highlighting the role of social memory and local experiences in shaping the outcome and decentralized, bottom-up and community-engaged decision making in a meaningful way
4. Operating across different scales and co-management of resources
5. Identifying common interests of different stakeholders and dealing with uncertainty when stakeholders with conflicting interests are engaged
6. Embrace change and ongoing adjustment of governance structures and policies without abandoning essential functions and identity
7. Working with the idea of resilience

As clarified in the upcoming chapters, these seven core features are integral to my content analysis methodology for both documents and semi-structured interviews: they provide the criteria for assessing the degree to which City of Kingston policymaking has incorporated principles of adaptive governance and resilience thinking.

2.2.2 Critiques of adaptive governance and resilience thinking approach

Although adaptive governance has been attracting considerable interest in academic and policy circles, a growing body of literature criticize it for the ways in which it theorizes the social world (Cleaver and Whaley 2018). For instance, in his book 'The Political Ecology of Climate Change Adaptation', Taylor (2014), refuses to accept adaptation as a self-evident concept, despite its current prominence in academic and policy making debates and considers that as a "barrier to critical thinking about climate change and social transformation" because it tends to obscure vital questions about power, inequality and vulnerability in climate change research and policymaking. That is for a good reason as resilience perspectives rarely talk about power or who is rendered vulnerable to the impacts of environmental change and why.

So adaptive governance needs to consider more fully these social dynamics moving forward. According to Chaffin et al. (2014), adaptive governance should analyze the relevant power and politics that cause the environmental and social injustice "stemming from the marginalization of minority cultures, religions, worldviews, and environmental ethics" (Chaffin et al. 2014 cited in Cleaver and Whaley 2018). This, however, would require a close engagement with political ecology frameworks. To address the weaknesses of adaptive governance, political ecology perspective can be applied to fill the gaps of "power and politics, inclusion and equity, and short-term and long- term change" (Cleaver and Whaley 2018). On this basis I will address the political ecology framework and vulnerability perspective as a complementary to the adaptive governance approach in this study to achieve a more comprehensive understanding of Kingston climate policies and plans.

2.3 Vulnerability and Political Ecology

As Adger and Jordan (2009) note: "environmental and social change does not affect everyone equally. Less resilient communities – and more vulnerable individuals – can be severely affected by change, thus limiting their opportunities for adaptation" (10). Consequently, climate change raises questions of justice, obligation, and responsibility because the past, present and future gain to some in this regard may cause present and future harm to others (Adger, Lorenzoni, and O'Brien 2009). That is why implementing an adaptive governance approach without considering the issues raised by a political ecology perspective can lead to short sighted policies and plans that fail to consider the social complexities of the issue in hand related to environmental justice.

As Taylor (2014) states, different social groups experience climate change differently and their relative ability to respond to climate change hazards varies bases on factors such as the degree of social inequality, political representations, and power. In this regard, while contributing the least in carbon emissions, the world's poor will be affected by the earliest and most damaging impacts of unsustainable management of climate change, and after them are the future generations, who have no political voice (UNDP 2007). Leichenko and O'Brien (2008) refer to this phenomenon as *"double" injustice*. The concept of double injustice refers to the condition of marginalized and vulnerable population who are bearing the burden of adaptation's social costs while having the least carbon footprint and at the same time their needs are barely considered in climate adaptation action, if at all (Anguelovski et al. 2016). Hence, adaptation strategies might lead to problematic and socially unjust outcomes if they do not take social and environmental justice into account because "what is seen as positive adaptation to one

group of people may be seen as mal-adaptation to other" (Eriksen, Nightingale, and Eakin 2015). Consequently, the negative impact of some adaptation policies – i.e., maladaptation – may require further interventions in an ongoing manner (Sovacool, Linnér, and Goodsite 2015).

As Taylor (2014) declares, mainstream approaches to adaptation typically sidestep the question of historical inequities and do not explicitly challenge socioecological relations which produce social and environmental vulnerability. This can lead to negative consequences because "without linking localized expressions of vulnerability to broader, historically formed structures of power and privilege, the idea of adaptation can… act as a fundamentally depoliticizing concept that reduces complex and contested socioecological relations to an abstract appeal to defend communities from external environmental disturbances and threats" (15). This is an important point that policy makers should embrace in developing climate policies and plans. On this ground, in the present study, I will investigate if vulnerability, equity and justice is considered by the City of Kingston in its climate policies.

2.3.1 Different understanding of vulnerability in distinct analytical traditions

Vulnerability is often defined as the susceptibility of individuals and collectives to the harmful consequences of stressors or shocks (Okpara, Stringer, and Dougill 2016). The purpose of climate change adaptation is implementing policies and plans to "reduce vulnerability of natural and human systems against actual or expected climate change effects" (da Silva, Kernaghan, and Luque 2012). On this basis as Tyler and Moench (2012) suggest, operationalizing concepts of vulnerability (and resilience) is essential to climate change adaptation.

According to Turner et al. (2003) vulnerability is considered as an integrative concept which links the social and biophysical dimensions of environmental change. Therefore, assessing and estimating vulnerability is an important component of defining the magnitude of global climate change problems and a critical point for providing the copping strategies and adaptation to mitigate climate change impacts (Kelly and Adger 2000). As a result, both natural and social scientists seek to assess and measure vulnerability. Reviewing the literature indicates that due to the utility of the concept of vulnerability in different fields of study, numerous efforts to understand and classify it, led to inconsistent definitions in distinct analytical traditions (Romero, Lankao, and Qin 2011). By emphasizing different dimensions of vulnerability, each of these definitions facilitates different types of policies and responses to climate change problems (Okpara et al. 2016). On this score, I review the similarities and differences of understanding of vulnerability in these different approaches to adopt the fittest one for the purpose of my study.

As O'Brien et al. (2007) state there are two main interpretations of vulnerability in the climate change literature. Each of these interpretations are rooted in different discourse and conceptualizes the causes and characters of vulnerability differently. Consequently, they cannot be integrated into one single framework. These two main interpretations of vulnerability include, first, "outcome vulnerability" originated from *scientific framing* and, second "contextual vulnerability" rooted in *human security framing*. Each of these framings ask different kinds of questions, produce different types of knowledge, and focus of different types of policy responses to climate change. In other words, each of these interpretations and understanding of vulnerability lead to different practical

outcomes for climate change responses and consequently different policies and plans will be developed based on them. In this regard, Kelly and Adger (2000) identify three types of analysis for vulnerability including vulnerability as the "starting point", "focal point", and "end point" of any assessment. As Okpara et al. (2016) state the "focal point" cannot be considered as a type of vulnerability interpretation due to its "indicative" nature. On this basis, I am going to focus on the two other types that are "end point" and "starting point" vulnerability.

2.3.2 The end-point approach, outcome interpretation and scientific framing

The end-point approach studies the biophysical impact of climate change and identify the adaptive options. According to O'Brien et al. (2007) the end-point approach defines vulnerability as "the degree to which a system is susceptible to, or unable to cope with, adverse effects of climate change (75). As Kelly and Adger (2000) state, the "end point" approach, frame vulnerability as the end point of a sequence of analysis to identify the adaptive options. The adverse residual consequences remain after the adaptation has taken place, determines the level of vulnerability. The vulnerability definition provided by the Third Assessment Report (TRA) of IPCC is an example of the end-point vulnerability. TRA defines vulnerability as "a function of the character, magnitude, and rate of climate change and variation to which a system is exposed, its sensitivity, and its adaptive capacity" (McCarthy et al., 2001, p. 995 cited in Hinkel 2011).

The end-point vulnerability is linked with "outcome vulnerability." Outcome vulnerability is attributed to negative outcome of climate change and reducing it involves exposure reduction which is facilitated by developing mitigation and adaptation strategies to reduce the negative outcomes of climate change (O'Brien et al. 2007). This

interpretation originated from *scientific framing* which view climate change as a problem produced by human actions attributed to greenhouse gas emissions and is focused on the quantifiable impacts of climate change (Demeritt 2001 cited in O'Brien et al. 2007). According to the scientific framing, society simultaneously drives climate change while experiencing the consequences, both of which can be reduced by "technical and sectoral adaptation and reducing greenhouse gas emissions" (O'Brien et al. 2007). In sum, scientific framing of vulnerability emphasizes on "managerial discourse" and prioritizes "technological solutions" to adaptation (Taylor 2014). The end point approach or scientific framing which according to Kelly and Adger (2000) focuses on impacts (exposure) and responses (adaptations), is considered as the dominant approach within adaptation framework.

2.3.3 The starting point approach, contextual interpretation, and human security framing

The starting point approach or "contextual vulnerability", on the other hand, challenges the dominance of the outcome vulnerability (Hopkins 2015). Contextual vulnerability which is concerned with a human-security perspective, asserts that climate change affects different individuals and societies differently. This approach interprets vulnerability as a present-day inability to cope with external changes, which in this case, is climate change. According to this perspective, the present-day vulnerability which is created by various factors and processes must be addressed to reduce vulnerability in future (Hopkins 2015; Burton et al. 2002 cited in O'Brien et al. 2007).

According to O'Brien et al. (2007) the starting point vulnerability, related to the contextual interpretation of vulnerability, focuses on the general condition of a social group prior to any shock or stress, (addressing the present-day vulnerability), and looks

for the social factors that leave some parts of population vulnerable to shock and stress. As Adger (2006) states, unlike natural hazard explanation of vulnerability which is developing an integrated knowledge of environmental risks with social parameters of risk, entitlements-based analysis of vulnerability is almost exclusively focused on "social realm of institutions, well-being, … class, social status, and gender as important variables" (270). Based on this perspective, the best way to reduce vulnerability is by refining the context in which climate change occurs and enabling individuals and groups to better respond to the changing conditions. On this basis, contextual interpretation of vulnerability emphasizes "the need to mitigate vulnerability on the basis of equity and justice" (Adger 2006).

According to O'Brien et al. (2007) the contextual vulnerability approach considers vulnerability "as the characteristics of social and ecological system generated by multiple factors and processes" which leads to "a present-day inability to cope with external pressures and changes, which in this case is climate condition" (75). In this regard, Kelly and Adger (2000) argue that any analysis of vulnerability must consider the *architecture of entitlements*, the social, economic, and institutional factors, that influence level of vulnerability within a community or nation and promote or constrain options for adaptation. This argument is associated with human security framing which considers climate change as a "transformative process that affect humans in different ways" (O'Brien et al. 2007).

2.3.4 Strengths and weaknesses of each approach

As stated earlier, end point or outcome approach, view climate change as a negative outcome of human impact on any exposure unit which can be either a social or a biophysical unit. According to this approach vulnerability is a linear result of human activities and impact that can be attributed to greenhouse gas emissions. This approach which is related to scientific framing of climate change focuses on quantifiable and measurable impacts and emphasizes on technical and sectoral adaptation measures, as well as reduction of greenhouse gas emissions to reduce negative outcomes (O'Brien et al. 2004 ;O'Brien et al. 2007).

This is considered as a benefit and strength of outcome vulnerability, because viewing vulnerability as an end point "has played a useful role in measuring the extent of climate change problem and weighing the costs of impact and adaptations against the costs of greenhouse gas emissions." The scientific approach in determining "the extent to which different scenarios of greenhouse gas emissions led to dangerous interference with the climate system" (O'Brien et al. 2004). However, according to McLaughlin and Dietz (2008) "this perspective neglects the social, economic, and political factors which shape vulnerability as well as overlooking coping strategies enacted by individual and corporate actors (Hopkins 2015).

The limitation of this approach is that maintaining a linear focus on vulnerability as an end point while continuously emphasizing the reduction of exposure through technical solutions in addition to the development of adaptive capacity to limit negative outcomes can cause a reductionist view of adaptation that focuses on "building local capacity rather than addressing the fundamental causes of vulnerability, including geopolitical and

economic contexts" (Brook 2003 cited in O'Brien et al. 2007). As O'Brien et al. (2007) clarifies, there is no doubt that scientific and technological adaptation to climate change including (but not limited to) improvement of housing structures, constructing bridges, producing drought tolerant seed varieties, and enhancing irrigation schemes, can mitigate climate change problems and reduce vulnerability in many countries. However, taking the reductionist view of technological adaptation can lead to a narrow focus on just one of the various options, which in some cases can become problematic considering that technological adaptation has the potential of increasing inequity within and among regions and social groups.

This shortcoming can be covered by a contextual approach of vulnerability as it adapts a comprehensive and multidimensional view to climate-society interactions, in which nature and society are considered as a mutual inseparable aspect of the same context. Originating from human security framing, the strength of the contextual approach is that it recognizes the important fact that vulnerability is not completely quantifiable based on biophysical factors alone, and that social and economic factors should also be included. (O'Brien et al. 2007). As Hopkins (2015) states, the contextual vulnerability framework "incorporates physical, social, economic and political factors which could amplify or reduce vulnerability" (110). According to contextual vulnerability, what is considered as "damage", or "negative effects" may vary across different cultures and among communities. That is why human security may not be restricted to economic performance, property, food security and life, but also include more general desirable ends for society like sense of belonging, respect, equity, social and cultural heritage and so forth (O'Brien et al. 2007). According to GECHS (1999 cited in O'Brien et al. 2007)

the benefit and strength of human security framework is in providing individuals and communities with the option for end, mitigate or adapt to environmental risks and the capacity and freedom to take advantage of these options.

Although according to Kelly and Adger (2000), both interpretations of vulnerability are considered appropriate in the context of climate change, Okpara et al. (2016) argue that contextual vulnerability serves better the purpose of studying the current social climate change vulnerability such as conflict and violence. As Okpara et al. (2016) maintain the advantage of contextual vulnerability approach is in its strength to enrich more socially focused policies and "include options on resource diversification, poverty reduction, conservation of common property resources, strengthening of collective adaptation actions, and so on" (99).

The human security perspective is grounded on the perspective that gain and security of some might be interconnected with insecurity of the others. This approach provides more progressive understanding that the degree of social inequality and political representation can differentiate experiencing and impact of climate change. The human security perspective contributes to clarifying how chronically marginalized individuals and communities are disproportionally the worst affected segments of society by abrupt climate change and that their opportunity for adaptation is unfairly limited (Taylor 2014).

2.3.5 Political ecology as an extension of contextual vulnerability

Political ecology is a version of contextual vulnerability that highlights power relations more prominently as a key determinant of vulnerability (Cleaver and Whaley 2018). Political ecology emerged in the 1960s to 1970s as a new interdisciplinary academic field in social science framework drawing concepts and themes from political economy into

the study of environmental conflicts (Leff 2015). According to Walker (2005) pioneers of political ecology were interested in "unequal power relations, conflict and cultural modernization under a global capitalist political economy as key forces in reshaping and destabilizing human interactions with the physical environment" (74).

As Leff (2015) states, ecology (a network of non-human systems) is not political in any sense. However, the human intervention in ecological transformation, otherwise known as the people's *will to exercise their power* over nature, guided by their different and often conflicting interests and values, gave birth to politicized ecology. On this ground, political ecology framework has been engaged in examining the power relations involved in representing and manging the ecological foundations of contemporary landscapes and livelihood (Blaikie and Brookfield 1987; Peet and Watts 1996; Watts 2000; Robbins 2012 cited in Taylor 2014). Diverse social rationality impacts and intensive human intervention in nature manifested itself in lived environment change and degradation (Leff 2015). This occurs because "some social actors exploit other people and environments for limited gain at collective cost" (Robbins 2012). In response, socio-environmental movements in the field of political ecology try to "resist the degradation of their livelihoods, reinventing collective identities and designing alternative strategies to reappropriate the biocultural heritage of the peoples of the Earth in order to construct a sustainable future" (Leff 2015).

Political ecology is focused on the causes rather than symptoms of environmental changes and degradation. This field acknowledges that relations of power lead to unequal distribution of costs and benefits associated with environmental change among the actors. On this base the central focus of political ecology research is on revealing the differential

power, hidden costs, and winners/ losers of social and environmental outcomes (Robbins 2012). As stated earlier to address the weaknesses of adaptive governance, a political ecology perspective can be applied to fill the gaps of "power and politics, inclusion and equity, and short-term and long- term change" (Cleaver and Whaley 2018). On this basis, there are strong advantages to combining resilience thinking with insights drawn from political ecology about vulnerability. In doing so, rather than considering the adaptation framework as an exclusive way for conceptualizing climate change challenges, this study seeks to investigate the problem of climate policies in Kingston through a combined framework. In doing so, this study borrows its criteria from both *adaptive governance* and *political ecology* disciplines, to provide a comprehensive view of the issue in hand. On this ground, this study benefits from political ecology perspective to clarify the grey areas of adaptive governance.

2.3.5.1 Components of political ecology theory and vulnerability approach

Drawing together this discussion of the political ecology and vulnerability literatures with the question of climate policymaking in Kingston, three main central questions emerge:

1) Does Kingston Climate policies and planning demonstrate a sensitivity to the idea of vulnerability and, if so, what kind of framing of vulnerability does it use? Does it explicitly or implicitly adopt a primarily scientific or human security framing of vulnerability?
2) When designing policies and planning, do these documents explicitly account for the differentiated impacts of climate change upon distinct social groups within Kingston? Do they acknowledge that different groups face vulnerabilities on

account of their socio-economic status; their relative political influence; and their specific exposure or sensitivity to shocks and/or stresses?

3) Does policies and planning account for the different abilities of social groups to avail themselves of adaptation opportunities or adapt to mitigation costs? In short, does policy and planning strategically seek to avoid maladaptation wherein climate policies has the unintended effect of either serving primarily established interests and/or increasing costs or burdens on marginal groups?

Based on these three questions I created five main pre-determined categories stemming from the above literature as the foundation for analysis of the documents and interviews data in the second section of this dissertation (chapter 6 and 7). These five categories include:

1) Demonstrating an explicit sensitivity to the idea of climate change vulnerability
2) Usage of a scientific framing of vulnerability
3) Usage of a human Security framing of vulnerability
4) Considering the differentiated impacts of climate change upon distinct social groups
5) Seeking to avoid maladaptation and unintended effect of adaptation on marginal groups

In sum, this chapter established key concepts and themes in both adaptive governance and vulnerability approaches that I strategically use as the foundation for the content analysis of policy documents and interviews in the later chapters of this dissertation.

Chapter 3

Methodology

3.1 Introduction

Providing an appropriate methodology is the corner stone of any scientific study. As Gerring (2001) argues, methodology is "a concern with the logical structure and procedures of scientific inquiry" (12). In other words, methodology provides the researcher with an opportunity to elaborate on the procedure and process of designing their research. As Wengraf (2011) indicates, *fitness of purpose* is the best criteria for determining the research design and choosing the best instrument and procedures for conducting a study.

The main purpose of this research is to provide in depth knowledge about how the local government is addressing the issue of climate change in Kingston. My research attempts to understand how Kingston's municipality plans its interventions to achieve the pressing goal of adaptation, and to what extend its plans and policies take marginalized people into account. Based on this purpose, I chose qualitative research as my method of inquiry. As Creswell and Poth (2017) state, qualitative research helps the researcher to provide a complex and detailed understanding of an issue and is the best approach for hearing otherwise silenced voices. Below I present my research design and justify the procedures and the logic behind it.

3.2 Research design choices

3.2.1 Research philosophy

The process of research starts from philosophical assumptions or paradigm perspectives which inform research and guide action. These first ideas provide the direction of the study, including *ontological* (the nature of reality), *epistemological* (what counts as knowledge and how the researcher knows reality), *axiological* (the value-stance of the researcher) and *methodological* (procedures of the study) assumptions (Creswell and Poth 2017). By undertaking this qualitative study, I acknowledge that multiple realities exist and are embraced by different researchers, participants, and readers of qualitative research. That is why in this qualitative study I seek multiple forms of evidence (including documents produced by the City of Kingston and interviews with the City of Kingston and social justice advocates) to provide a deep knowledge on the problem of the inquiry.

3.2.2 Research type

This research is a combination of *inductive* and *deductive* research, utilizing a *positivist* and *interpretivist* type of inquiry that is mainly focused on words and written documents. As Denzin and Lincoln (2011) state, qualitative research is inductive (from the ground up) and emerging. It means the procedures of qualitative research cannot be tightly prescribed prior to the entrance of the researcher to the field. In the other word, as the research moves forward, the research questions and subsequently data collection strategies may need to be modified and changed to better describe and interpret the research findings. This is because the to enter the field is to learn about the problem from participants and then decide the best practice and procedures to collect the information.

On this basis, qualitative researchers start with general questions and after selecting the relevant site(s) and subjects they enter the field collecting data, interpreting them following conceptual and theoretical work and then pull everything together in writing up the result for discussion. The process of this research was also inductive and emergent rather than linear. As Denzin and Lincoln (2011) state, usually an interplay or loop back occurs between the data collection and interpretation/theorizing steps which lead to sharpening and tightening the specification of research questions considering the researcher's developing ideas which is called "iterative process" or strategy.

In this manner, qualitative research as performed in this thesis takes a *constructionist* and *naturalistic* position. It is constructionist since it views the social life as social accomplishments produced by the interaction between people rather than a fixed structure (Anderson 2012). And it is naturalistic as it tries to study the social world in its natural setting with the minimum disturbance of its processes.

3.2.3 Research strategy

Qualitative researchers in sociology typically choose between several strategies including case study, phenomenology, ethnography, and grounded theory (Creswell and Poth 2017). Among these, I chose case study as it best serves the purpose of my study to inquire my research problem. According to Feagin, Orum, and Sjoberg (1991) case study is defined as an "in-depth, multifaceted investigation, using qualitative research method, of a single social phenomenon" (2). A case can be an individual, a community, a decision process, or an event which is explored through detailed, in-depth collection and integration of data, typically from multiple sources of information to answer emerging

research questions (Creswell and Poth 2017). It is important to note that a case study is "usually seen as an instance of a broader phenomenon." (Feagin et al. 1991: 2). According to Yin (2003a cited in Kohlbacher 2006) case studies are the preferred strategies for answering "how" and "why" questions to study complicated social phenomena such as managerial and organizational processes over which the researcher has little control. In fact, case studies help the researcher "to retain the holistic and meaningful characteristics of real-life events." (5). According to the literature, a case study is considered a research strategy rather than a method. For instance, Stake (2000) argues "[c]ase study is not a methodological choice but a choice of what is to be studied. By whatever methods, we choose to study the case" (Stake 2000: 453 cited in Kohlbacher 2006) On this foundation, I chose Kingston as a case to be studied as a mid-sized city with a seemingly innovative approach to climate policies.

Accroding to Creswell and Poth (2017) "case study researchers examine groups of individuals participating in an event or activity or an organization" (242). The priority of a case study researcher is to maximise what they can learn about the case so they try to get their information through multiple sources of evidence rather than relying on one single source of data. These multiple sources of inquiry and data collection include observations, interviews, audiovisual material, artifact, and document reviews (Harrison et al. 2017). These data eventually guide the researcher to report a case description and case themes, which represent issues or specific situations to study in each case (Harrison et al. 2017; Creswell and Poth 2017).

Working in this fashion, my case study has been conducted through collecting data and information from two main resources: documents produced by the City of Kingston and

semi-structured interviews with government and non-government actors. The findings of this study are an instance of a broader phenomenon that may be ‘transferable’ or applicable to other cities. As Tracy (2010) notes “transferability is achieved when readers feel as though the story of the research overlaps with their own situation and they intuitively transfer the research to their own action” (845).

3.2.4 Time horizon

This research is a cross-sectional study, which means its data was collected at one point in time. The first set of data I analysed in this research is documents produced by the City of Kingston from 2014 to 2017. I chose these to provide a diachronic perspective on climate policies priorities in Kingston over a seven-year period. The second set of data is the semi-structured interviews with the City of Kingston officials and social justice advocates whose work are directly or indirectly related to Kingston climate policies and also vulnerable people in Kingston. All of these interviews were completed during the spring and summer of 2022.

3.2.5 Data collection methods

As stated earlier, in this research I utilized two types of evidence and consequently applied two types of data collection methods including:

1) Documantary research method: analysis of documents produced by the City of Kingston about climate policies from 2014 -2021.
2) Semi-structured interviews (individual interviews and a focus group) with City of Kingston officials and social justice advocates whose work are directly or indirectly related to Kingston climate policies and also vulnerable people in Kingston.

Documentary methods are defined as "the analysis of documents that contain information about the phenomenon we wish to study" (Bailey 1994 cited in Mogalakwe 2006: 221). As Orcher (2005) states, the advantage is that the researcher can readily collect diverse information without being compelled to deal with the difficulties that come with working with participants. However, this technique has a disadvantage in that the researchers rely on the information and data that is already produced and must trust that this information is truthful and accurate (Orcher 2005 cited in Jones-Pasley 2014). To eliminate this disadvantage, I benefited from the second set of data. By conducting semi-structured interviews, I potentially corroborated and contextualized documentary sources.

As Rapley (2001) suggests, an interview is a social interaction between the interviewer and interviewee in which knowledge is constructed. The qualitative research interview is defined as "attempts to understand the world from the subjects' point of view, to unfold the meaning of their experience, to uncover their lived world" (Kvale 2015: 3 cited in Creswell and Poth 2017: 230). The interview questions and the people to be interviewed are determined based on the purpose of the study. There is a great variety in the type of interviews between two extremes. On one end of the extreme the highly structured surveys with closed-ended questions and a large sample exists, while on the opposite end the fluid inquiry of the focus group stands. A semi-structured interview is an approach that falls between these two extremes (Adams 2015). As an intermediate method, semi-structured interviews mix elements of both closed and open-ended questions into a distinctive package and often follow up by *why* and *how* questions. Semi-structured interviews often "meander around the topics on the agenda… and may delve into totally unforeseen issues" (Adams 2015: 493).

As Wengraf (2011) indicates, like other parts of research, semi-structured interviews need to be planned and prepared in advance, yet the questions are only partially prepared before the interview (half-scripted or a quarter-scripted). He asserts that questions should therefore be open in nature, and the researcher needs to be adequately trained, mentally prepared, and creative to improvise the non-scripted questions which cannot be predicted in advance, through the interview session in a careful and theorized way. Otherwise, the semi-structured interview may yield nothing but random information. As Walker (2006) states the process of semi-structured interviews is designed to uncover how the interviewees interpret the event and make sense of the topic of the research. Consequently, the final or whole script of the interview in semi-structured interviews is a co-production of the researcher and their interviewee.

Semi-structured interviews have some disadvantages. As Adams (2015) states semi-structured interviews are a time-consuming and labor-intensive type of inquiry that require the interviewer to manage the long and effortful process of preparing, setting up, conducting, transcribing, and analyzing the interviews. On the other hand, this kind of interview can facilitate understanding the social reality in a politically engaged manner that is empathetic and sensitive to the participants' situation. Different types of semi-structured interviews can produce knowledge that may be politically active, taking the side of the participants and committed to improving their situations and lives (McIntosh and Morse 2015). The unique feature of semi-structured interviews is that they provide a high degree of relevancy to the topic and direct the participants' responses while allowing sufficient flexibility to allow participants to respond the questions in the manner they wish.

To achieve the purpose of this study, I conducted semi-structured interviews using a flexibly framed set of opening questions with people directly involved in the process of policy making for climate change in Kingston, in addition to social justice advocates. Accordingly, semi-structured interviews with key stakeholders enabled me to understand Kingston's climate policies and plans in depth. In doing so, I sought to open up the motivations and processes underpinning policy choices alongside the consequences and outcomes of strategies and practices that have been developed to enhance the city's resilience. In particular, I sought to understand to what extent the City is considering the goal of equitably reducing community vulnerability to climate change hazards.It is important to note that the Kingston Climate Action Plan (2014) defines community as a combination of "individuals and organizations" (27, 29, 84). On this basis and to avoid confusion, I adopt the same definition when referring to community in this research.

3.2.6 Sampling strategy

In terms of sampling strategy, for both sets of data, I used purposive or purposeful sampling strategy. Purposive (purposeful) sampling as a qualitative research strategy encourages researchers to use their insight and judgement to choose what they observe, who they listen to, and how to handle the evidence and findings of their research (Emmel 2014). According to Emmel (2014) "the logic and power of purposeful sampling rests on the in-depth study of informative rich cases, towards learning a great deal about the research question and the issues considered by the researchers to be of central importance"(3). As White and Marsh (2006) maintain, qualitative research seeks transferability rather than generalization. "Transferability refers to a judgment about whether findings from one context are applicable to another" (36). On this basis, during

the sampling process, there is no need to make sure that all the objects have the same probability to be included in the sample. The cases are selected by means of theoretical and purposive sampling, while selecting new cases and analysis of them may be continued until no new patterns or findings emerge through coding process (ibid).

On this ground, for selecting the first set of the data, I initially read several documents produced by the City of Kingston related to climate policies and plans. Then I chose the documents among them that I found best fit the purposes and questions of my research. As I stated earlier, I investigate two main questions in this research. The first focus of my study is on the degree to which Kingston municipality's climate policies provide evidence of adaptive governance components and resilience thinking. In other word, I ask to what extent and how Kingston is using a planning and policy approach that accords to the principles of adaptive governance. Secondly, I aim to understand the degree to which such documents indicate that Kingston is integrating a form of governance with a strong justice orientation that addresses the needs of the most vulnerable individuals and/or communities. To answer these questions, I selected four of the most important documents produced by the City of Kingston:

1. Kingston Climate Action Plan (2014).
2. Community Sustainability Report (2017)
3. Working Group on Climate Action Report to Council (2019)
4. Climate Leadership Plan (September 2021)

I chose these documents for this analysis section because they provide a wide-ranging and diachronic set of perspectives on climate policies priorities in Kingston over a seven-year period. On this ground, I overview how these documents account for the impact of

climate change and project municipal responses to those challenges. At the same time, I analyze the degree to which these documents indicate that Kingston is integrating a concept of vulnerability suitable to identify the equity challenges facing marginal groups within the city.

The second set of data of this research are produced based on semi-structured interviews with the City of Kingston officials and social justice advocates, I also utilized purposeful sampling. As Cleary et al. (2014) argue, rather than seeking numeric significance which is the corner stone of quantitative research sampling, qualitative research sampling is about selecting participants or informants whose experiences and views can clarify, explain, or add meaning to the research problem (Cleary et al. 2014 cited in Conlon et al. 2020). Similarly, Morse (1991:129 cited in Coyne 1997) states "when obtaining a purposeful (or theoretical) sample, the researcher selects a participant according to the needs of the study." On this basis, I applied snowball sampling to select the participants of semi-structured interviews. The latter is a form of purposeful sampling startegy that, according to Emmel (2014), is characterised by asking well-situated people to introduce other people who can provide rich insight and information about the topic of study.

Table 3. 1 The number of interviews

Group	Participants	Number	Contribution
1	Network Coordinator of Climate Caucus	1	Provide a big picture of bureaucratic processes involved in developing climate policies at national and regional levels
2	Key policy makers and government officials, directors, and midlevel staff of municipal departments in Kingston	5	Provide an in depth understanding of how current climate policies in Kingston came into being; what they are intended to achieve; and

			what policy developments might be expected over the medium-term future. These interviews helped learning about the prevalence of adaptive governance or political ecology perspectives within Kingston's policy formation
3	Directors and staffs of nongovernmental and community-based organizations and local experts in Kingston who work with marginalized groups	5	These interviews give perspective on the challenges facing marginal groups within Kingston that might be exacerbated by climate change impacts. It allows consideration of the extent to which current policy foregrounds the experiences of vulnerable groups

A total 11 interviews were conducted in Kingston, which involved three groups of stakeholders. The first group consisted of key policy makers and government officials, as well as directors and mid-level staff of municipal departments responsible for setting regional climate policies in the City of Kingston (5 interviews). These interviews provided insight into Kingston's climate policies, including how current policies were developed and their intended goals. Second, I interviewed the Network Coordinator of Climate Caucus that provided a wider conceptualization of the bureaucratic processes involved in developing climate policies (1 Interview). And third group included directors and staff of nongovernmental and community-based organizations as well as local experts on poverty issues in Kingston (5 interviews). These interviews were intended to uncover how those working with vulnerable groups in the city understand the challenges that climate change will have upon these groups and to what extent current policies address such challenges. These interviews together with annual reports and documents of

governmental agencies provide a rich contextual understanding of the main questions of this dissertation.

3.2.7 Data analysis technique: qualitative content analysis

Qualitative content analysis is the primary technique I used to prepare and analyze both sets of data. Originating from mass communication studies in the 1950s, content analysis is a flexible and widely used research method in both qualitative, quantitative, and mixed method research (White and Marsh 2006). According to Babbie (2001) content analysis is suitable for investigating the records of human communication through what is essentially a coding operation. To attain answers to research questions and generate results, the approach applies analytical constructs or rules of inference (White and Marsh 2006). This, according to Kohlbacher (2006), results in a methodologically controlled step-by-step procedure that enhances the validity and reliability of case study research. On this basis I chose qualitative content analysis to analyze the data of this case study research.

3.2.8 Data analysis procedure

3.2.8.1 Content analysis of the documents produced by the City of Kingston

According to (White and Marsh 2006), qualitative content analysis procedure begins with "chunking" the data, which means breaking the data into sampling units, collecting units (determined based on pragmatism), analysis units (determined based on research question or hypothesis) and reporting units. These units may, but not necessarily, be the same. The content analysis procedure that I followed for analyzing the documents produced by the City of Kingston was based on what White and Marsh (2006) recommend:

1) Sampling text for selecting what is relevant: I read all the documents and selected the most relevant ones.

2) Distinguishing words, quotes, or examples: I coded and categorized the documents content based on the theories I already chose as the analysis lens.

3) Establishing the context: I designed the context of my research based on theory, literature, and the main categories I extracted from the documents and formulated the account of the findings.

4) Specifying and clarifying the research questions: This process helped me to clarify my main research questions as well as the questions for the next phase of my research (semi-structured interviews).

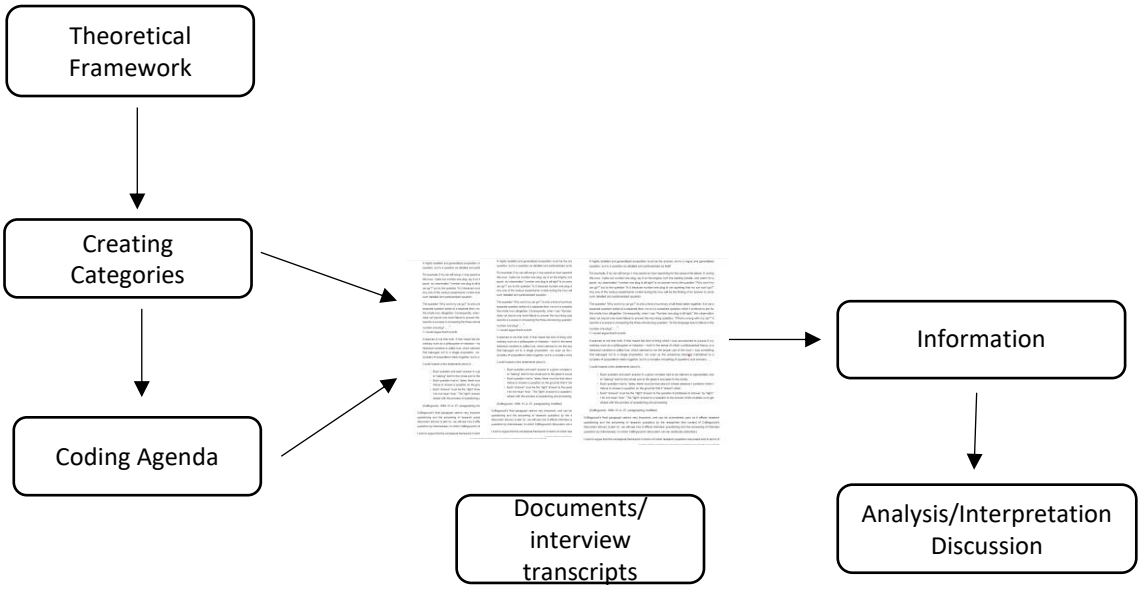

figure 3. 1 Content analysis procedure (source: Author based on Kohlbacher 2006)

Then I started the process of coding the documents to provide a systematic content analysis. According to Stemler (2000) there are two types of coding: 1) emergent coding (inductive coding), in which categories are established based upon primary analysis of

the data 2) a priori coding (deductive coding) through which categories are established using the theoretical framework ahead of analysis process. For the content analysis of the documents, I used a *priori coding* approach meaning my content analysis is founded upon a set of predetermined categories which I created based on literature review and theories adaptive governance (in chapter 4) and political ecology (in chapter 6).

3.2.8.2 Content analysis of the semi-structured interviews

The next phase of my research was semi-structured interviews with the policy makers and the social justice advocates. The first phase of my research helped me to formulate the semi-structured interview questionnaire as a flexible, non-linear series of open-ended questions. This followed the recommendation of White and Marsh (2006) that qualitative content analysis is inductive research which is guided by open research questions seeking to create a picture of embedded phenomenon in a particular context. The open research questions are the initial focus of the content analysis research, however, as the research goes forward, the evidence playa an equally significant role in shaping the analysis (ibid). To analyse the transcripts of interviews I used a combination of both *a priori coding* and *emergent coding* approaches. In doing so, I first used the same pre-determined categories I created in the previous chapter of the semi-structured interviews. This means that I used a *priori coding* approach first. Then by applying the *emergent coding* (inductive coding) approach, I created 2-4 sub-categories under each main category as part of the secondary analysis of the interviews.

In the approach that Stemler (2000) refer to as *a priori* coding (deductive coding), categories are established using the theoretical framework ahead of analysis process. On this basis, after transcribing the interviews I categorized them based on the coding agenda

I already established based upon the content analysis of the documents and the theoretical framework. As Glasser and Strauss (1967) note, this constant comparison approach to data analysis guides the researcher to continually refine the emerging relationships and categories and test emerging theory and patterns as new data are compared with old. On this basis, the process of deductive coding gradually turned into inductive coding or emergent coding – which Stemler (2000) describes as a process in which categories are established based on primary analysis of the data – because some of the codes and categories emerged from the interviews. This process was aligned with White and Marsh's (2006) perspective. As they maintain, in qualitative content analysis, while the main emphasis is on answering the research questions, emerging questions during coding are also considered to allow for a composite picture of the phenomenon under study. On this basis, during the process of analysis, data provides reliable evidence to answer research questions and convey or communicate a message (White and Marsh 2006). Through this process, as Krippendorff (2004) suggests, there are three sources of derivation for analytical construct: 1) previous theories or practices 2) the experts' knowledge and experiences and 3) existing research. I used all these three sources while coding and extracting the categories in my content analysis. As Bryman (2016) states qualitative research usually starts with field research and ends with developing theories and concepts through participants' interpretations of social world.

3.3 Methodological limitations and strengths

One limitation of qualitative research is that participants may only provide a partial representation of their thoughts on a given situation. To address this limitation, qualitative researchers utilize multiple sources of information to develop a

comprehensive understanding. In this research I conducted a triangulatation by analyzing two sources of data: climate policy documents and semi-structured interviews with the City officials and their critics. This approach was adopted to minimize the impact of aforementioned limitations of qualitative research.

The other limitation of this research is that its semi-structured interviews were conducted during the COVID 19 Pandemic. Due to the limitations of contact with people and semi-closeness of all the offices, it took me longer to find suitable participants to interview. Moreover, the challenge in scheduling appointments with City of Kingston officials and staff members due to their busy schedules can be considered as another limitation of this study that hindered the process of this study in terms of timeline and delayed data collection. In terms of strengths, Duffy (1986) considers the interactive relationship between the researcher and the respondent as a benefit since it provides the researcher with firsthand experience, and valuable and meaningful data. He believes that the long time and deep relationship increases the likelihood of producing more honest and valid data (Duffy 1986 cited in Carr 1994).

The other strength of qualitative research is related to its broad and open-ended type of inquiry that allows the respondent to raise issues that matter most to them. This method equips the researcher with strategies to uncover different perspectives within a community by investigating the underlying assumptions, beliefs, and values that drive people's behavior. This is a benefit of qualitative research: it can yield deeper and more precise information than data derived from surveys (Dudwick, Kuehnast Jones and Woolcock 2006; Yauch and Steudel, 2003 cited in Choy 2014).

One further benefit of qualitative research is regarded to its naturalistic type of inquiry. Qualitative researchers tend to bring about minimum of disturbance to the ground and social world they examine. According to Sandelowski (1986) qualitative research causes fewer disturbances to the setting of their study (Sandelowski 1986 cited inCarr 1994).

3.4 Concluding summary

In this chapter I explained the methodology behind this study and elaborated the procedure of my research based on its main purposes. The main purpose of this research is to understand how Kingston municipal government sets its climate policies, and to what extent its plans and policies take equity issues into account. Based on this purpose, I chose qualitative research as my method of inquiry. This research is an *inductive* and *interpretivist* type of inquiry in which the researcher takes a *constructionist* and *naturalistic* position.

As any other qualitative research, the procedures of this study could not be tightly structured and decided prior to entrance to the field. On this basis, the research questions and subsequent data collection strategies were modified and changed as I moved forward in the research process. This is because the purpose of entering the field is to learn about the problem from the participants and then decide the best practice and procedures to collect the information. So, as aligned with Denzin and Lincoln (2011), an interplay or loop back occurred between the data collection and interpretation/theorizing steps of this study. This was evident in the way that I sought to collect data from two main resources: documents produced by the City of Kingston and semi-structured interviews with City of Kingston officials and social justice advocates whose work are directly or indirectly related to Kingston climate policies and/or vulnerable peoples in Kingston. For both sets

of data I used purposive sampling strategy and utilized qualitative content analysis to prepare and analyze both sets of data.

The most important limitation of this research was difficulties encountered in organising semi-structured interviews with participants owing to COVID 19 Pandemic constraints and their busy schedule. However, this research is strong in the sense that it combined two sets of data. First the documents produced by the City of Kingston and second the interviews with City of Kingston officials and social justice advocates. On this basis, I argue that the findings of this study as an instance of a broader phenomenon it is "transferable" or applicable to other similar situations and policymaking processes.

Chapter 4

Results of the Document Analysis

4.1 Introduction

Throughout this chapter, I present the results of my content analysis of documents produced by the City of Kingston on climate policies. My aim is to understand the City's practices and processes of policy design and governance with respect to climate change. In particular, I aim to understand to what degree such documents suggest that Kingston is integrating a form of adaptive governance suitable to address resilience concerns into policymaking. To answer these questions, I selected four case examples of the most important documents produced by the City of Kingston in relation to climate policy and planning which include:

1. Kingston Climate Action Plan (2014)
2. Community Sustainability Report (2017)
3. Working Group on Climate Action Report to Council (2019)
4. Climate Leadership Plan (November 2021)

I chose these documents because they provide a diachronic perspective on climate policy priorities in Kingston over a seven-year period. To achieve this, I overview these documents to highlight how the City of Kingston is contextualizing the impact of climate change within the locality and planning its responses. At the same time, I focus my study on the degree to which they provide evidence of adaptive governance components and resilience thinking. Put simply, I ask to what extent and how Kingston is using a planning and policy approach that accords to the principles of adaptive governance.

To answer this question, I utilized qualitative content analysis to prepare and analyze the data out of the documents. According to Krippendorff (2019) content analysis is a scientific tool that is used to make valid and replicable inferences from context of a text. It is also defined as "a systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding" (Berelson 1952 cited in Stemler 2000: 1). One of the many purposes that content analysis can be used for is to "reveal the focus of individual, group, institutional, or societal attention" (Weber 1990: 10). This is aligned with the purpose of my research and one of the reasons I used content analysis technique to reveal the focus of climate policies documents produced by the City of Kingston.

As the advantage of the content analysis technique is that the researcher can readily collect diverse information without having to deal with the difficulties that come from working with participants. However, to increase the credibility of this research, I subsequently conducted a series of interviews with local government officials and City of Kingston staff whose work, either directly or indirectly, is related to Kingston's climate policies and plans. These interviews are presented in Chapter 5 and 7 of this dissertation and potentially corroborate, contextualize, and expand the documentary sources. This trangulation of the data has been done to increase the credibility of the findings of this research.As Tracy (2010) states a credible researchs is the one that the reader finds "truthworthy enough to act on and make decision in line with"(843). According to Carter et al. (2014) trangulation there are four types of trangulations: theory, method, researcher and data trangulation which help the researcher to develop more comprehensive and credible understanding of the topic.

On this basis, to assess the degree to which the City of Kingston is integrating a form of adaptive governance suitable to address resilience concerns into policymaking, I first classified and coded the City of Kingston documents. As noted in the methodology chapter, I used a *priori coding* or deductive coding approach meaning my content analysis was founded upon a set of predetermined categories which I created based on literature review and theories of adaptive governance and resilience. As established in chapter 2, to operationalize theoretical insights from adaptative governance and resilience thinking, I extracted core components of adaptive governance and the wider resilience literature. Noting that there are overlaps between them, I then merged the similar categories from both sections of adaptive governance and resilience thinking to create seven main categories that represent a synthesis of core features of adaptive governance supplemented by wider aspects of resilience thinking. The purpose of this is to apply these themes to my analysis of documents. In short, this process provides the conceptual foundations upon which I analyzed the documents which is accounted in the findings of this study below.

4.2 Content analysis of the documents produced by the City of Kingston

4.2.1 Kingston Climate Action Plan (KCAP)

The first document I review is the Kingston Climate Action Plan (KCAP 2014). According to the City of Kingston's website[14], the Kingston Climate Action Plan, approved on June 4, 2014, is a community-based set of strategies and plans to guide Kingston community to reduce its GHG emissions. Choosing the year 2011 as the

[14] Climate Action Plan - City of Kingston

baseline, KCPA's goal was to reduce 352,500 tons of Kingston GHG emissions by the year 2020**.** This section examines the KCAP (2014) how the Kingston municipality plans to achieve its reduction targets and goals by year 2020 and if the theories of adaptive governance and resilience can be traced and detected in creation of these policies and plans.

As KCAP (2014) states, based on the calculation done in 2011, each person in Kingston released on average 10.6 tones of CO2e and the Kingston community (individuals and organizations together) released 1.5 million tons collectively. The analysis showed that 1% of these emissions came from community wastes, 18% from residential emissions, 30% from transportation and 51% from workplaces including Industry/Commercial/Institution (ICI). According to KCAP (2014), Kingston has developed reduction targets to reduce its emissions at "15% below the 2011 baseline by 2020 and a longer-term GHG emissions reduction target of 30% below the 2011 baseline by 2030" (27).

On this basis, I now assess what specific plans and policies are stated in the Kingston Climate Action Plan to achieve its GHG reduction goals and if these plans and strategies are aligned with the principals of adaptive governance approach and resilience thinking strategies. For this purpose, I classify the textual documents presented in KCAP (2014) under the above-mentioned categories I created for this content analysis to find which components of adaptive governance exist and applied in this document and as a result in the Kingston climate policies.

4.2.1.1 Trust-building to mobilize diverse social sectors, and encouraging social cooperation and collaboration to benefit from social capital

The first category I created for detecting adaptive governance can be clearly identified in KCAP (2014). As stated repeatedly in the Kingston Climate Action Plan, KCAP is considered to be "community-based" set of strategies and plans for guiding the "community" to reduce it emissions. The first question that comes to mind is that what it means to be "community-based strategies" and how it shapes the creation and implementation of climate policies. Reviewing KCAP (2014) indicates that by community this document means "individuals and organizations" (27, 29, 84). According to KCAP (2014) to reach its reduction targets, Kingston called for the community (individuals and organizations) engagement and collaboration to take action. It is on this basis that the document argues that KCAP is a community-based set of strategies. In this regard I reviewed the document to find how community engagement is secured in KCAP which according to the literature is a necessary component of adaptive governance. According to KCAP (2014) the Kingston Climate Action Plan is a collective achievement of Kingston's community consultation and individuals, organizations, experts, and stakeholders. This plan provides an overview of existing and potential actions to address GHG emissions reductions and develop climate resilience. The successful implementation of this plan and realization of the change that is needed for moving toward climate resilience and reduced GHG emissions requires all member of community's sustained and significant action and cooperation as well as municipal government commitment.

As KCAP (2014) asserts under Governance section, the City of Kingston is the owner and the governor of the Kingston Climate Action Plan and works on starting initiatives

within its direct control and influence to take sustainable actions to reduce GHG emissions. However, these reductions goals will only be realized if the community organizations also take action within their areas of influence to reduce GHG emissions, the actions that is in direct control of the Municipality can only reduce 2% of the GHG emissions. These actions that the Municipality can take include municipal infrastructure, operations, buildings, fleet (including transit) and purchasing decisions. The other sources of GHG emissions that the City of Kingston can directly influence include land use patterns, transportation network, and residential solid waste.

There are several more instances throughout the document where the importance of community engagement and collaboration is highlighted. For example, KCAP (2014) classifies its strategies for action across five thematic areas (Transportation, Energy, Resources and Natural Systems, Agriculture and Food Security and Climate Resilience). Then, under the Resources and Natural Systems Theme, it is stated that according to statistic Canada's report (2013), Kingston is a 3rd top Canadian composting city with 83% of Kingston residents participating in composting (KCAP 2014: 67). This statistic indicates that Kingston residents are eager to take part in policies and plans to protect their natural systems or environment.

There are other examples of community potential action under the Resources and Natural Systems Theme of KCAP which can be related the first category. These examples include developing a *community-based LEAF program* which is supposed to be running by a public volunteer group and is a non-for-profit organization whereby educational tools, resources, and expertise are utilized to encourage garden and tree planting. The other program is called *DePaved Paradise* which involve working with Hearthmakers and

volunteers to remove asphalt to open more room for natural space (KCAP 2014). Other related potential action mentioned in KCAP (2014) is *Waste Reduction* both in the residential and the ICI (industrial, commercial, and institutional) sector for managing its organics and recycling wastes. *Food Reclamation* is another volunteer-based action or strategy in which Loving Spoonful collect the extra food from restaurants, coffee shops, farms, events, etc. and deliver them to people in need to increase the diversion of organic materials from landfills.

The Agriculture and Food Security Theme of the KCAP (2014) also implies that Kingston's local government policymaking, and climate plans are aware of the importance of first category of adaptive governance, which is encouraging social collaboration. For example, encouraging "local growing, production and distribution of food" is a strategy that is introduced in the Agriculture and Food Security Theme of KCAP (2014) which can be linked to the first category. Some actions to achieve the goals and objectives of the Agriculture and Food Security Theme mentioned in KCAP (2014) include increasing urban greenhouses, providing an information guide to encourage residents to use land for urban agriculture, expanding the food waste reduction program, initiating a working group for promoting locally- sourced food, and expanding the number of Community Gardens (73). In addition, it is stated in KCAP (2014) the City of Kingston and Sustainable Kingston are the lead organizations as part of Sustainability CoLab, which is a national not-for-profit provincial network of communities that collaborate to engage local businesses in climate change problem-solving by setting and achieving carbon reduction goals. Working in this fashion, "each organization will

establish a baseline, monitor the changes in GHG emissions and have their progress publicly celebrated" (85).

4.2.1.2 Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback

Accordingly, in terms of the second category, three efforts or initiatives can be detected in KCAP which includes: (1) *a Roundtable* with 87 participants (including individuals and organizations and local experts) in September 2013; (2) *an online survey* with 65 participants in January to February 2014; and (3), two *Climate Action Plan Open Houses* with 65 participants in February 2014. According to KCAP (2014) the participants of the roundtable were invited through the advertisements within local newspapers and the City of Kingston website. In addition, "the Kingston Climate Action Plan survey was posted on the City of Kingston website" (29-30). However, no information about the invitation process of the open houses can be found in the Kingston Climate Action Plan. According to KCAP (2014) these actions provide the opportunity to share the Kingston GHG emissions situation with the community and hear their feedback and suggestions for future potential GHG emissions-reduction actions to identify the gaps, as well as their plans to be engaged in realization of GHG emissions and energy saving (28-31).

As stated in KCAP (2014) the participants of the roundtable (September 26th, 2013) were provided with an overview of climate change perspectives and specific climate modeling data of Kingston for 2020 and 2050 was presented to them. In an interactive process, participants identified and discussed the GHG reduction actions already under way along with the new potential actions. The participants then provided feedback to promote

resilience and propose new potential GHG emissions reduction actions. This was used as a framework for developing the Kingston Climate Action Plan (29).

According to KCAP (2014) following the Kingston Climate Roundtable, an online-Survey was held from January 21st to February 21st on the City of Kingston Website in which the respondents were provided with information about the 5 theme areas including the actions have already been in place to reduce the GHG emissions in addition to new potential actions. The respondents then were asked to express their opinions about the current and potential new actions that they think are missing and offer the way they would like to participate in moving forward the implementation process of reducing GHG emissions.

In addition to the roundtable and online survey, two open houses were held on Feb 6th, 2014, regarding Kingston Climate Action Plan with approximately 65 participants took part. In the same manner as the roundtable, individual residents and the organizations were provided with a summary of the current reduction plans as well as the new potential ones, in addition to existing plans for reducing GHG emissions. They were again asked about if they would like to get involved in the operation of the plans and how they would like to do that (31).

KCAP (2014) maintains that the Kingston community [from which it means individuals and organizations as stated earlier] is willing and committed to take action to decrease GHG emissions and develop community resiliency in the face of changing climate. It declares that the Kingston community was engaged in developing KCAP through different forums including roundtable, on-line survey, and open houses and asserts that realization and implementation of KCAP will take the collective understanding and

working of all community members together. This collective understanding on the emergency of mitigating climate change is imperative to safeguard today's quality of life and protect future generations (83).

4.2.1.3 Operating across different scales and co-management of resources

The implementation framework of Kingston Climate Action plan (2014) consists of three phases of community GHG reduction which can be an example of the fourth category of adaptive governance values I created for this analysis. Although these three phases have some overlap with the first category, I classified all of them under the fourth category, which is operating across different scales, to keep them coherent. I provide an overview of these three phases of community GHG reduction here.

According to KCAP (2014) the first phases of community GHG reduction is *collaboration and capacity building.* As stated in KCAP (2014) achieving the desired GHG emissions reductions requires action at the national, provincial and community level. This statement highlights the importance of operating the management across different scales. As KCAP (2014) maintain, at the local level, it is imperative to use the maximum degree of "collective knowledge and resources as well as continuing the brainstorming sessions and encourage stakeholder participation and involvement in existing and new actions. This phase involves increasing the community awareness and provide them with information sources, like an on-line toolkit for action at individual and workplace levels. The KCAP speaker series which is delivered by Sustainable Kingston is another effort to bring the community together to communicate and learn. Additionally, Kingston Sustainability CoLab is organized to outreach to local organization to help them calculate their GHG emissions and develop a reduction plan for them. Furthermore, as

KCAP (2014) suggests, the rich culture of volunteerism in Kingston helps many actions within the plan to be implemented by the eager volunteers. Encouraging action champions to step forward to lead the implementation and development of the plan is another requirement which is mentioned in KCAP (2014) under Collaboration and capacity building phase.

The second phase, according to KCAP (2014), is *Enabling and Taking Action*. This phase involves developing a leadership team to support the existing actions as well as strategic initiatives to reduce GHG emissions. As KCAP (2014) asserts "a network of NGOs such as Sustainable Kingston, Sustainability CoLab, Hearthmakers, SWITCH, Utilities Kingston and renewable energy cooperatives will be fostered to develop events and initiatives to advance the goals, objectives and actions identified in this plan" (87).

The last phase of the implementation framework mentioned in KCAP (2014) is *Monitoring, Reporting and Re-Evaluating*. According to KCAP (2014) to keep the KCAP a reliable and lively document, continuous monitoring of the community GHG emissions and re-evaluating the efficiency of the existing and new actions is imperative. In this regard sharing and keeping a clear dialogue with the community and providing them with the plan updates will facilitate the progress of the plan and provide new opportunities to advance and achieve the reductions goals.

Although it is mentioned at in the first phase of community reduction that achieving the desired GHG emissions reductions requires action at the national, provincial and community level, the most emphasis which I could detect was on the community level and little can be found about provincial and national level collaboration in this document.

4.2.1.4 Working with the idea of resilience

Although the previous themes I looked for in Kingston Climate Action Plan are components of resilience thinking, I nonetheless added a further category to this analysis to investigate directly what the concept of "resilience" means in this document and how the creators of these documents work with the idea of resilience.

The term "resilience" was used 16 times in KCAP (2014). One of the themes created under heading of "Taking Action" in this document is "Climate Resilience" (33). "Climate Resilience" is also one of the main five key theme areas of Kingston Climate Action Plan.

KCAP (2014) considers "climate resilience" equal to "climate change adaptation" and refers to them as "measures or initiatives to reduce the vulnerability of natural and human systems against actual or expected climate change effects and to maximize potential benefits" (75). It is also pointing to the importance of educating the public on concept of resilience about the necessary role of public in creating a resilient community (79). The other action which is considered as necessary to increase climate resilience is reducing carbon footprints and moving toward a low carbon lifestyle/ culture (88). This document also provided some climate resilience tips for individuals and organizations which include advice for both reducing carbon footprints (mitigation) and adapting to the changing climate (adaptation) (92-93, 97).

Conclusively, adapting to the changing climate and reducing carbon footprint are viewed as two important components of climate resilience in KCAP (2014). The other essential component of resilience which is explicitly mentioned in this document is raising public

awareness and encouraging individuals and organizations to collaborate to create a climate resilient city.

Table 4. 1 Content Analysis of Kingston Climate Action Plan

Category Number	Core Categories of Adaptive Governance & Resilience Thinking	Evidence captured from Kingston Climate Change Plan (2014)
1	**Trust-building to mobilize diverse social sectors, and encouraging social cooperation and collaboration to benefit from social capital**	• KCAP is a collective achievement of Kingston's community consultation • All member of community's sustained action and cooperation is required for success of the plan • 83% of Kingston residents participating in composting (3rd top Canadian composting city • *community-based LEAF program* running by public to encourage garden and tree planting. • *DePaved Paradise,* running by volunteers remove asphalt to open more room for the natural space • Loving Spoonful, encouraging "local growing, production and distribution of food" • increasing the Urban Greenhouses, expanding the number of Community Gardens
2	**Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback**	• A Roundtable: invitation through local newspapers and the City of Kingston website • An online survey: posted in the City of Kingston website • Two Climate Action Plan Open Houses: no information about the process of invitation is provided
4	**Operating across different scales and co-management of resources**	• *Collaboration and capacity building:* action at the national, provincial and community level. • *Enabling and taking action*: involves developing a leadership team to support the existing actions • *Monitoring, reporting and re-evaluating:* sharing and keeping a clear dialogue with the community and providing them with the plan updates
7	**Working with the idea of resilience**	• Initiatives to reduce the vulnerability of natural and human systems against actual or expected climate change effects • Educating the public on concept of resilience about the necessary role of public in creating a resilient community (importance of the community collaboration) • Advice for both reducing carbon footprint (mitigation) and adapting to the changing climate (adaptation)

Overall, I detected four from the seven categories I created for this content analysis, as the components and values of adaptive governance, in Kingston Climate Action plan (2014).

I created the above Table 1 containing these four categories and bullet point of the main examples and evidence indicating the categories I located in the Kingston Climate Action plan (2014) document for the ease of reference.

There is clear evidence in the KCAP (2014) that the creators of this plan are aware of the importance of community (individual, businesses, and organisations) collaboration, using social capital for successful implementation of climate policies. Regarding the second category/theme the document shows that the City tried to encourage the community towards a participatory engagement with creating the plan. This largely revolved around individuals providing feedback and ideas in the roundtable, the online survey, and open houses. However, I detect a gap in the participation and engagement section on the issue of accessibility and inclusion. There is no information provided in the document about the demographics of the participants of these events. Arguably, the way the events were advertised suggest that mostly people who had access to technology and followed the City of Kingston website or reading newspaper were included in the process of invitation, which potentially suggests an implicit middle-class bias. The photos of the KCAP (2014) document from the round table and the open houses also shows that only white people participated on the events, at least from what the audience can see in the frame of the photos. This shortcoming or gap can be related to issue justice and inclusion which I will investigate more closely in the vulnerability Chapter (Chapter 6) of this dissertation.

There is also evidence of awareness and attention to the fourth category of adaptive governance which is operating across different scales which was mentioned in the document once. Overall, there is obvious evidence of awareness of and attention in KCAP (2014) to the importance of public participation in decision making and collaboration for successful implementation of the plans.

4.2.2 Kingston Community Sustainability Report

The next document I used as a resource for this content analysis is Kingston Community Sustainability Report (2017). Kingston Community Sustainability Report (2017) suggests that Kingston is turning into a national leader in mitigating climate change issues, thanks to the inspiring leaders in the community who put effort on theory and practice of sustainability. As Community Sustainability Report (2017) states, the purpose of this report is to tell the story of the Kingston's community actions and local responses to the pressing problem of climate change in Kingston. According to Community Sustainability Report (2017) sustainability will be found in the intersection of four pillars of environment, economy, society, and culture. On this basis, the Community Sustainability Report (2017) introduces six priority areas which are target-based and actionable elements related to the four-pillar approach to sustainability. These six priority areas include: climate action, economic prosperity, food security, sustainable transportation, sense of community, environmental stewardship. I reviewed this document to see if I can detect the elements of adaptive governance in this document.

4.2.2.1 Trust-building to mobilize diverse social sectors, and encouraging social cooperation and collaboration to benefit from social capital

The only value or component of adaptive governance I could detect in Kingston Community Sustainability Report (2017) was the first category which is *trust-building to mobilize diverse social sectors and encouraging social cooperation and collaboration to benefit from social capital*. The importance of collaboration and cooperation of the local community [individuals and local institutions, businesses, and organizations] is highlighted and emphasized throughout the Community Sustainability Report (2017). This evidence indicates that Kingston policy makers are aware of importance of this element in helping them to achieve their GHG emissions reduction goals. Below I present the example from Community Sustainability Report (2017) which highlights the first category.

The Kingston Community Sustainability Report (2017) introduces some local institutions, businesses, and organizations that are taking action to minimize Kingston's GHG emissions and reduce the community's vulnerability to the changing climate. For instance, Kingston is welcoming Tesla Powerwall which is an electrical storage solution that allows users to charge their compact batteries through grid or solar panels to back up their power supply during the more expensive time-of-use periods, which is called pick sharing tactic. This is an expensive technology and is not affordable for most people. Green Bin program and Green Economy program are two programs introduced in the Kingston Community Sustainability Report (2017) which requires and encourage participation/ collaboration of residents, businesses, and organizations. The first one, Green Bin program initiated in 2009, encourages residents to separate their food waste from landfills. According to Community Sustainability Report (2017) almost half of the

Kingston residents are participating in the program and consequently 60% of waste was diverted from landfills in 2016. In 2017, the amount of waste that diverted from landfills was estimated to be around 3,800 tons which is equivalent to burning 62,440 tanks of gasoline without any GHG emissions! This statistic shows massive participation of Kingston's residents in doing their parts in reducing their emissions if the infrastructure is available.

The second program, Green Economy program, was initiated in 2016 and requires businesses and organizations to take climate action by measuring their GHG emissions (baseline carbon footprint) due to their water, electricity, and natural gas consumption. The members are supported by the program to take initiatives to reduce their carbon footprint by cost-benefit considerations like upgrading lighting, furnaces, thermostats, and going paperless in their offices by using wide online systems. These are examples of the City encouraging Kingston community to participate in reducing their GHG emissions which I suggest is aligned with adaptive governance principals to achieve a resilient community in the face of climate change.

"Food security" is another theme which is mentioned in Community Sustainability Report (2017). The report emphasizes that planning requires community engagement and collaboration to turn to an element of reducing GHG emissions. According to Community Sustainability Report (2017) Kingston relies on food grown outside of the wider region for most of its consumed resources. To be more climate resilient and economically developed, Kingston needs to rely more on local food resources and this can be achieved by supporting the local farmers. Moreover, food security can be accomplished by "facilitating fresh food access, skill development and community

engagement" according to Community Sustainability Report (2017). In this regard, Loving Spoonful works on connecting and encouraging kids to learn gardening and familiarize them with food security and environmental ethics.

The other program in Kingston's attempt to achieve local food security by connecting local farmers directly to consumers is a farming system called Community-Supported Agriculture program (CSA). Consumers enrolled in this program will receive a weekly or bi-weekly basket of local farm produce by paying a seasonal membership fee.

As the Community Sustainability Report (2017) states, the stewardship concept or idea indicates the "responsibility to remain accountable for the consequences of one's actions" (30). This idea is related to understanding the fact that human and ecological systems are interconnected. Continuing this theme, the document states explicitly that human activities directly influence the physical environment, and that is why environmental stewardship is a key theme of the appeal to community to contribute to protecting and sustaining the environment.

4.2.2.2 Working with the idea of resilience

As I mentioned earlier, I added this category to this analysis to investigate what the concept of "resilience" means explicitly in the documents I analyze and how the creators of these documents work with the idea of resilience.

The word "resilience" is only mentioned one time in the Kingston Community Sustainability Report under the "Food Security" heading (14). In this regard Kingston Community Sustainability Report (2017) states that most of the food Kingston residence consume are transported to Kingston form long distance, which is not the ideal condition

for food security and being climate resilient. On this ground, this document suggest that a strong local food system is the key to a developed local economy and climate resilience.

Table 4. 2 Content Analysis of Kingston Community Sustainability Report

Category Number	Core Categories of Adaptive Governance & Resilience Thinking	Evidence captured from Kingston Community Sustainability Report (2017)
1	**Trust-building to mobilize diverse social sectors and encouraging social cooperation and collaboration to benefit from using social capital**	• Some local businesses, and organizations taking action to minimize Kingston's GHG emissions, for instance, Tesla Powerwall • Green Bin program: encourages residents to separate their food waste from landfills • Green Economy program: requires businesses and organizations measuring their GHG emissions • Highlighting the importance of supporting the local farmers to increase local food resources • Loving Spoonful works on connecting and encouraging kids to learn gardening and familiarize them with food security and environmental ethics.
7	**Working with the idea of resilience**	• Developing a strong local food system

Conclusively, two out of seven categories of adaptive governance component or value is clearly articulated within the Community Sustainability Report (2017). The first category is *trust-building to mobilize diverse social sectors and encouraging social cooperation and collaboration to benefit from social capital*. This document also indicates the special attention of policy makers to the importance of community collaboration in successful implementation of climate policies. And the seventh category which is *working with idea of resilience*. Although, the word resilience is only mentioned once in this document to highlight the importance of strong local food system in relation to climate resilience. I could not detect any clues of other categories in this document. On this basis, it can be concluded that Community Sustainability Report (2017) is not a strong document in terms of applying adaptive governance principals.

4.2.3 Working Group on Climate Action Report to Council

The third document I analyzed in this chapter is the Working Group on Climate Action Report to Council which was issued on October 15, 2019. Working Group on Climate Action (WGCA) was created through a motion passed on June 18, 2019, by the Kingston Council. This Working Group provided a Mandate "to promote, engage, inform, and challenge community organizations, institutions, and businesses to reduce Greenhouse Gas (GHG) emissions in the ICI [Industry/Commercial/Institution] Sector as soon as possible at no to little cost" (WGCA 2019:1). The Kingston Council required the Working Group to "report to Council no later than October 31, 2019, with a list of actions for potential implementation by community partners/businesses and the corporation to reduce GHG emissions in an immediate and inexpensive manner" (ibid: 6). In this regard, the goal is to lead the City with "effective emissions reductions, building retrofits and other energy efficiencies, to become carbon neutral as soon as possible and no later than 2040. This will result in a 15% reduction from the 2018 baseline in GHG emissions across the City's operations by 2022" (ibid: 5). Councilor Bridget Doherty and Dan Hendry were the co-chairs of this Working Group. Through coding and analysis of the document, I traced three of the seven categories of Adaptive Governance and Resilience approach.

4.2.3.1 Trust-building to mobilize diverse social sectors and encouraging social cooperation and collaboration to benefit from social capital

The most clearly articulated component of adaptive governance that I could trace in this document is *trust-building to mobilizing diverse social sectors and encouraging social cooperation and collaboration to benefit from social capital.* Although there are no direct implications of trust building efforts in this document, the are several inferences of

WGCA effort or plan to encourage the residence and ICI sector to collaborate and help the implementation of GHG reduction plans. For instance, as WGCA (2019) states, Kingston is an internationally connected city and will address the global climate change issue "as a local climate action leader and inspire Kingston residents to become part of the solution" (5). Also, as WGCA (2019) states, the purpose of creating WGCA was to bring Kingston corporate and community partners together to find the prompt and low-cost GHG emissions reduction strategies in the ICI sector (Ibid: 6).

In doing so, "Sustainable Kingston in partnership with the ICI members will continue to raise awareness and encourage active and sustainable transportation in the ICI sector through workplace campaigns and challenges, such as carpool programs, group parking passes, Commuter Challenge, Employer Transpass Program and Kingston Transit Orientation" (ibid: 10, 16). In addition, according to WGCA (2019) "sustainable Kingston, in partnership with the ICI sector, will continue to raise awareness and promote waste diversion and reduction efforts through education, campaigns, challenges, waste diversion projects and incentives such as the plastic-free summer challenge, workplace waste reduction initiatives and the Ontario EcoSchools program" (16). These are all examples of WGCA (2019) efforts to encourage the residence and ICI sector to be a part of the solution and cooperate in different possible ways in reducing the emissions.

4.2.3.2 Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback

The second predominant theme or category in the WGCA (2019) is *connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback.* The quotes mentioned below are what I found through a

content analysis of WGCA (2019) which implies that the creators of this document are aware of the importance of reaching out to public for their participation and feedback. As it is stated in WGCA (2019), “The Working Group provided opportunities for the public to present and submit ideas aimed at reducing GHG emissions in the Industrial, Commercial, and Institutional (ICI) sector at no to little cost that could be implemented as soon as possible” (1). Also, it is mentioned in this document that “the City of Kingston’s Get Involved page allowed for members of the public to submit ideas for consideration so long as they met the Working Group’s Mandate, from July 31, 2019, until August 30, 2019” (2).

In addition to that it is stated in the WGCA (2019) that on Tuesday August 27th a public consultation session was held at the City Hall with the purpose of allowing the individuals to present their ideas. The aim was to create an opportunity to hear the community ideas about “reducing GHG emissions in Kingston’s Industrial, Commercial, and Institutional sectors (ICI) as soon as possible, and at little to no cost. The consultation saw 8 unique presentations with many different approaches to addressing GHG reductions in the ICI sector” (2). These are all, the examples showing that WGCA tried to provide opportunities for public to share their ideas and feedback to engage in the process of decision making.

4.2.3.3 Flexible and learning-based management: highlighting the role of social memory and local experiences in shaping the outcome and decentralized, bottom-up and community-engaged decision making in a meaningful way

The next component of adaptive governance which can be traced in the WGCA (2019) is flexible and learning-based management. This category tries to capture if the City of Kingston intend to use the community feedback and local experiences in a meaningful

way to shape the outcome and take action based on that. Here I review some of evidence from WGCA (2019) which highlights this category of value of adaptive governance. According to WGCA (2019) “all input received from the working group members, KEAF, the public consultation session on August 27th and the ideas posted on the Get Involved Page have been captured in the “What We Heard” report, attached as Exhibit B to this report” (2). It is also mentioned in WGCA (2019) that “the Working Group thought it was important to record all that was heard, as it will provide valuable input for the development of the Climate Change Management Strategy. From this public involvement the Working Group on Climate Action identified that the proposed actions could be placed under specific themes: Buildings, Transportation, Food and Agriculture, Greenspace, Waste, Water and Other.” (3)

Also, it is stated in the WGCA (2019) that “drawing together all of the information gathered through the input from the members of the Working Group on Climate Action, the presentations at the consultation session on August 27th, and the ideas posted on the Get Involved page, seven opportunities for action and recommendations have been developed. Keeping in mind the mandate of the Working Group, “to report to Council with a list of actions for potential implementation by community partners/businesses and the corporation to reduce GHG emissions in an immediate and inexpensive manner”, only those action items that are immediate and low cost are included in the list of actions. Collectively, working group members and the ICI sector more generally, are already actively engaged in many of the areas being put forward as recommendations. The latter will serve to continue to engage the ICI sector, share best practices, and enable wider adoption of emissions reduction strategies” (6). On this basis, “the benefit of sharing

information regarding actions to reduce GHG emissions, funding options/incentives, and best practices was recognized, and members of the group identified a need of a portal that serves as a conduit for the ICI sector to connect and share information" (13). All these quotes indicate that the WGCA is aware of the importance of not only public participation and feedback but also intended to benefit and use local feedback and experiences in creating the plans and politicize to take action.

In sum, there are clear evidence that the creators of WGCA (2019) paid attention to the significance of the first three categories of adaptive governance values or components including 1) mobilizing diverse social sectors and encouraging social cooperation and collaboration to benefit from social capital, 2) connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback, and 3) flexible and learning-based management. These are the categories that were clearly articulated in the previous documents I analyzed which indicates the special attention of Kingston policymakers to the importance of public input, engagement and cooperation for the successful implementation of climate policies. However, the same issue with gap of accessibility and inclusion of all layers of society which existed in the KCAP (2014) can be detected in WGCA (2019). I will specifically investigate this gap in chapter 6 of this dissertation.

Table 4. 3 Content analysis of WGCA

Category Number	Core Categories of Adaptive Governance & Resilience Thinking	Evidence captured from Working Group on Climate Action Report to Council (2019)
1	**Trust-building to mobilize diverse social sectors and encouraging social cooperation and collaboration to benefit from social capital**	• Inspiring Kingston residents to become part of the solution • Purpose of WGCA: To bring Kingston corporate and community partners together to find the prompt and low-cost GHG emissions reduction strategies in the ICI sector • Raising awareness and encouraging active and sustainable transportation in the ICI sector through workplace campaigns and challenges, such as carpool programs, group parking passes, Commuter Challenge, Employer Transpass Program and Kingston Transit Orientation • Promoting waste diversion and reduction efforts through education, campaigns, challenges, waste diversion projects and incentives
2	**Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback**	• Providing opportunities for the public to present and submit ideas aimed at reducing GHG emissions in the ICI sector • The City of Kingston's Get Involved page allowed for members of the public to submit ideas for consideration • Holding a public consultation session at the City Hall with the purpose of creating a reaching out opportunity to hear the community ideas about reducing GHG emissions in Kingston's ICI sectors as soon as possible at no to little cost.
3	**Flexible and learning-based management: highlighting the role of social memory and local experiences in shaping the outcome and decentralized, bottom-up and community-engaged decision making in a meaningful way**	• The ideas posted on the Get Involved Page have been captured in the "What We Heard" report, • Recording all that was heard was important as it will provide valuable input for developing the Climate Change Management Strategy. • WGCA proposed actions based on the public involvement under specific themes: Buildings, Transportation, Food and Agriculture, Greenspace, Waste, Water and Other • Drawing together all the information gathered through the input from the members of the Working Group on Climate Action, the presentations at the consultation session on August 27th, and the ideas posted on the Get Involved page, seven opportunities for action and recommendations have been developed • The recommendations will serve to continue to engage the ICI sector, share best practices, and enable wider adoption of emissions reduction strategies.

4.2.4 Climate Leadership Plan (CLP)

The last document I analyze in this chapter is Kingston Climate Leadership Plan (CLP). As Climate Leadership Plan (2021) states, this document was formed based on Kingston Climate Action Plan (2014), with the help of more than 950 community members between Spring 2020 and Fall 2021. According to CLP (2021) Kingston's Climate Leadership Plan is the outcome of Kingston's last decade of climate action and plans to minimize emissions across all its operations and assets focus on the 2022 to 2040 period

with the purpose of achieving a carbon neutral Kingston by 2040 and turn it into a resilient, healthy community for the long term. Below I provide a classified content analysis of CLP (2021) to trace the adaptive governance and resilience thinking principles in a systematic way.

4.2.4.1 Trust-building to mobilize diverse social sectors, and encouraging social cooperation and collaboration to benefit from social capital

The importance of social cooperation and collaboration in achieving the GHG reduction goals is clearly articulated in CLP (2021). As CLP (2021) states "collective efforts of the City, businesses, industries, institutions, and residents" is necessary to achieve climate leadership in Kingston (24). According to CLP (2021), there will be many new opportunities for anyone in the community to be climate leaders, by making changes in how they move, eat, and live. On this basis, through CLP (2021), all members of Kingston community are encouraged to check the City's website for progress on the CLP and news about how to get involved. Also, it is mentioned in CLP (2021) that to "lead Kingston through this crucial next decade and ensure a healthy, thriving and resilient community for the long term" the collaboration of all members of Kingston community is necessary (24). The importance of community collaboration is also asserted as a purpose of CLP (2021): "Kingston is an innovative carbon neutral city that continues to work collaboratively with community partners to achieve climate leadership" (2).
Considering the fact stated in the CLP (2021: 8) that "the City's corporate emissions represent less than two per cent of Kingston's overall community emissions" it is obvious that the community (residents, businesses, and industry) collaboration in reducing the emissions is extremely important. According to CLP (2021) City's survey results shows

that 75 of the respondents asserted that they are interested in reducing GHG emissions (2). This finding indicates that the Kingston community is ready to collaborate and be engaged and that the City can use this social capital and intention to reduce emissions, highlighting the importance of trust building to benefit from the social capital of resident's interest in being a part of the solution.

According to CLP (2021) the largest sources of Kingston's community emissions are buildings and transportation sectors. On this basis, regulating these two sectors is a significant opportunity to achieve most of the reduction targets across the community. Other actions that will critically reduce Kingston's community emissions include widespread purchase of electric vehicles, energy retrofitting of the buildings, switching the energy sources of industrial processes from fossil fuel-based to low carbon, supporting local food systems and land-use policies that reduce the distance of residents' dwellings with their daily needs to encourage active transportation including walking or cycling. All these actions require cooperation of residence and ICI sector in a meaningful way which highlights the importance of trust building to capture the collective action and collaboration of all members of the community in reducing GHG emissions.

4.2.4.2 Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback

Reviewing Kingston Climate Leadership Plan (2021) indicates that the creators are completely aware of the importance of connecting with horizontal layers of society and hearing their ideas and feedback. For example, it is stated in the CLP (2021) that creation of this document was a participatory, and community driven process in which more than 950 community members were engaged between Spring 2020 and Fall 2021. This

engagement includes participation of more than 800 residence and local businesses in the survey (online, by email, or phone); participation of 60 City staffs and stakeholders in the Mitigation and adaptation Technical Team and Community Advisory Group; more than 8 workshops and 20 virtual conversations with City staff, local technical experts, and community stakeholders; and finally, participation or registration of more than 66 to the virtual public open house. In addition, as stated in the previous section, CLP (2021) encourages all members of Kingston community to check the City's website for progress on the CLP and get news about how to get involved in this process.

4.2.4.3 Operating across different scales and co-management of resources

As stated in the literature one of the characteristics of adaptive governance and resilience thinking is a commitment to operating across different scales (Walker and Salt 2006). This characteristic is articulated in CLP (2021) as it asserts, "the City of Kingston is taking the next step in climate leadership through this renewed strategy to reduce emissions across all sectors and become carbon neutral by 2040" (2). According to CLP (2021) to become carbon neutral "not only does the City needs to lower emissions across all operations and assets", but at the same time the community must also reduce its emissions from "businesses, manufacturing and commercial processes, schools, hospitals, residents, food transport and other sources" (2). In doing so, the CLP provides a mix of City-led actions and collaborative actions that needs a collaboration of community organizations and local partners to become completed. Based on this evidence I suggest that the fourth pre-determined category or component of adaptive governance can be traced in the CLP (2021).

4.2.4.4 Working with the idea of resilience

The word "resilience" is used 15 times in Climate Leadership Plan (2017) summary report. I suggest that the difference between the CLP and the previous documents I analyzed is that the CLP creators are more aware of the importance of both components of resilience thinking which include adaptation and mitigation. According to CLP (2021) "many of the actions in the Climate Leadership Plan are focused on helping Kingston limit greenhouse gas emissions to reduce the effects of climate change in the future" (6). This quote implies the mitigation of climate change which is focused on reducing the GHG emissions. Additionally, CLP (2021) states "Kingston's climate is already changing, and it is imperative to adapt and prepare for climate impacts that are affecting the community today" (6). This quote clearly points to the importance of adaptation. The CLP (2021) is created based on nine emissions reduction objectives and one objective focused on "Climate Change Adaptation and Resilience" which points to necessity of managing climate-related impacts that affect municipal infrastructure and services and supporting the community organizations and businesses to assess and reduce their climate risks (19). There are several subtitles under this heading which include 1) vulnerability and risk assessment 2) afforestation and increasing tree canopy 3) engineering assessment to protect the city's most vulnerable infrastructure 4) mapping climate risk hotspots 5) localizing climate impacts 6) climate leadership as a framework to help individuals and organizations to understand climate risks and plan for that. It is also stated in CLP (2021) that "Resilience will be improved through backup energy storage, reduced reliance on personal automobiles and a shift to active transportation,

transit, and electric-powered mobility, strengthened local food systems, and more adaptive community infrastructure" (26).

An important component of adaptive governance is ongoing adjustment, and flexibility. I could not find any trace of this component in CLP (2021). Although the creators of this document are aware of the importance of adaptation to the current effects of the climate change the document is mostly focused on mitigation and has far less to say about adaptation and, in particular the situation of most vulnerable groups of society who are affected by the most immediate impacts of climate change. This gap raises issues of climate and social justice which is the focus of the next chapter of this research.

The only trace of adaptation I could find is the neighborhood planting program in which City plants trees annually aiming to double its tree canopy. Since low-income neighborhoods are very poorly treed, tree canopy is a purposeful way to moderate increasing summer temperatures. However, there is nothing mentioned in the document about the locations of tree planting, suggesting that there is no explicit targeting of tree planting within more socially vulnerable neighborhoods. This is clearly related to climate and social justice themes that I elaborate in the next chapter.

Table 4. 4. Content Analysis of Climate Leadership Plan

Category Number	Core Categories of Adaptive Governance & Resilience Thinking	Evidence captured from Kingston Climate Leadership Plan (2021)
1	**Trust-building to mobilize diverse social sectors and encouraging social cooperation and collaboration to benefit from social capital**	• Vision of CLP (2021): Kingston is an innovative carbon neutral city that continues to work collaboratively with community partners to achieve climate leadership. • Collective efforts of the City, businesses, industries, institutions, and residents is necessary to achieve climate leadership in Kingston. • All members of Kingston community are encouraged to check the City's website for progress on the CLP and news about how to get involved. • The collaboration of all members of Kingston community is necessary to lead Kingston through this crucial next decade and ensure a healthy, thriving, and resilient community for the long term

2	**Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback**	• Creation of CLP was a participatory, and community driven process in which more than 950 community members were engaged between Spring 2020 and Fall 2021. • This engagement includes participation of more than 800 residents and local businesses in the survey (online, by email or phone). • Participation of 60 City staff and stakeholders in the Mitigation and adaptation Technical Team and Community Advisory Group. • More than 8 workshops and 20 virtual conversations with City staff, local technical experts, and community stakeholders. • And finally, participation or registration of more than 66 to the virtual public open house.
4	**Operating across different scales and co-management of resources**	• The City of Kingston is taking the next step in climate leadership through this renewed strategy to reduce emissions across all sectors and become carbon neutral by 2040 • To become carbon neutral not only does the City needs to lower emissions across all operations and assets, but at the same time the community must also reduce its emissions from businesses, manufacturing and commercial processes, schools, hospitals, residents, food transport and other sources
7	**Working with the idea of resilience**	• Resilience thinking includes adaptation and mitigation • Many of the actions in the Climate Leadership Plan are focused on helping Kingston limit greenhouse gas emissions to reduce the effects of climate change in the future. • Although the creators of this document are aware of the importance of adaptation to the current effects of the climate change the document is mostly focused on mitigation and far less to say about adaptation

4.3 Concluding summary

In this chapter, I presented the content analysis results of four documents produced by City of Kingston on climate policies. The purpose of this analysis was to understand the degree to which such documents suggest that Kingston is using a form of adaptive governance suitable to integrate resilience concerns into policymaking. The documents I analyzed in this chapter include:

1) Kingston Climate Action Plan (2014)

2) Community Sustainability Report (2017)

3) Working Group on Climate Action Report to Council (2019)

4) Climate Leadership Plan (2021)

These documents provide a wide-ranging set of perspectives on climate change policy priorities in Kingston over a seven-year period and reflect the most important values and elements Kingston policy makers include in their decision-making regarding climate change.

To approach the analysis systematically and to increase the reliability of the research, I created a set of codes based on adaptive governance and resilience literature and theories and then merged some of the overlapping codes together. In this manner, I ended up with seven main pre-determined categories to build my analysis upon. Table 5, above, summarizes which categories were clearly articulated in these four documents.

The content analysis suggests that the City of Kingston scores well on the first and second category. So, this chapter analysis indicates that all four documents analyzed in this chapter included sections on encouraging social cooperation and collaboration which is the first category. Also, three of them include implementations on "connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback", which is the second category and component of adaptive governance.

The third category which is "flexible and learning-based management" can only be traced in one of the documents (WGCA, 2019). Also, the fourth category "operating across different scales" can only be traced in two of them. However, none of the documents I analyzed touched upon the fifth category which is "identifying common interests of different stakeholders and dealing with uncertainty when stakeholders with conflicting interests are engaged." No traces of the sixth category, "embracing change and ongoing

adjustment of governance structures and policies without abandoning essential functions and identity" were detected in the documents. Moreover, considering the seventh category which is "working with the idea of resilience", these documents are mostly focused on decarbonization and reducing the carbon footprint and GHG emissions rather than adaption to climate change shocks and stresses that have already affected the community and especially vulnerable people.

To sum up, the result of this content analysis suggests that the documents produced by the City of Kingston on Climate policies are cognizant of the importance of encouraging social cooperation and collaboration and the importance of connecting vertical governance to horizontal layers of society which are the essential components of adaptive governance. However, there is a gap in these documents on questions of social memory and local experiences in shaping policy formation. It raises questions about the degree to which policymaking is effectively decentralized, bottom-up and community-engaged. At the same time, there is little evidence of identifying common interests of different stakeholders and dealing with uncertainty when stakeholders with conflicting interests are engaged. I also could not find enough evidence that the City prioritizes the ongoing adjustment of governance structures and policies. In sum, these are the components of adaptive governance which are missing in the documents I analyzed in this chapter.

Table 4. 5 Content analysis of four governmental documents

Category Number	Core Categories of Adaptive Governance & Resilience Thinking	KCAP (2014)	Community Sustainability Report (2017)	WGCA (2019)	CLP (2021)
1	Trust-building to mobilize diverse social sectors and encouraging social cooperation and collaboration to benefit from social capital	Yes	Yes	Yes	Yes
2	Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback	Yes	No	Yes	Yes
3	Flexible and learning-based management: highlighting the role of social memory and local experiences in shaping the outcome and decentralized, bottom-up and community-engaged decision making in a meaningful way	No	No	Yes	No
4	Operating across different scales and co-management of resources	Yes	No	No	Yes
5	Identifying common interests of different stakeholders and dealing with uncertainty when stakeholders with conflicting interests are engaged	No	No	No	No
6	Embracing change and ongoing adjustment of governance structures and policies without abandoning essential functions and identity	No	No	No	No
7	Working with the idea of resilience	Yes	To some extend	No	Yes

Understanding that such documents are static statements that may not fully represent active practice, I now follow up with an account of semi-structured interviews with key stakeholders from the City of Kingston and social justice advocated who are engaged directly or indirectly with climate policies. In doing so, I aim to find out whether current practice of policy making in the City of Kingston aims to plug some of the gaps and weaknesses I found in the documents, or they are completely ignored both in the documents and the mind of the policy makers. This triangulation is being done to increase the validity of the research results.

Chapter 5

Results of the Semi-structured Interviews

5.1 Introduction

This chapter presents the results of my semi-structured interviews to follow up, expand and deepen the textual document analysis provided in chapter 4 that sought to understand the degree to which Kingston is integrating a form of adaptive governance into its climate change policymaking. In this chapter, I present a series of interviews with local government officials and whose work is either directly or indirectly related to Kingston's climate policies, as well as social justice advocates who are aware of the most vulnerable people's situation and how they are impacted by climate change . These interviews serve to corroborate, contextualize, and expand the content analysis of documentary sources I conducted in the previous chapter.

The result of the content analysis of the previous chapter indicated that Kingston's climate policy documents value *social cooperation and collaboration* and *connecting vertical governance to horizontal layers of society*, as two essential components of adaptive governance. However, there was a gap when it came to using local experiences in shaping planning suggesting that a decentralized, bottom-up and community-engaged decision-making needs to be taken more seriously and be done in a more meaningful fashion. At the same time, there was little evidence of identifying common interests of different stakeholders and dealing with uncertainty when stakeholders with conflicting interests are engaged. Finally, I could not find significant evidence that the City

prioritizes the ongoing adjustment of governance structures and policies in an adaptive fashion.

Understanding that such documents are static statements that may not fully represent active practice, I followed up with an account of semi-structured interviews with key stakeholders from the City of Kingston officials who are engaged directly or indirectly with climate policies. I interviewed 11 people in total. To avoid confusion it is important to note that only 9 of the interviews are used in this chapter. However, I used all 11 interviews in Chapter 7.

The interviewed officials and city staffs are listed below, based on the date of their interviews.

1. Mr. Robert Kiley (Position: Member of Kingston City Council, District 6, March 22, 2022).
2. Ms. Bridget Doherty (Position: Member of Kingston City Council, District 7, April 7, 2022).
3. Ms. Judy O'Leary (Position: Network Coordinator of Climate Caucus, April 13, 2022) this interview provided me with a big picture of bureaucratic processes involved in developing climate policies at national and regional levels.
4. Ms. Joanne Borris (Position: Housing Program Administrator, City of Kingston, April 20, 2022).
5. Ms. Ruth Noordegraaf (Position: Director, Housing and Social Services, City of Kingston, May 20, 2022).
6. Ms. Julie Salter-Keane (Position: Manager of Climate Leadership Division, City of Kingston, May 24, 2022). It is important to note that in addition to the

interview that I personally had with Ms. Julie Salter-Keane I utilized her interview with Rob Hosier about Climate Leadership Plan (Tell Me More: the City of Kingston Podcast 2021).

It is important to note that I chosed coucilor Kiley and coucilor Doherty because they were active on climate justice issues within city of Kingston. Moreover, coucilor Doherty was involved with Working Group on Climate Action Report to Council (2019). I also interviewed people working in NGOs or organizations that directly or indirectly serve people vulnerable to the effects of climate change. The interviews with these social justice advocates were conducted either independently or in the form of focus groups, with:

1. Dr. Jeremy Milloy (Position: The Lead Integrity of Creation and Climate Change for the Providence Centre for Justice, Peace, and Integrity of Creation, April 8, 2022).
2. Dr. Susan Belyea (Position: Former Executive Director of Loving Spoonful and current Director of Ban Righ Center Queen's University, May 9, 2022).
3. Mr. Jamie Swift (Position: Former Director of the Justice, Peace, and Integrity of Creation, May 9, 2022).

Most of the interviews were done in the presence, and with the help of my supervisor Professor Marcus Tylor. He was an active participant in the interviews and helped me iin capturing the most out of the interviews. Given the constraints of the COVID 19 Pandemic, all the interviews were conducted virtually on Zoom, recorded by the consent of the participants for the purpose of later transcribing and analysis. The only exception was the interview with Dr. Jeremy Milloy which was in person. When conducting the

interviews, none of these interviewees requested anonymity although this option has been offered to them, so I mention their names with permission throughout the chapter.

To analyze the interviews, I used a content analysis strategy as utilized in the previous chapter. I first transcribed, classified, and coded all the interviews. As noted in Chapter 4, contrary to grounded theory the coding processes in qualitative content analysis does not focus on finding relationships among categories. Neither it seeks theory building. Instead, it merely focuses on extracting categories from the data to examine the patterns exist in documents (Cho and Lee 2014; Stemler 2000). In this context, I first used a priori coding (deductive coding) through which categories are established using the theoretical framework ahead of analysis process. In doing so, and as established in chapter 2 in details, to operationalize theoretical insights from adaptive governance and resilience thinking, I extracted core components of adaptive governance and the wider resilience literature, to create seven main categories that represent a synthesis of core features of adaptive governance supplemented by wider aspects of resilience thinking. This process provides the conceptual foundations of my analysis. Then by applying the *emergent coding* (inductive coding) approach, I created 2-4 sub-categories under each main categories upon the process of secondary analyzing the interviews which results are accounted below.

5.2 Findings of the Semi-structured Interviews

As in the previous chapter, the seven core categories, were applied to guide the analysis of the interview materials, which is elaborated in detail, below:

5.2.1 Trust-building to mobilize diverse social sectors, and encouraging social cooperation and collaboration to benefit from social capital

The results of the content analysis of the four documents produced by City of Kingston which I presented in the previous chapter indicated that the first category of adaptive governance components, is the most clearly articulated one in all these documents. In all four documents the importance of community (individuals and organizations) collaboration and cooperation in helping the City achieve its Net Zero goals is highlighted several times.

Throughout the interviews, the main question to investigate the first category was *whether/how the policymakers try to build trust among different sectors and members of society and encourage them to cooperate / collaborate to help the City to reach its goals to reduce GHG emissions by 2040 and beyond*. Consequently, I pull out four sub-categories underneath the first main category after coding the interviews which include:

5.2.1.1 Acknowledging the importance of trust building and community collaboration

The results of the semi-structured interviews suggest that Kingston local policymakers clearly acknowledge and emphasizes on the importance of trust-building to capture social collaboration for successful implementation of climate policies and achieving the carbon neutrality goals.

Regarding building trust among the community, the participants indicated that the city should 'walk the talk' first and then expect the community to take action. For instance, Ms. Salter-Keane, the manager of Climate Leadership Division of City of Kingston[15], asserted that "Council understands that if they're going to look to residents to lower their

[15] Libsyn Directory

energy consumption and take action toward the climate leadership plan goals, they must walk the talk when it comes to city operations and facilities."

Correspondingly, Councilor Doherty mentioned that the City is trying hard to reduce its emissions as a corporate entity: "we have our buildings, definitely use the most amount of energy and we're working very hard to reduce that. We're also shifting our fleets to electric fleets, and our lighting and things like that. Actually, a lot of really good work has already happened there."

5.2.1.2 Emphasizing the necessity of community collaboration

In this regard, both Councilor Kiley and Ms. Salter-Kean asserted that becoming carbon neutral by 2040 is a "fairly ambitious target" that cannot be achieved only by reducing the emissions within operation of the city. According to Councilor Kiley:

> One of the keyways that we, as a corporation, could help to achieve that target was to make a community Climate Action Plan as a larger framework to reduce emissions not only within the operations of the city, like transit fleet, the buildings of the city owns etc., which only account for about 2% of the emissions in Kingston, but also applying those targets to all sectors and all private residences as well.

Similarly, Ms. Salter-Kean[16] asserted that:

> Achieving the targets and climate leadership plan will not be just the work of the corporation. It will require the cooperation and participation of all Kingston residences and businesses… that ambitious goal, takes all hands-on deck to make this happen from the community from Council, from the City, from everywhere.

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5.2.1.3 Weaknesses and challenges

As Councilor Doherty stated, there are two necessary elements to reducing the emissions: "First the City that can reduce emissions and is doing a great job there." However, the challenging part is the second element, that is convincing all people in the community to reduce their emissions. This is a complicated and difficult job which the city can scarcely control, as words of Councilor Bridget Doherty implies:

> The second element that the city doesn't have control as of, is the community. There are groups that want us to as a whole as a city reduce emissions, and we absolutely need to do it, but how do we control what people do? It's difficult …we cannot mandate what individuals do; we can't interfere with individuals' freedoms. So that's the biggest weakness.

Ms. Borris, the Housing Program Administrator of City of Kingston, made a similar point that it is not always easy to convince people to take climate actions because they might not necessarily want to sacrifice their benefits for the common good. Ms. Borris explained:

> Everybody seems to have the same good intentions…yet when the rubber hits the road, they're not necessarily as comfortable with it…So I think it really comes down to the community because Council cannot decide on every single thing for everybody and nor should they. It's about what does the community want.

At this point, one might wonder why encouraging people to collaborate in reducing emissions is so challenging? In this regard Dr. Milloy, the Lead Integrity of Creation and Climate Change for the Providence Centre for Justice, Peace and Integrity of Creation, shed light on some other challenges in persuading the community members to reduce their emissions. The first restraint he mentioned with encouraging people to collaborate in reducing emissions was that "most people in Kingston do not see themselves as being on the frontlines of the climate crisis." He explained:

> One of the biggest challenges I have in my role is that because we are not a coastal community, because we are not heavily agricultural in terms of being in the city…because we're not located next to a pipelines… because of those things, most people in Kingston do not see themselves as being on the frontlines of the climate crisis; they see there's a lot of people in the community that are concerned, but they don't see it as something that affects them every day. But it does affect us.

The other constraints he mentioned in this regard which make it difficult for the municipal government "to ask all hands on the deck" to do something is that:

> If you do that, people ask you for stuff. People have expectations. People have a relationship with a government or city that they did not have before. And they start thinking, okay, well, why can't it happen? Why can't we have the bus come down my street, right? And you start asking for that so they're not pretty problems for people because their job is already incredibly difficult, dealing with constituencies that have now added different constituencies or a new demand for old constituencies, right? So, it's tricky.

And the last challenge he mentioned in this regard was that:

> Communities are being asked to respond to the climate crisis, but communities do not have the ability to meaningfully shape what our neighborhoods are going to look like in the next 10, 20, 30 years. We have to work with what we get.

The other constraint that has been mentioned in the scope of Kingston, just like the struggles exist in relation to the residential sector, is that having the Industry/Commercial/Institution (ICI) sector to reduce their emissions also challenging. As Dr. Milloy stated: "although we can talk about engagement with the private sector and their responsibility for emissions, the biggest emitter in our community has not been meaningfully engaged in that justice piece for me." According to what the participants mentioned, the reason of this constraint is that the municipal government doesn't have much leverage over ICI sector to work out an effective way to bring those actors into a

bigger climate plan. For instance, in this regard, Ms. O'Leary, Network Coordinator of Climate Caucus, asserted:

> The city only has persuasion, they have no real authority over them unless these industries decide to propose an expansion… [and then] the municipal government has the authority through their approval of that expansion to insist on better energy efficiency…And I know in District North Vancouver, for example, they were looking at some new buildings coming in and counselors would say to them, well, you'll get our vote if you'll come with a much more climate friendly proposal here. But it's new construction or renovation is when they have leverage. Over existing ones, they have no control.

5.2.1.4 Solutions and suggestions

Consequently, I came up with the question that how the City can persuade the community to collaborate in climate policies in a meaningful way. According to Dr. Milloy:

> There is a chance to engage people in meaningful conversations and decisions about reshaping the way that we live in a city together that would produce better climate outcomes and increase other all kinds of other things like social cohesion, liberal democracy … [by setting] client work in a way that everybody is asked to do something.

But again as Dr. Milloy asserts, the problem with that is that when everybody is asked to do something, that creates obligations for the state to provide them with rewards and that is hard to do from the City's perspective. He admitted, "what I am asking is hard but that is my job" (Laughing). He insisted on the necessity of taking a more bottom-up decision-making position and stated "the lens that we have is good as far as it goes, but it's very technocratic top down. So, this is [presented as] a technical problem and we just need to be more efficient in the way that we use carbon and we need to gradually get off." The other suggestion for being prepared to take care of people in case of a disaster, according to Dr. Milloy is to create "disaster preparedness group…to increase our communities and neighborhood's ability to take care of each other during a disaster".

In relation to the necessity of collaboration of the ICI sector, Dr. Milloy also suggested instead of doing the easy job like getting homeowners incentives to reduce their emissions, the City should try do to the hard work of forcing "landlords and property managers to do things." In this regard he pointed to a tool called "Home Standards Project" which through bylaw, can put a consistent pressure on landlords to upgrade their housing to make them more resilient and energy efficient to reduce emissions. Dr. Milloy also pointed to the essentialness of the big emitters to paly theirole in helping Kingston community meet NetZero despite all the difficulties in these relations:

> Maybe it's unfair to expect the city to do anything to push [the big emitters] to meaningfully be part of these conversations, and to engage with the community on having a target. But again, this is an emergency and I believe that we should treat it like one, so I think when I never see the biggest emitter in our community who profit very well from producing those emissions, from employing people in our community, that's a problem.

5.2.2 Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback

The content analysis of the four documents produced by City of Kingston conducted in the previous chapter indicated that connecting with horizontal layers of society and seeking their ideas and feedback – the second theme of adaptive governance – is clearly pursued in three of the documents: KCAP (2014), WGCA (2019), CLP (2021). Through the interviews I sought further detail on *whether policymakers and the City staff (1) incorporate consultation with different sectors of society into their agenda; and (2) how they ensure that diverse groups of society are included in these processes.* Specifically, I asked them about *the mechanisms that are applied to achieve a broader and more inclusive range of voices within the climate change discussions*.

Consequently, I found three sub-categories under the second main category after coding the interviews which include:

5.2.2.1 Acknowledging the importance of public participation and feedback

In this regard, Councilor Kiley pointed to the importance of public pressure and participation, including traditional letter writing, protests to marches, coming out “to the strategic planning sessions to do like a gauntlet as counselors walked in” as a positive impact which pushed the Council to agree with the strategic priority of climate “and then acted on through a number of the projects either mentioned or alluded to throughout.” Councilor Doherty, also asserted that in the ecological approach “everything's connected to everything else” and consequently, it is extremely important for the policymakers to listen carefully to the people in the community to be able to “figure out the connections to everything.” She also talked about the importance of being in touch with people and their experiences to relate, which I will elaborate on in the chapter 7.

Also, Ms. Salter-Keane pointed to the fact that “there may be some actions that we haven't thought of that could really reduce our greenhouse gas emissions.” Accordingly, she highlighted the importance of engaging with and bringing in different groups from community to plan all possible actions and discuss the best ways of their implementation to reduce GHG emissions. She also said that she is going to be putting together a report next month (by next month she meant June 2022) for city council on public engagement.

5.2.2.2 Different mechanisms to include varied voices in the process of consultation

In terms of different mechanisms to try and get a broad range of more inclusive voices within the climate change discussions, Ms. Salter-Keane introduced some of the positions or staffs in her division that work and engage with different groups in the community.

These staffs include engagement communication officers, a community advisory group, internal experts, staff and external individuals on the adaptation team and mitigation team to work and engage with different groups in the community. She also mentioned that there are two groups of people in the community. One is people who are interested and always at the forefront and it is easy to reach out to them, and the other are "the groups that are harder to reach that we need to ensure that we engage with them." She also mentioned another strategy they may take to include different range of voices and that is establishing a neighborhood champions program for climate action. In doing so, they provide each neighborhood with some type of training that trainer then will be able to go into their neighborhood talk with the neighbors to look at ways of getting climate action. Regarding their strategies to "reach out to as many people as possible" prior to creating the climate emergency plan, Ms. Salter-Keane[17] pointed to three steps, an online survey, having booths on the Market Square, and some panels:

> We have the summary of the plan posted online at "Get Involved Kingston" for residents to review… and complete a brief survey…Following that will take the community input and apply it to the document. And later this fall, we'll take the full plan to city Council for review and are asking them for endorsement, in order for staff to implement the actions of the plan. Then … we're going to be at the market on October 5 and October 7 [2021 and people] can come and find me and other colleagues to be able to talk about the draft climate leadership plan. We'll have a copy of the survey there… and we're going to have some panels out on market square as well that will highlight the different sectors in the plan where we want some public engagement on.

Regarding the public engagement in the process of consultation, Ms. Borris also pointed to "housing first workers" who assist individuals in their homes and talk to their clients

[17] Libsyn Directory

on an ongoing basis to make sure that they are aware of all possible financial supports. She also mentioned that after the Pandemic, her department's staff members will try to speak to the public more themselves and when they cannot do that, their service providers will do the job.

Moreover, Ms. Noordegraaf, Director of Housing and Social Services in the City of Kingston, pointed to some of the reaching out strategies which her department undertakes to ensure including various range of voices in decision-making. She explained that the Council is the main political decision-making body on the municipal level government and different committees report to Council, one of which is Housing and Homelessness Advisory Committee. She mentioned that in the Fall 2022 (the beginning of the new Council term) they plan to have more members of public sitting on that committee to represent a variety of different lived experiences and they plan to provide people with honorarium money to compensate the time they spend to "attend the committee when they are representing their experience group." She also pointed out to the necessity of conducting surveys and encampment conversation as strategies to include all ranges of voices and experiences:

> We also expect the services or the agencies that we fund to have regular surveys and evaluations to with their clients, to make sure that we have a good understanding of what the more vulnerable members of our community are experiencing. And then we also do go out and do face to face surveys like encampment conversations. We are going out and doing various encampments and talking to people and ask them their feedback rather than going into the service providers or the managers of the ICH… and with our social assistance clients, we do annual surveys… we also have community groups.

5.2.2.3 Barriers and challenges

Ms. Noordegraaf also asserted that there are always some barriers in the way, but she was positive and hopeful about the future:

> I will say there always is a barrier, there always is a bit of a power dynamic of hey, I'm going to ask you about stuff. There's always probably fear, maybe not want to say really what I think. We've said a lot of long way to go. But there definitely is a lot of change.

Additionally, Dr. Milloy in response to the question that how he views the process of consultation needs to be changed to bring people in that don't get brought in already, said:

> I think that the city is serious in the way that it … understands the problem and the solutions and is very serious about addressing it. My difference with them is that I believe that we have a different understanding of the causes of the problem and what's necessary to solve them… So, in terms of justice, one of the biggest pieces of justice is our people who are doing the work and are working the process, able to be heard and able to move things forward.

However, Dr. Milloy pointed to an important barrier in which prevent the process of consultation to happen in a meaningful way and that is the issue of trust and sense of belonging:

> There are people who just do not want to engage with you in that way and they don't feel like the city government is for them. They feel like it belongs to other people and then their feedback will not be welcomed and that there needs to be some creative thinking about how to reach those people. I don't think people come from that understanding.

The other issue that can be concluded from his words is that, at the end of the day, the consultation and outreach process turn into an opportunity to present the decisions already made to the participants rather than a meaningful two-way conversation about what the goals and priorities should be:

> I think a lot of the people in the community board thought we were there to have engagement into what the City's target is. Whereas at the end, I realized no, we were there to learn about what they were doing so that we would do the work of

> engaging the community, which I think speaks to somewhat of a misunderstanding of the relationship between community groups concerned with climate action and the City. And that's again, not disrespectful. No, but there is a misunderstanding built into that.

5.2.3 Flexible and learning-based management: highlighting the role of social memory and local experiences in shaping the outcome and decentralized, bottom-up and community-engaged decision making

According to the previous chapter's content analysis of the four documents produced by City of Kingston the third category of adaptive governance components is only articulated in one of the four documents. So only WGCA (2019) mentioned that a report called "what we heard" created based on the Get Involved Page which provided valuable input from public engagement for developing the Climate Change Management Strategy with seven specific themes for action.

Moving forward to the interviews, the main question to investigate was *whether policymakers use social experiences and feedbacks they receive from people in a meaningful way in the process of decision-making for climate change planning in Kingston?*

Consequently, I found two sub-categories under the first main theme after coding the interviews which include:

5.2.3.1 Soliciting and acknowledging public feedback for planning purposes, including shaping outcomes

In this regard, Councilor Doherty provided us with an example of using a resident life experience in reshaping a policy. She underlined the importance of hearing lived

experiences of people and the necessity of creating social worker jobs “to get on the grounds and listen to people”:

> So as an example of the kind of work that I did, I looked around for any person that could be experiencing energy poverty… one time I found a Kingston woman…She was a single mom with three kids. And right in front of the minister, she talked about the pressure of paying rent and heating her home, and as a single mom on top of the fear of losing her children because she can't afford to pay to heat home…And that changed the policies, the minister was really taken aback by that. So, stories are important. That was just one of my political activisms. You don't have too many events. It's very slow moving, especially on climate change… but there were some few successes along the line and energy front… I think it's important to hear people.

On this score, Ms. Borris, also mentioned her acknowledgment of issues, through discussion with individuals and hearing their experiences as an active part of her job. She stated that client voices are an important resource for them to “make decisions around programming and around what is needed.” She alluded that “every now and then I get an email or a call from someone and these ideas are brought up and I will take them back to the directors and say we really need to be starting to think about some of these pieces.” Also, in response to the question that how the housing department makes sure that local insight or current concerns are used in policymaking or the decision to make, she pointed to different approaches. For instance, she mentioned that there are several community advocates bringing forward community concerns either through reaching out directly or delegation to Council or writing letters to Councilors. In addition to that there are some service providers who make connect the clients to them. She asserted:

> We try to get that information, bring it back to the team and look at ways to incorporate that into any of the ability to make policies and provisions that we make here. We also have to take certain things back to Council as well to get their okay on certain pieces… but we are always looking at ways to incorporate the

> feedback from clients, whether it's a phone call or an email and making sure that when those voices come forward, they're brought forward to the entire team so that the directors and commissioners can hear those as well.

5.2.3.2 Challenges and critiques

However, Dr. Milloy, had a critical point of view in this regard. Even though Dr. Milloy believed "Kingston has a more serious climate action, focus and plan than most municipalities in Canada" and a strong "desire to do things in a way that addresses justice" he did not agree that Kingston Climate Plan is precisely built from a climate justice perspective:

> For example, there were several different consultative bodies that went into the creation of climate leadership plan. I was on one of them, there was a community body…I would say that the use of those consultants heavily in creating that plan is significant… But analysis wise, why do we do that?... I did not feel like the community engagement around the plan which is the justice piece was sufficient or serious in terms of giving us a role in shaping the outcomes, I felt like it was much more about you know, there is a desire to consult. But the question is, what is consultation mean? … we had feedback into how the engagement of the pieces was going to be constructed with the public, but not of the piece themselves, not of targets, not of strategy, not of areas. And I think there's a desire in the city to, as I said, to do this in a just way.

The other participant that took a critical stand in this regard was Dr. Belyea, the former Executive Director of Loving Spoonful and current Director of Ban Righ Center Queen's University, who also works as a social activist. She was not greatly optimistic about the application of consultation processes in shaping the outcome in a meaningful way. She stated that although the City runs the consultative sessions, the results of consultation are not really applied and disappear when staffing changes:

> There was a big plan for the Williamsville part of Princess Street. They've engaged lots and lots of citizens of a wide socio-economic range. And I don't

> think one piece of that plan has come to fruition the way that all those people put their heart and soul into trying to plan a neighborhood that were being green and inclusive and environmental, all these things. It's just developers row now there, it's nothing to do with the plan. The housing and homelessness plan of 10 years ago, tons of people were consulted with that and lots of vulnerable people were brought in for roundtables and focus groups and were consulted on it. It didn't do it right… And really what they wanted us to focus on was, like, visioning sessions for what the streetscape would look like. But that's not what we wanted to do. We wanted to talk about actual infrastructure, and bus routes and you know, park lands and trails and environmental the waterfront.

5.2.4 Operating across different scales and co-management of resources

According to the chapter 4 of this dissertation the fourth category of adaptive governance components is traced in two of the documents I analyzed, that are KCAP (2014), and CLP (2021). For instance, it is noted in KCAP (2014), achieving the desired GHG emissions reductions requires action at the national, provincial and community level. In doing so, the CLP (2021) also pointed to the collaborative actions that needs a collaboration of sectors of community, organizations, and local partners to become completed.

In the interviews, the primary question used to investigate the fourth theme was *what are the main issues the City face in making and operating climate policies?*

Consequently, I found three sub-categories under the first main category after coding the interviews which include:

5.2.4.1 Necessity of support from the higher levels of government (provincial, and federal) to solve municipal funding problems

One of the important concerns raised by policymakers during my interviews was that they complained about a lack of funding to handle climate policies and plans and the absence of consistent support from the different scales of the government (provincial and federal). Also, at the local level it is necessary that decision making conducted in all and every department and unit of local government using climate change lens. For instance, Councilor Doherty criticized the federal and provincial government for downloading more responsibilities like healthcare costs onto the municipalities over the years while the only source of fundraising for municipalities are from services and then housing taxes. She asserted that for solving issues like climate change, different levels of government must work together, otherwise "we're going to end up having more social unrest."

On this score, Dr. Milloy also alluded that Kingston municipality like many North American municipalities is underfunded and has limited ability to generate its revenue. He considered it as a big problem and asserted that the things that the city can do is limited and the contribution of the other sectors of the government is necessary:

> There are things that the City can do, but it is also a very huge piece about basic income, the raising rates of living wages, and building social housing that has to be done by the province. So, all of that is not the City's fault and needs to be done. And the City has to be commended for the things that it has done, while the City could be doing better as the City could be more imaginative and creative.

Aligned with Dr. Milloy's ideas about the issue of fundraising in the Canadian Cities, Mr. Swift, the former Director of the Justice, Peace, and Integrity of Creation said:

> The current crisis, with respect to what I like to call not a climate crisis, but climate breakdown, is the result of actions that are taken at senior levels of government and the City because it has been limited and this is in, say, we live in a city that is run by forward thinking, creative and intelligent people. Very

> hypothetical here. There isn't so much any city in Canada can do. Because the cities have no real power to tax. The only things that the city can tax are people's property and Development Charges and things like that. So that the municipal levels of government have their hands tied with respect to coming up with really good programs that might cost money. It's very much up to the provincial and federal governments to bring in that kind of thing.

While explaining the three areas of their work in supporting the local elected officials, Ms. O'Leary, Network Coordinator of Climate Caucus, also confirmed the issue of the city's limited funding and uncertainty about jurisdictional authority which stop local governments to take the best climate actions:

> The third area is advocacy to higher levels of government. So primarily not just for money, although it's important because local governments have so little share of revenues but also for more regulatory authority, because quite often they can't do the work for climate action and resilience that they'd like to because there are provincial regulations stopping them. For example, in BC only Vancouver has the right to ban fossil fuels. None of the other communities do. So that's what we do.

In terms of sectoral impact of climate change adaptation policies and the importance of coordinating and harmonizing it across different sectors while have a person leading and coordinating all sector's activities she said:

> Sometimes what happens is when a city hires a climate planner coordinator, sustainability coordinator, they often can make the mistake of saying oh good, that person is going to do all the climate stuff. Climate as you say is in all the departments so some of the best successes where they actually operationalized through all the departments that have someone leading … like London.

5.2.4.2 Successful strategies in other cities

Ms. O'Leary pointd to London, ON, and Brantford as examples of very successful cities in regard to climate action. In this regard she explained that the reason of their success is that they are not imposed by the Council to report to every Council meeting and as a result did not have to create a climate checklist and only ticking the little boxes to prepare

a compelling report. They are granted more agency by their Council and as a result they can reflect on the things that work best for every department and deal with every department in the best possible way. She clarified:

> One of the things they found is that one checklist doesn't work for every department… So, they went through each department and said, well, how would this work for you and found climate champions within each department like what do you need to look at it. … In London, it was impressive by going through this process. They actually postponed a road widening a major highway project and also a subdivision proposal got put back on the table saying you know, now that we've had a good look at all these things, these things should not just automatically go ahead. So, it meant that the staff had ownership of it, and it wasn't just a box to tick at the end. So, in my mind, that's an ideal way to go.

Accordingly, I briefly investigated the climate lens of two cities (Brantford and London, ON) that Ms. O'Leary introduced as progressive mid-sized cities in terms of climate adaptation plans. In doing so, first I investigated a webinar[18] by Mr. Mike Fabro, the Manager of Climate Change Planning of the City of London, ON. In this webinar he mentioned that "when you try to create a tool that does something for everyone, it's very difficult that it does anything well for anyone." He noted that through their one-on-one conversation and workshop with different stakeholders they started to realize that if they want to provide something valuable to everyone, it needs to be specific for those people. Consequently, as Mr. Fabro noted they started a one-on-one conversation with the division manager or similar position of different work areas within their service areas (22 distinct groups). In doing so they tried to "figure out where they were in terms of accommodating climate considerations in their decision making." Mr. Fabro explained:

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[18] Webinar Recording

> With that conversation, we drafted up a workshop, which actually started with a conversation about what is climate change? What does it mean globally? And what does it mean once you're in London? And then ultimately, what does it mean for the specific service you're getting?... And then also chatting about the accountability and sort of transparency and reporting. Get it all on paper, make sure that the group is actually going to be using it is familiar with what is there, is comfortable with what is there, and then shifting communication.

The second material I investigated, was the webinar[19] in which Ms. Rochelle Rumney the Climate Change Officer of the City of Brantford spoke to this city's climate action lens tool. It was noted in this webinar that "many decisions considered by Council have climate impacts and has therefore adopted a climate lens tool that will detail the impacts of potential GHG emissions related to submitted reports to Council." Ms. Rumney also mentioned that Climate emergency provided direction to "develop a carbon reduction strategy… to be provided to Council as a process to ensure that …every matter coming before City Council will quantify and report its impact relative to the climate emergency and Branford's carbon reduction strategy."

5.2.4.3 Necessity of being more creative and better management of the existing fundings

Although our participants confirmed that the municipalities face many difficulties for generating their fundings, criticized the Cities for pouring money in unnecessary projects while there are more essential areas underfunded. For instance, Mr. Swift, believed that there is still some way out of this crisis if the resources were managed in wiser and better way:

> The City of Kingston is in the process of just spending $200 million on a bridge to the suburbs. And I've often asked myself if that $200 million could have been spent in the construction of nonmarket and affordable housing, you could buy a

[19] Brantford ON Climate Lens Approach

> lot of housing for $200 million. [But now] $200 million will go to save suburbanites five or ten minutes to get across town.
>
> In this regard, Dr. Milloy also suggested that the current social issues like climate crisis and poverty is because of unfair distribution of resources rather than underfunding. He believed governments can take a more creative route to solve the social problem like climate issues or housing crisis.

He also criticized the City for not acknowledging that "housing problems is a supply side problem" and stated that the housing crisis is kept using as an excuse for the developers to accumulate more wealth, without considering the negative impact of their activities on climate:

> Every time there is a development in our community that is controversial from a climate perspective, from a neighborhood perspective, from a quality-of-life perspective, we always get told, well, this is a housing crisis. I get told that on the tannery property all the time. I said, you're building 1500 units, none of them are affordable, let alone social housing. And so, this is not, you know, an intervention into the housing crisis…we know we're just creating investment commodities for capital. A small beginning if you want people who are not in housing to be healthier is to build houses for them.

5.2.5 Identifying common interests of different stakeholders and dealing with uncertainty when many stakeholders with conflicting interests are engaged

The content analysis of the four documents produced by City of Kingston (chapter 4) indicated that the fifth category of adaptive governance components, which is identifying and accommodating interests of different stakeholders, was not addressed in any of the documents.

Moving forward to the interviewees, I sought to deepen understanding on *how policy makers try to reconcile different stakeholder needs and interests while making decisions.* Consequently, I found four sub-categories under the first main theme after coding the interviews which include:

5.2.5.1 Policy makers' intention and efforts to be as inclusive as possible

Ms. Salter-Keane[20] in relation to including the interest of all stakeholders' interest in their climate action works said:

> By building more efficiently, retrofitting, and monitoring our energy use the corporation is not only reducing its footprint, but we're also saving dollars that can be reinvested in Kingston…So [by] community and stakeholder engagement, we've identified what the climate change impacts are. This includes extreme weather events that jeopardize city infrastructure. We've seen that over the last number of years, extreme heat places an added burden onto our energy costs. Certainly, this summer, we've seen our vulnerable residents and our emergency services…We want to be [as] inclusive as possible.

5.2.5.2 Pleasing everyone as an impossible mission

Ms. Borris, the Housing Program Administrator at the City of Kingston, mentioned the challenges the policymakers face in accommodating the conflicting interests of different stakeholders and please everybody. As she stated, "no policy or direction is going to be a one-size-fits-all for the community at large." She also alluded that despite the best intention of everybody in the community who are talking about doing the right things, "when the rubber hits the road, they're not necessarily as comfortable with it." As an example, she said:

> If I was to just go out and there was a plot of land and decide that I'm going to build a shelter with as much inclusion and as much care and compassion as a community has, I would have probably five or 600 people calling me … why here why in my yard?

Confirming Ms. Borris quotes, Ms. Noordegraaf also pointed that although the City has an important role in managing the problems, the members of the community also should be aware of their role and the importance of their contribution. She also pointed to the

[20] Libsyn Directory

challenged they face when they try to initiate some plans like “low income or affordable housing projects or social services” in a neighborhood and suggested that they need people to stop being overly protective of their neighborhoods. As an example, she pointed out to the Portsmouth Olympic Harbor’s sleeping cabins that was launched in December, January 2022 and caused many negative reactions in the neighborhoods and has been moved to other location in the summer. She argued that:

> Some neighborhoods historically had not had any social supportive transitional affordable housing and people are worried and fearful for potential. And to be frank, like a lot of people are worried about having a similar situation as the Integrated Care Hub, which is obviously a very low barrier, subsidy news, kind of shelter or like, drop-in service, which is by no means going to be something that we would have in every neighborhood.... And I think that's kind of the key conversation and I think people have some different opinions about, and I'm not sure how we're going to come to some sort of that solution there.

5.2.5.3 Grassroots efforts and seeking the help of strong members of each community

Ms. Borris suggested that the key to handle the impossible mission of pleasing everyone is in doing more grassroots efforts and seeking the help of strong members of each community do the legwork and convince other members:

> The more grassroots efforts there are, the more unseen done with grassroots; I will be very honest that as much as certain types of advocacies can be a real drain on the work we do. It's not the advocacy. It’s about how the advocacy is done… And there's actually even changes, and things done, and projects started that have come out and some of those more grassroots organizations where they have really loud voices, but very compelling and very articulate. And I think that that is one of the ways when people organize, for whatever that cause is.

5.2.5.4 The contribution of developers as important stakeholders who contribute to carbon emissions yet can block effective action

According to Kingston Climate Leadership Plan (2021) building sector is the biggest source of GHG emissions (41%) and the number one contributor to climate change in Kingston. This is while, building developers are noticeably powerful stakeholders as this quote form Mr. Swift indicates: “on the desks of the upper civil servant here in Kingston, there's the in-tray, the out tray, and then there's a very big tray called the ‘defer to developers’ tray.”

This is a complicated issue in climate planning because, as Dr. Milloy states, it is extremely difficult to convince the developers and builders to take any action in favor of the climate which is against their profits. He mentioned that some of people in the position of power highlights the importance of densification and living in smaller spaces around the downtown to facilitate active transportation like walking and reduce the need of driving cars around the city. Dr. Milloy, then continued that he agrees with the idea of downtown densification and is “less attached to the heritage aspects of Kingston than other people.” As a historian he argued:

> a lot of the heritage that is being put on a pedestal, pondering how much is profoundly problematic and reflected in the colonial history that is extremely racist, sexist, etc.… I like old buildings too. I am a historian; but I honestly think the best monument that we can be for future generations is a city where everybody has a place to live, and we treat each other well.

Although Dr. Milloy emphasized that he believes there is “possible to build in ways that increase both density and equality”, he pointed to a barrier in this regard which is related to the interest of the powerful stakeholders. He asserted:

> [even though the idea of densification of downtown is great], we can't make it happen. We have to wait for builders give us what they want, and again this isn't because they are bad people, they're working with the constraints of a private

> building market, and they have to make money so as anybody else need to make in their business. The only thing that they will give us is what they think is profitable, and that has never been environmentally sound while longer and it has never addressed quality of life issues for people who do not have lots of money…So how do we have a climate lens to our future, when the biggest source of our emissions is in housing, when everything else kind of stems from where you live in, in terms of transportation, in terms of what other kinds of things you do in your life… it's a huge problem.

As an example, Dr. Milloy pointed to the Tannery lands project, Downtown Kingston, the developer's argument that we need this for climate because we need density. Dr. Milloy considered this project as problematic regarding the climate issues it will create and explained that although the developer proposed to be more energy efficient, they are not at the highest standard. As he confirmed, the developer is doing wood frame construction, which is not driven by environmental concerns but is driven by site designers and business partners. He argued that:

> There's no meaningful transit infrastructure being connected here [in the Tannery Project]. There are more parking spaces than there are living spaces in these buildings. It's apparently described as a California kind of design…, [to me] it doesn't matter if you put people downtown if you build their life around the car, there's no different living downtown and drive to Costco, or suppose living in Bayridge and driving to downtown, doesn't matter to the climate where directions those emissions come from.

He then mentioned the power relations and the importance of developers' interest over the intention of policy makers to make just decisions and all-inclusive policies and said:

> But the problem with all of this is the city has suggested there will be a climate lens…counselors have been on record as saying we need to have a climate lens for all future developments, which is something we say when we're talking about building you don't like, that usually gets forgotten that it's what the development people do like. So, it's going to be important as we go out to see what the climate lens for city planning actually looks like and how integrated is through all the functions of the city. But again, it's going to be a real problem for a city to do this in an equitable way, to do it in a serious way if we don't somehow try to figure out

the fact that we currently have a situation where private developers proposed, and we oppose or we try and figure stuff out.

5.2.6 Ongoing adjustment of governance structures and policies

According to the content analysis of the four documents produced by City of Kingston which I conducted in the previous chapter the sixth theme of adaptive governance components was not explicitly mentioned in any of the documents. This finding indicates that there is no visible evidence of ongoing adjustment of governance structures and policies in climate policy documents released by City of Kingston.

Moving forward to the interviewees, the main question to investigate the sixth theme was *whether climate change concerns have been integrated into foundational governance structures including the way in which planning decisions are made.*

Consequently, I found two sub-categories under the first main theme after coding the interviews These sub-categories include:

5.2.6.1 Alternation and structural change of the government bureaucracy

Regarding the way that declaration of climate emergency has been changing governance structures and decision making in the City of Kingston, Councilor Kiley, believed that the answer would be both yes and no. As Councilor Kiley explained, it alternated the structure of the city bureaucracy in a manner that a new department was developed under one of the main four commissioners of the City, which is the manager of the climate change that “that hires consultants for other commissioners’ files that involve climate change, and that oversaw this climate leadership plan”. That is considered a “significant structural change within Kingston's operations” as Councilor Kiley alluded.

In response to the question about whether climate concerns changed government structures and the decision-making processes, Ms. Salter-Keane, the Manager of Climate Leadership Division at the City of Kingston, explained how the declaration of climate emergency in 2019 by the Council led to a change in the government bureaucratic structures and creation of the Climate Leadership Division:

> [After] Council declared a climate emergency in 2019… they developed a strategic plan, and they had five strategic priorities, and their number one priority was on demonstrating leadership in climate action… And with that, in mind, our CEO Lanie Hurdle, knew that if we were going to develop and deliver on Council strategic plan that we needed to have a division. So, at the time of the plan, there was a program or some sort of jumping all over the place… and lots of staff working on it and Lanie Hurdle at the time in January 2020 said that we need a division that will oversee this and not that I'm doing all the work but that I oversee it, working with staff… to ensure that they that we deliver on the project.

5.2.6.2 Climate lens in development but not yet fully implemented

On the other hand, Councilor Kiley believed the climate lens is not still fully implemented in all departments:

> Another way is to say that it hasn't changed enough, because as much as we added this position and hired a few staff to give explicit and continued attention to climate change … we don't yet have all of the policies that we need within the city to ensure that climate is explicitly considered for every decision making exercise that Council undertakes so I think… the climate lens … is in development but hasn't actually yet been implemented in city. And I think once that happens, we can say that the impact has been rather profound because it then would move Council to always consider climate change in everything we do, and we're not quite there yet.

5.2.7 Working with the idea of resilience

According to the content analysis of the four documents which I conducted in the previous chapter the concept of resilience was explicitly mentioned in all of them except the WGCA (2019). Within the interviews, I found two sub-categories under the first main

theme after coding the interviews. According to the interviews all the participants stated that there is no clear definition for resilience but there are some actions which can increase the resiliency of the city which can be categorized as mitigation and adaptation.

5.2.7.1 Mitigation and adaptation

In this regard Councilor Kiley stated that they break resilience down to mitigation and adaptation. For instance, as he stated, for a city like Kingston with 200 kilometers of shoreline "mitigating is the potential for flooding and then adapting when water levels rise is something that comes to mind." He continued that although there are some pieces, like prompting food security, or investment on urban tree canopy, which can increase resilience but there is no precise definition of climate resiliency.

Additionally, Councilor Doherty, in response to this question that what resilience might look like from her perspective and with respect to vulnerable groups of society how the City can help them to be more resilient in the face of climate change, pointed to some pieces that if come together the resilience of citizens to the climate change will increase. The pieces that Councilor Doherty named include access to food, and access to a warming and cooling center. She asserted that the perfect world is a society in which everyone has enough. She pointed to the Pandemic as an accelerator which caused many people fall through the cracks. As Councilor Doherty said:

> A lot of people were couch surfing. A lot of people were still holding on for their life. But they couldn't hold on anymore. That's why we have so many homeless people now. People are really struggling. … But if on the other hand, it was about time that it came out to the forefront because you can't hide it anymore. You need to address it.

Ms. Salter-Keane, the Manager of Climate Leadership Division at the City of Kingston, in response to this question that what she would identify as the key things that still need

to happen to build resilience within Kingston, mentioned that the City has the climate adaptation in place, and they are building on that little by little. She pointed to some actions they took to increase the climate resiliency of Kingston, like re-enforcing the lake shore to be secure from flooding, designing the roads to be climate resilient.,. However, she pointed out that some a lot of organizations and big business do not have application plans and climate leadership division is working with them to make sure they take the necessary steps. As an example, she said:

> We have a survey that we worked with when we did the mitigation and the adaptation. One was about your electric vehicles people who are purchasing electric vehicles, but when they go to work, their business owner or their employer doesn't have the, the charging stations in place that they can use. So that that's just one example. But certainly, in our climate leadership plan, we address adaptation and how we will get [there].

Also, in another interview[21] Ms. Salter-Keane, broke down resilience into two main arenas of mitigation and adaptation. She explained that climate change adaptation first requires the understanding of the climate any region is likely to experience and "creating proactive plans that take advantage of opportunities and prepare for the impacts" while mitigation involves reducing the GHG emissions to limit climate change. She also pointed to the City's effort to double urban tree canopy as a mitigation-adaptation example which serves both mitigation purpose by sequestering carbon and adaptation purposes by providing a space for residence to seek relief from heat waves.

Moreover, Ms. O'Leary, the Network Coordinator of Climate Caucus, in response to the question of dealing with unexpected climate events to be resilient in the face of climate change stated that tight budget of local governments makes things hard for them.

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[21] Libsyn Directory

However, she pointed out to extreme weather events like huge wildfire risk, massive flooding and fatal heat waves in Vancouver which killed 600 people last summer (summer of 2021) in Vancouver and asserted the local government have no other way because the events that one day we expected to happen in global south is now in our back yard. According to Ms. O'Leary:

> One part of [being resilient] is recognizing what the risks are also trying to cost things out so that they can then go to funders, they can go to provinces and say this is enormous what this is going to cost us, and we need some help to deal with it or you'll just be paying more in the long run for this. So, they're getting more local governments to get out to be resilient because they're sitting there with the tiniest part of the revenue share, and they're the ones who deal with these weather climate emergencies that are becoming so enormous and so real right now, so they're the ones stuck with all the disaster relief and the planning.

Ms. Borris, in response to the question of expecting the unexpected to be resilient in the face of climate change pointed to the importance of forward thinking in planning and the effort of her department to do whatever it takes to reduce its emissions like using electric buses and, the electric cars, having plug in stations in place. She believed that lots of the work must come from the top level and downloading that to service providers. She also pointed to the warming centers and Portsmouth Olympic Harbor's sleeping cabins as examples of their willingness to have all the options on the table, although she asserted that there are still much unknown in this regard:

> There's still a lot of work to be done. So, it's not that we have this plan and now we're all okay, everything's fine. We're still building on… There are always things we can project two or three years from now that we might have to be dealing with. So, we're trying to come up with scenarios and solutions in any situation that might occur, but I'll be very honest, as far as the climate emergency goes, we see that it's real. And it's something that has to be tackled. Again, my department isn't necessarily the one doing that work, but we're trying to do whatever little pieces we can to be a part of that.

Finally, Dr. Milloy took a radical stand in this regard and said:

> The fact is that we're almost going to burn the whole planet down. Maybe we have an opportunity to actually take an honest look at society and the structures we built and how they work for people and change things in a way to live that will actually be beneficial to everyone. I believe there's fundamentally a potential for a much better life than driving around cars and buying crap and throwing it out and you know, living from the screen, and that this gives us an opportunity to look at that. And yeah, like all this stuff is pretty radical. But that's the perspective I come from. And I think that the evidence the planet is giving us supports a radical look at the way that we live.

5.3 Concluding summary

In this chapter, I presented the results of the semi-structured interviews with stakeholders whose work, either directly or indirectly, is related to Kingston's climate policies and plans. These interviews potentially corroborate and/or contextualize documentary sources which I used in the prior content analysis. The analysis of these interviews was conducted by combining the deductive and inductive coding approaches. To do so, I first deductively coded and categorized the interviews based on the seven main categories, I extracted from adaptive governance and resilience approach literature. Subsequently, using the inductive technique and through the process of coding and analyzing the interviews 2-4 sub-categories emerged under each main pre-determined category which are briefly accounted below in Table 5.1.

Table 5. 1 Main categories of semi-structured interviews

1	Trust-building to mobilize diverse social sectors, and encouraging social cooperation and collaboration to benefit from social capital	• Acknowledging the importance of trust building • Emphasising on the necessity of community collaboration • Weaknesses and challenges • Solution
2	Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback	• Acknowledging the importance of public participation and feedback • Different mechanism to include various range of voices in the process of consultation • Barriers and challenges
3	Flexible and learning-based management: highlighting the role of social memory and local experiences in shaping the outcome and decentralized, bottom-up and community-engaged decision making in a meaningful way to take action	• Desire and acknowledging the use of public feedback in creating the plans and shaping the outcome • Challenges and Critics
4	Operating across different scales and co-management of resources	• Necessity of support from the higher levels of government (provincial, and federal) to solve the municipals' funding problems • Successful strategies in other cities • Necessity of being more creative and better management of the existing fundings
5	Identifying common interests of different stakeholders and dealing with uncertainty when stakeholders with conflicting interests are engaged	• Policy makers' intention and effort to be as inclusive as possible • Pleasing everyone as an impossible mission • Grassroots efforts and seeking the help of strong members of each community • Huge contribution of developers as important stakeholders who contribute a lot in carbon emissions and are difficult to convince participate in plans against their profits

6	Embracing change and ongoing adjustment of governance structures and policies without abandoning the essential function and identity	• Alternation and structural change of the government bureaucracy • Climate lens in development but not yet fully implemented
7	Working with idea of Resilience	• Mitigation and adaptation

To briefly summarize the main findings, the interviews suggest that local policy makers in Kingston are completely aware of the importance of community collaboration for successful implementation of climate plans. However, there are some obstacles in this regard as some sectors of the society are not fully engaged and collaborative in reducing GHG emissions. In short evidence from the interviews suggest that the obstacles can be attributed to lack of trust and awareness of the emergency of the issue in the residential sector and pursuing profit in the ICI sector.

Consequently, the findings of this research suggest that raising awareness by the City about the reality of climate emergency and how it affects people in their everyday lives is an imperative. To do so, it needs to build trust among the community by engaging the community in decision making and using their inputs in shaping the policy outcomes in a meaningful way. In this regard, it is extremely important to bring the big emitters, especially real estate developers, to the table and convince them to become a part of the solution. This is hard to do when creating climate enhanced buildings may be contrary to their short-term profits. In addition, according to the interviews, it is a false impression that all the climate policy works can be done by the climate or sustainability coordinator

working in a special office. To be implemented successfully, a climate lens should be developed and adapted across all departments of the City. According to the participants of this study, while this is recognized it is still very much a work in progress.

Moving forward, the subsequent chapters shift attention to questions of vulnerability and justice within Kingston policymaking. As noted in chapter 2, climate change raises questions of justice, obligation, and responsibility (Adger et al. 2009). That is why implementing an adaptive governance approach without considering the issues raised by a political ecology perspective can lead to short sighted policies and plans that fail to consider the social complexities of the issue in hand related to environmental justice. On this basis, in the following chapters 6 and 7, I conduct a content analysis of the documents produced by the City of Kingston and successively the interviews with the City officials and social justice advocates around the question of climate justice. In doing so, I aim to understand to some extent the Kingston climate policies include the needs and perspective of marginalized group of society and incorporate the essential components of equitable and just climate policies.

Chapter 6

Results of the Document Analysis

6.1 Introduction

The purpose of this chapter is to understand whether the climate policies implemented by the City of Kingston embody the principles of equitable governance that take the needs of the most vulnerable population groups into account. In short, I ask whether climate policies in Kingston take account of justice concerns by adequately representing the needs and perspectives of vulnerable groups. To do so would require policies that remove obstacles to equity and safeguard the effective participation of marginalized groups and individuals within the design and implementation of future policies and plans.

As elaborated in the theoretical framework of this dissertation, implementing an adaptive governance approach without considering the complexities of environmental justice can lead to short sighted policies that sideline important justice concerns. On this ground, the present study is focused on a joint framework, comprising both resilience and vulnerability approaches to climate change governance. So, the second section of this dissertation comprising this chapter and the next one, chapter 7, is oriented around the question of vulnerability and social justice in climate change policies.

It is important to note that this section on justice (chapters 6 and 7) is designed similarly to the first section on adaptive governance (chapters 4 and 5). First, I analyze documents produced by the City of Kingston on climate policies using a content analysis approach. The purpose of the present chapter is to understand the degree to which such documents

indicate that Kingston is integrating a form of adaptive governance with a strong justice orientation that addresses the needs of the most vulnerable individuals and/or communities. To answer these questions, I selected four examples of the most important documents produced by the City of Kingston on climate change policies:

1. Kingston Climate Action Plan (2014)
2. Community Sustainability Report (2017)
3. Working Group on Climate Action Report to Council (2019)
4. Climate Leadership Plan (November 2021)

I chose these documents because they provide a diachronic perspective on climate policy priorities in Kingston over a seven-year period. I overview how these documents account for the impact of climate change and reflect municipal responses to those challenges. At the same time, I analyze the degree to which these documents indicate that Kingston is integrating a concept of vulnerability suitable to identify the challenges facing marginal groups within the city. To do so, I specifically use the concepts of vulnerability rooted in political ecology to structure the analysis of the content and its approach to vulnerability. To prepare and analyze the data out of the four documents listed above, I utilized qualitative content analysis (same as what I did in chapter 4). In doing so, I first classified and coded the documents. Coding, as the foundation of high-quality content analysis, is the process of assembling, categorizing, and thematically sorting the collected data (Williams and Moser 2019). As noted in my methodology chapter, there are two types of coding: 1) emergent coding (inductive coding), in which categories are established based upon primary analysis of the data 2) a priori coding (deductive coding) through which categories are established using the theoretical framework ahead of analysis process

(Stemler 2000). In this chapter, I used a *priori coding* approach meaning my content analysis is founded upon a set of predetermined categories which I created based on literature review and theories of vulnerability and political ecology.

In sum, upon reviewing the vulnerability literature three main central questions emerged as elaborated below:

1) Does Kingston Climate policy and planning demonstrate a sensitivity to the idea of vulnerability and, if so, what kind of framing of vulnerability does it use? Does it explicitly or implicitly adopt a primarily scientific or human security framing of vulnerability?

2) When designing policy and planning, do these documents explicitly account for the differentiated impacts of climate change upon distinct social groups within Kingston? Do they acknowledge that different groups face vulnerabilities on account of their socio-economic status; their relative political influence; and their specific exposure or sensitivity to shocks and/or stresses?

3) Does policy and planning account for the different abilities of social groups to avail themselves of adaptation opportunities or adapt to mitigation costs? In short, does policy and planning strategically seek to avoid maladaptation wherein climate policy has the unintended effect of either serving primarily established interests and/or increasing costs or burdens on marginal groups?

The first question is founded upon the two interpretations of vulnerability introduced by O'Brien et al. (2007) which I reviewed in the analytical framework in detail. One of these framings is scientific framing of vulnerability and managerial discourse focused on sectoral adaptation and reducing GHG emissions. The second one is human security

framing which is focused on the causes of and social factors (wellbeing, class, social status gender, etc.) that leaves a group of population vulnerable to shock and stress and tries to refine this context prior to stress and shock to enabling individuals and groups to better respond to the changing condition. On this basis I analyze the data to learn which framing of vulnerability is predominant within Kingston's climate policies and plans.

The second question emerged from the argument that "environmental and social change does not affect everyone equally. Less resilient communities – and more vulnerable individuals – can be severely affected by change, thus limiting their opportunities for adaptation" (Adger and Jordan 2009: 10). As noted in the analytical framework chapter, Leichenko and O'Brien (2008) refer to this phenomenon as *"double" injustice*. The concept of double injustice refers to the condition of marginalized and vulnerable population who are bearing the burden of adaptation's social costs while having the least carbon footprint and at the same time their needs are barely considered in climate policies , if at all (Anguelovski et al. 2016). Hence, adaptation might not be an all-inclusive action if it does not take the complexities of social and environmental justice into account.

The third question based on the vulnerability literature aims to understand weather Kingston's policy makers are trying to make adaptation actions inclusive by taking the complexities of social and environmental justice into account. On this basis, Taylor (2014) points to the importance of "localized of vulnerability" and the necessity of relating it back to the historical formed structures of power and privilege, for creating all-inclusive adaptation policies. Otherwise, as he maintains the idea of adaptation will turn to a "depoliticizing concept that reduces complex and contested socioecological relations to an abstract appeal to defend communities from external environmental disturbances

and threats" (15). The main problem with this "depoliticized" top-down style of decision making, as scholars state, is that an adaptation policy that is seen positive and beneficial to one group of people may be harmful and considered mal-adaptation to other (Eriksen et al. 2015). Consequently, the negative impact of some adaptation policies, or in fact maladaptation, may require further adaptation in future to elevate those negative consequences of the earlier adaptation (Sovacool et al. 2015).

In part, tendencies towards maladaptation can be related to the idea of 'whose knowledge, experiences and priorities count' in policy making and can be opened up by addressing the lived realities of marginal peoples. In this regard, Reid (2014) underlines the importance of taking the practical knowledge on unintended outcomes of policies, as well as understanding the operating context, to ensure that further intervention and policies are properly adapted to the 'reality on the ground'. The idea of 'whose knowledge counts' and using the 'reality on the ground' can be well related to the importance of taking different stakeholders' perspectives into account which I investigated in chapter 5. In this chapter and the next one I elaborate this idea by investigation the justice and inclusion component of that by including the marginalized people in the picture.

In short, these questions are the roots of five main categories that I analyzed the documents produced by the City of Kingston based on:

1)Demonstrating an explicit sensitivity to the idea of climate change vulnerability

2) Usage of a scientific framing of vulnerability

3) Usage of a human Security framing of vulnerability

4) Considering the differentiated impacts of climate change upon distinct social groups.

5) Seeking to avoid maladaptation and unintended effect of adaptation on marginal groups.

6.2 Findings of the content analysis of the municipal documents

6.2.1 Kingston Climate Action Plan (KCAP)

The Kingston Climate Action Plan (KCAP) has been developed based on Sustainable Kingston Plan, the Kingston Community Energy Consumption as well as GHG Emissions Inventory (the 2011 Update). The goal of KCAP was to address climate change at the local level with a commitment to reducing GHG emissions (KCAP 2014). Kingston Climate Action Plan (2014) classified its strategies for action across five thematic areas (Transportation, Energy, Resources and Natural Systems, Agriculture and Food Security and Climate Resilience). I analyzed this document based on the five main categories mentioned at the end of the introductory part of this chapter.

6.2.1.1 Demonstrating an explicit sensitivity to the idea of climate change vulnerability

The content analysis of the KCAP (2014) demonstrates that there are some traces of explicit sensitivity to the idea of vulnerability in this document. The terms vulnerable population and vulnerability has been repeated 6 times under the fifth thematic area (Climate Resilience). It also explicitly maintained in the document that climate adaptation plans are meant to "reduce the vulnerability of the natural and human systems against actual or expected climate change effects and to maximize potential benefits" (KCAP 2014: 75).

This document provided a comprehensive definition of vulnerability which is aligned with vulnerability literature:

> "Vulnerability is the degree to which a system is susceptible to, and unable to cope with, adverse effects of climate change, including climate variability and extremes. It is a function of the character, magnitude and rate of climate change and variation to which a system is exposed, its sensitivity and its adaptive capacity. For example, a flooded river is not a disaster. However, a disaster occurs when a flood interacts with a vulnerable system such as a community located on the flood plain" (KCAP 2014: 75).

6.2.1.2 Applying a scientific framing of vulnerability

The main goal of KCAP is to address climate change at the local level with a commitment to reducing GHG emissions (KCAP 2014). Reducing GHG emissions is generally connected with the scientific framing of vulnerability. As O'Brien et al. (2007) argues that a scientific framing of vulnerability and managerial discourse are focused on technical and sectoral adaptation as well as reducing GHG emissions. The abbreviation "GHG" which stands for "greenhouse gas" has been repeated 219 times and "GHG emissions" has been mentioned 122 times in the document. This indicates that the there is a great emphasis on mitigating GHG in this document for reducing climate change vulnerability, which is aligned with the main goal of this document. KCAP (2014) points to "a mid-term GHG emissions reduction target of 15% below the 2011 baseline by 2020 and a longer-term GHG emissions reduction target of 30% below the 2011 baseline by 2030" (36). The potential actions for reducing the GHG emissions are listed under three areas of transportation, energy (home and workplace), and waste and the central emphasis of this document is on the scientific framing of vulnerability.

According to O'Brien et al. (2007) scientific or outcome vulnerability is attributed to negative outcomes of climate change. Consequently, reducing vulnerability, according to

this approach, involves exposure reduction which is facilitated by developing mitigation and adaptation strategies to reduce the negative outcomes of climate change. Based on this definition and the content analysis of KCAP (2014) I suggest that this document adopts a scientific framing of vulnerability, because most of the initiatives, actions or potential actions mentioned in this document are focused on exposure reduction and building local capacity rather than addressing the fundamental caused of vulnerability. For instance, conducting shade audits, by the Local Public Health, to help vulnerable population during the extreme heat period is one of the actions which tries to reduce the exposure to the climate change impacts. The other potential action which can be attributed to scientific framing is "vulnerability assessment to stormproof assets for resilience" (KCAP 2014: 79). Additionally, there are some tips provided for organizations to determine their employees' and clients' exposure to climate change impacts including extreme weather and vector born disease by conducting a vulnerability assessment. The organizations are also invited to use the outcome of vulnerability assessment to mitigate the risks and measure progress. These are all sectoral and technical solutions that try to reduce exposure of people to the climate change impact to reduce their vulnerability which I categorize under scientific framing of vulnerability.

6.2.1.3 Applying a human security framing of vulnerability

Human security framing focuses on the causes and social factors (wellbeing, class, social status gender, etc.) that leaves a group of the population vulnerable to shocks and stresses, and tries to refine this context prior to stresses and shocks to enable individuals and groups to better respond to the changing conditions (O'Brien et al. 2007). According to contextual vulnerability, what is considered as "damage", or "negative effects" may

vary across different cultures and among communities. That is why human security may not be restricted to economic performance, property, food security and life, but also include more general desirable ends for society like sense of belonging, respect, equity, social and cultural heritage and so forth (O'Brien et al. 2007). I could not trace any initiative in KCAP (2014) which can be classified as human security framing of vulnerability. The only instance that can arguably classified under this framing of vulnerability is checking on vulnerable person by a community information line (211), and an inventory of long-term care homes and retirement homes to determine their air conditioning and emergency generator conditions.

Conclusively, there is an explicit sensitivity to the idea of vulnerability in KCAP (2014) and this document provides a comprehensive definition of vulnerability and asserts that climate change can be a disaster only when it interacts with a vulnerable system. Notwithstanding, the content analysis of this document does not demonstrate any sensitivity the social, economic, and political factors that creates vulnerability. As it is evident there are not many traces of considering vulnerable people's situation in this document except for a couple examples mentioned above. On this basis, considering the great emphasis of KCAP on the reducing the GHG emissions and reducing people's exposure to climate change effects, I suggest that this document is taking a scientific framing rather than human security framing of vulnerability. Moreover, there are no clues of the fourth and fifth categories in this document. In the other words, KCAP (2014) does not explicitly account for the differentiated impacts of climate change upon distinct social groups within Kingston. Neither explicit trace of acknowledging that different groups face vulnerabilities on account of their socio-economic status; their relative political

influence; and their specific exposure or sensitivity to shocks and/or stresses, could be detected in this document. Table 1 summarizes the main point that I could detect in this KCAP related to the main categories of this content analysis.

Table 6. 1 Content analysis of Kingston Climate Action Plan

Main themes	Textual documents from KCAP (2014)
Demonstrating an explicit sensitivity to the idea of vulnerability in the face of climate change	• Definition of vulnerability is provided in the document • Introducing climate adaption plans to reduce the vulnerability of the natural and human systems against actual or expected climate change effects
Applying a scientific framing of vulnerability	• Emphasizing on scientific ways to reduce GHG emissions all over the document • Application for conducting shade audits • Vulnerability assessment to storm-proof assets • Inviting organizations to conduct vulnerability assessment
Applying a human Security framing of vulnerability	• Checking on vulnerable person by a community information line (211) • Determining the air conditioning emergency generating conditions of long-term care homes and retirement homes
Considering the differentiated impacts of climate change upon distinct social groups.	• No clues were found.
Seeking to avoid maladaptation and unintended effect of adaptation on marginal groups.	• No clues were found.

6.2.2 Community Sustainability Report

The Community Sustainability Report (2017) is structured around a four-pillar (environment, economy, society, and culture) approach to sustainability. According to

Community Sustainability Report (2017) the main purpose of this document is to recite the stories of community action and acknowledse the variety of local responses to climate change which is the most pressing problem facing humanity today. Here I analyse this document based on the five predetermined categories I created for the purpose of this chapter's analysis.

6.2.2.1 Demonstrating an explicit sensitivity to the idea of climate change vulnerability

Community Sustainability Report (2017) does not indicate much explicit sensitivity to the idea of climate change vulnerability. The world "vulnerability" is mentioned only once in this document and that is also related to shrinking carbon emissions. Under the climate action, it is indicated that: "this section features some of local businesses, organizations, and institutions that are working to shrink Kingston's carbon footprint and reduce our vulnerability to the changing climate" (4). So, reducing vulnerability is only related to reducing the GHG emissionsin this document which flags the scientific framing of vulnerability.

As stated in Community Sustainability Report (2017) among the four-pillar approach to sustainability, the third pillar, which is "society", is related to the idea of "commit to caring and empathetic communities" as a one of the main four solutions to the causes of climate change (3). This pillar and its interpretation can be related to the idea of vulnerabilty, although implicitly.

6.2.2.2 Applying a scientific framing of vulnerability

As stated above, Community Sustainability Report (2017: 4) pointed to actions taken by some of the local institutions and businesses to shrink GHG emissions in Kingston as a way to reduce the community's vulnerability to the changing climate, which I relate to the scientific approach to vulnerability. For instance, this document points to the Tesla Powerwall which is "an electrical storage solution that allows users to back up their power supply by charging a compact battery, either through the grid or through solar panels" (5). The other mitigation efforts that are mentioned in this document include decreasing GHG emissions released from manicipal operations by 3% between 2011 and 2015. Other efforts mentioned in Community Sustainability Report (2017) in this regard are "retrofitting buildings and street lighting and a more fuel-efficient fleet of cars" (8). As it is evident, all these initiatives are managerial actions focused on sectoral adaptation and reducing GHG emissions, which is related to scientific framing of vulnerability and technical solutions to reduce GHG emissions.

6.2.2.3 Applying a human security framing of vulnerability

Although not much explicit references to vulnerable people can be detected in Community Sustainability Report (2017), some implicit connotations can be traced. For instance, there is an initiative mentioned in this document called Begin Again Group (BAG) initiative which can be related to human security framing of vulnerability. This initiative "supports local refugee women to build community and develop financial independence" by developing a "a micro enterprise designing and fabricating unique hand-made bags and accessories from recycled rubber tubes." This initaitve helps these women to improve their languge skills, being informed about the environemnt and local

community, while contributing to the society and secure them form being isolated (10-11).

There is also other initiative mentioned in this document called Disabilities Mentoring Day (DMD) which can be related to human security framing of vulnerabity which "brings people with disabilities and businesses together" to help people with disabilites expand their professional network and devlop their working skills (12).

Food security is another theme mentioned in this document which can be related to human security framing of vulnerability. Food security can be traced under two areas or titles in the Community Sustainability Report (2017). First, supporting local farmers who are one of the groups that can be vulnerable to the changing climate. Supporting local farmers and local food production can be very well paid off by increasing the resilience of the community through inhancement of the sustainable local food production, in addition to safegurding the community from relying on buying food outisde of the Kingston region and investing on long distance food transportation. In this regard, this document also explains another program called "From Farm to Fork" which connects local farmers to consumers to promote and support local produciton of food. The second area which is mentioned in this document related to food security is work of NGOs like Loving Spoonful to facilitate "fresh food access, skill development and community engagement" (15). They also initiated a GROW Project which includes providing primary schools across the Kingston area with gardening workshops with the support of farmers and instructors. The purpose of this program is "Connecting kids to healthy food and the joy of gardening and working together, leads not only to greater food security, but to an environmental ethic that will carry through their entire lives" (15).

Table 6. 2 Content analysis of Community Sustainability Report

Main themes	Textual documents from Community Sustainability Report (2017)
Demonstrating an explicit sensitivity to the idea of vulnerability in the face of climate change	• Not explicitly
Applying a scientific framing of vulnerability	• Some local institutions and businesses took action to shrink GHG emissions in Kingston • Tesla Powerwall • decreasing GHG emissions released from manicipal operations by 3%
Applying a human Security framing of vulnerability	• Begin Again Group (BAG) initiative (supports local refugee women to build community and develop financial independence) • Disabilities Mentoring Day (DMD) (brings people with disabilities and businesses together" to help them expand their professional network and devlop their working skills • Food security (supporting local farmers & facilitate fresh food access)
Considering the differentiated impacts of climate change upon distinct social groups.	• No clues are found
Seeking to avoid maladaptation and unintended effect of adaptation on marginal groups.	• No clues are found

In sum, although the word "vulnerability" is mentioned only once in the Community Sustainability Report (2017) and that is also related to scientific framing of vulnerability, there are some initiatives in this document that can be related to human security of vulnerability which is mentioned above and summarized in the table 2. However, the same as in the previous document KCAP (2014), there are no clues of the fourth and fifth

category in the Community Sustainability Report (2017). In the other words, the Community Sustainability Report (2017) does not explicitly account for the differentiated impacts of climate change upon distinct social groups within Kingston. An explicit trace of acknowledgement that different groups face vulnerabilities on account of their socio-economic status; their relative political influence; and their specific exposure or sensitivity to shocks and/or stresses, could be detected in this document.

6.2.3 Working Group on Climate Action Report to Council (WGCA)

The Working Group on Climate Action (WGCA) was created in 2019 with the purpose of promoting, engaging, informing, and challenging community and the Industrial, Commercial, and Institutional (ICI) sector to reduce their GHG emissions. So again, the focus of this working group is on mitigation (reducing carbon emission), which is related to scientific framing of vulnerability, not adaptation, and can be more involved with human security framing of vulnerability.

According to WGCA Council's Climate Action, strategic priorities include: "1. Reduce greenhouse gas emissions by 15% across the City's operations by 2022. 2. Enhance and expand green spaces, protect wetlands, and increase the tree canopy through greening initiatives. 3. Incrementally electrify the City's fleet of vehicles including public transit. 4. Target recycling and waste reduction strategies for businesses, institutions, and multi-residential buildings. 5. Develop and promote incentives for residents to reduce their energy use and become part of city-wide solutions to meet Kingston's carbon neutral target" (5). All these priorities and initiatives are focused on the sectoral adaptation and technical solutions to either reduce GHG emissions or reduce the exposure of the individuals or community to negative impact of climate change. I could not find any

traces of human security framing which underlines the fundamental causes of vulnerability and tries to refine the context in which climate change occurs. Similarly, as the two previous documents I analyzed, I could not find any clues of explicitly accounting for the differentiated impacts of climate change upon distinct social groups within Kingston in WGCA. Explicit traces of acknowledgement that different groups face vulnerabilities on account of their socio-economic status; their relative political influence; or their specific exposure or sensitivity to shocks and/or stresses, could be detected in this document.

Table 6. 3 Content analysis of WGCA

Main themes	Textual documents from Working Group on Climate Action Report to Council (2019)
Demonstrating an explicit sensitivity to the idea of vulnerability in the face of climate change	• Not explicitly
Usage of a scientific framing of vulnerability	• Reduce greenhouse gas emissions by 15% across the City's operations by 2022. • Incrementally electrify the City's fleet of vehicles including public transit • Target recycling and waste reduction strategies for businesses, institutions, and multi-residential buildings • Develop and promote incentives for residents to reduce their energy use and become part of city-wide solutions to meet Kingston's carbon neutral target • Enhance and expand green spaces, protect wetlands, and increase the tree canopy through greening initiatives
Usage of a human Security framing of vulnerability	• No clues are found

Considering the differentiated impacts of climate change upon distinct social groups.	• No clues are found
Seeking to avoid maladaptation and unintended effect of adaptation on marginal groups.	• No clues are found

6.2.4 Climate Leadership Plan (CLP)

According to the Climate Leadership Plan (2021), this document is a roadmap to guide the city of Kingston and community to reach the goal of carbon neutrality by 2040 by reducing GHG emissions. This document defines adaptation as "adjusting to actual and expected future climate by taking measures that reduce climate-related risks and vulnerabilities to people, infrastructure, economy, and natural systems." In addition according to this document, mitigation is "reducing and avoiding emissions of greenhouse gases into the atmosphere to limit the magnitude of future climate impacts" (Climate Leadership Plan 2021: 1). This plan is composed of 10 objectives and 54 actions which I analyzed in this section based on the five predetermined categories I created for the purpose of this chapter analysis.

6.2.4.1 Demonstrating an explicit sensitivity to the idea of climate change vulnerability

An explicit sensitivity to the idea of vulnerability can be detected in the Climate Leadership Plan (2021). The word vulnerability/vulnerabilities are repeated seven times

in the summary of this document. Additionally, according to Climate Leadership Plan (2021) “a vulnerability and risk assessment was completed to identify the priority climate impacts to City assets, services and the community” (7). These climate impacts include 1) “higher temperatures and increasing precipitation” 2) “extreme heat and dry conditions in summer” 3) “higher temperatures and changing freeze-thaw cycles in winter” 4) “more frequent and intense precipitation and flooding 5) “more frequent and intense severe weather events” (7). The emphasis of vulnerability and risk assessment components is revolving around the climate impact on the infrastructure damage, life cycle of buildings, and transportation. However, the climate impact on vulnerable people is only mentioned under the second heading “extreme heat and dry conditions in summer” that points to “increase in heat-related health risks, especially for vulnerable groups such as elderly, youth, and low-income individuals” in addition to “water supply issues for those who rely on well water for residential, business, or agricultural use” (7). This is while almost all of the climate change effects mentioned above can affect the low-income people and people, but it seems their lack of political voice cause their needs to be insufficiently safeguarded.

6.2.4.2 Applying a scientific framing of vulnerability

Just like the previous documents, I analysed the main focus of the Climate Leadership Plan (2021), which is on mitigation and reducing GHG emissions since reaching carbon neutrality by 2040 is introduced as the main goal of this document. According to Climate Leadership Plan (2021) mitigation is “reducing and avoiding emissions of greenhouse gases into the atmosphere to limit the magnitude of future climate impacts” (1). Based on this definition it can be argued that the focus of Climate Leadership Plan (2021) can be

related to the scientific framing of vulnerablity. It is explicitly stated in this document that “many of the actions in the Climate Leadership Plan are focused on helping Kingston limit greenhouse gas emissions to reduce the effects of climate change in the future” (6). For instance, this document points to fostering local sources of renewable energy for poweirng buildings, vehicles and equipment. It also mentions that the City of Kingston is expanding “home energy efficiency programs” for residents and neighbourhoods to inhance their sustainablity. So, the emphasis of this document is on “transition to a low carbon society” and redcuing emissions across all sectors to reach carbon neutrality by 2040 (2).

As stated in Climate Leadership Plan (2021), the highest number of emissions are produced by buildings and transportation, so these two sectors can contribute to the majority of GHG emissions reductions in Kingston. However, the modeling conducted for the Climate Leadership Plan reveals that even the highest level of alteration in buildings, transportation and food systems is not compatible with energy demands and, consequently, its GHG emissions using the local renewable generation. So, this document emphasizes the importance of external solutions such as importing renewable energy to Kingston, carbon sequestration technologies, and carbon offsets, which are all efforts towards reducing GHG emissions.

The other opportunities that Climate Leadership Plan (2021) suggests for reducing emissions include innovative technology advances and collaborative community action. One of these innovative technologies mentioned in Climate Leadership Plan (2021) is investing in low carbon retrofits for home owners. This document points to Kingston Home Energy Retrofit Program (KHERP) and the City of Kingston plans to provide

home owners with low-interest financing, energy audits and incentives to promote energy retrofiting. Sustainable Kingston, which is a non-profit organization, offers home energy audits to help Kingston's residents "identify energy saving opportunities, upgrade their homes, and receive rebates for doing so while lowering their carbon footprints" (22). Under the transportation section in Climate Leadership Plan (2021), there is an emphasis on developing active transportation and foster transit-oriented development. This document also points to the high cost of EVs as a barrier that prevents interested people from buying it. Also, under the Food and Forestry heading in Climate Leadership Plan (2021), considers improvement and supporting of the local food system as an important step toward reducing dependence on long distance transportation of food which involves increaing of GHG emissions.

As it is evident all of these initiatives and plans are focused on reducing carbon emissions, which is absolutely neccassary. However, the question here is "who's values and perspectives are embraced within" these plans and policies, and whether justice is considered to be an important component in the minds of the policy makers (Taylor et al. 2022: 4). For instance, the Kingston Home Energy Retrofit Program is one of the programs that is mentioned in this document to reduce the emissions. Although a big portion of the City funding is going to be poured in this program, all the benefits of this incentive goes to the homeowners and people who are already doing very well, based on their economic and social statues. This is while nothing is mentioned in these programs about people with less economic power like renters who may be srtruggling to pay their next energy bill. These are people who are bearing the brunt of climate change while having the least contribution in it, and at the same time, they are overshadowed by people

who have a dominant voice or power when it comes to receiving the benefits from the policies. This flags the justice concerns in climate change adaptation policies.

However, this document acknowledges that “Kingston’s climate is already changing, and it is imperative to adapt and prepare for climate impacts that are affecting the community today” (6). For instance, Climate Leadership Plan (2021) points to some of the extreme climate events happened in Kingston including the summer of 2016 which was the driest summer on record since the 1880s, the summers of 2020, and 2021, with 30°C range of prolonged periods of high temperatures, the flooding and road washouts in October of 2019 caused by 52.4mm of rain fell over a 24-hour period, and the record breaking inflows into Lake Ontario in the spring of 2017 and 2019 which were caused by above average precipitation in the Lake Ontario-St. Lawrence. These are all examples which prove that the Kingston climate is already experiencing changes, and that adaptation to the effects of climate change is necessary to reduce its impact on people who are the most vulnerable to these changes. In terms of adaptation, Climate Leadership Plan (2021) points to managing “climate-related impacts to municipal critical infrastructure and services”, and supporting “community organizations and businesses in assessing and reducing their own climate risk” (19). However, there is nothing mentioned about the most vulnerable individuals’ needs in the face of climate change in this section.

According to Climate Leadership Plan (2021) “a vulnerability and risk assessment was completed to identify the priority climate impacts to City assets, services and the community” (7). According to this vulnerability and risk assessment, there has been an increase in the number of hot days (over 30°C) per year, an increase in aggressive species and pests and vector-born diseases, a reduced lifecycle of transportation assets and

buildings, higher demand for greenspace, outdoor/water front activities and cooling centres, a rise of heat-related health issues (especially for vulnerable groups such as low-income individuals, youth and elderly), along with water supply issues and power outages, to name some of the consequences of increasing temperature trends in Kingston (7). All of these issuse and problems indicate that adaptation to reduce the impact of them on people who are the most vulnerable to them is a mandate. However, the only time that vulnerability of low-income individuals, youth and elderly are acknowledged in this section is in relation to extreme heat and dry conditions in summer, while these people are vulnerable to the most of the above mentioned circumstances.

Afforestation and Increasing Tree Canopy is another adaptive action emphasized in the Climate Leadership Plan (2021) for carbon sequestration and climate resilience. It is also stated in this document that "the City plants trees annually and plans to double its tree canopy, such as through the neighbourhood tree planting program" however, nothing is mentioned about low income neighborhoods who are the most vulnerable throughout heatwaves because of the least number of trees are planted in these neighborhoods.

The outstanding points which shows an explicit sensitivity to the idea of vulnerability in this document is the section under the heading of "Geospatial Mapping of Risks and Vulnerabilities." It is suggested in this section that "Climate risk hotspots can be more easily managed by creating a geospatial database of risks to municipally owned and operated critical assets. Risk maps are considered best practice for targeting climate resilience interventions, and have been developed in cities such as Metro Vancouver, Montreal, Calgary and Edmonton" (19). According to Climate Leadership Plan (2021) "resilience will be improved through backup energy storage, reduced reliance on personal

automobiles and a shift to active transportation, transit, and electric-powered mobility, strengthened local food systems, and more adaptive community infrastructure" (24).

As it is evident, almost all of these intitiatives are foucsed on reducing the impact of climate change or reducing GHG emissions for mitigating vulnerability of the residents, all of which can be classified under scientific or outcome vulnerability. The only initiative that is mentioned in this document and can be attributed to human security vulnerability is supporting of the local food system, which advocates tackling the fundemental inequality issues that creates vulnerablity.

In sum, the word vulnerability has been repeated seven times in Climate Leadership Plan (2021), so it can be concluded that there is an explicit sensitivity to the idea of vulnerability in this doucment. However, the focus of the Climate Leadership Plan (2021) is of GHG emissions which is related to scientific framing of vulnerability. Notwithstanding, this document asserts that the Kingston climate has been already changed and that there is a need to adapt to this changing climate. On this basis, there are some actions mentioned in the document which are related to the human security framing of vulnerability including afforestation and increasing tree canopy, geospatial mapping of risks and vulnerabilities, vulnerability and risk assessment. This is while, just like the previous documents I analysed, there are no clues of the fourth and the fifth category in the Climate Leadership Plan (2021). In the other words, the Climate Leadership Plan (2021) does not explicitly account for the differentiated impacts of climate change upon distinct social groups within Kingston. There is also no explicit trace of acknowledgment that different groups face vulnerabilities on account of their socio-economic status; their

relative political influence; and their specific exposure or sensitivity to shocks and/or stresses, could be detected in this document.

Table 6. 4 Content analysis of Kingston Climate Leadership Plan

Main themes	Textual documents from Kingston Climate Leadership Plan (2021)
Demonstrating an explicit sensitivity to the idea of vulnerability in the face of climate change	• Kingston's climate is already changing, and it is imperative to adapt and prepare for climate impacts that are affecting the community today • Geospatial Mapping of Risks and Vulnerabilities • Vulnerability and risk assessment
Usage of a scientific framing of vulnerability	• Focus of the document is on mitigation and reducing GHG emissions • Local sources of renewable energy for poweirng buildings, vehicles and equipment • Home energy efficiency programs for residents and neighbourhoods to inhance their sustainablity. So the emphesie of this document is on transition to a low carbon society • Low carbon retrofits for home owners. • Developing active transportation and foster transit-oriented development • Afforestation and increasing tree canopy • Geospatial Mapping of Risks and Vulnerabilities
Usage of a human Security framing of vulnerability	• Supporting of the local food system
Considering the differentiated impacts of climate change upon distinct social groups.	• Not explicitly considered
Seeking to avoid maladaptation and unintended effect of adaptation on marginal groups.	• No clues found

6.3 Concluding summary

Through with this chapter I conducted a qualitative content analysis of four documents produced by the City of Kingston regarding climate policies using prior coding technique. The main purpose of this chapter was to investigate whether the climate policies implemented by the Kingston municipality is a form of equitable governance that safeguards the needs of the most vulnerable population groups. On this basis, using the theories of political ecology and vulnerability literature I created five pre-determined categories and analyzed the four documents produced by the City of Kingston based on them. These categories include:

1) Demonstrating an explicit sensitivity to the idea of climate change vulnerability
2) Usage of a scientific framing of vulnerability
3) Usage of a human Security framing of vulnerability
4) Considering the differentiated impacts of climate change upon distinct social groups.
5) Seeking to avoid maladaptation and unintended effect of adaptation on marginal groups.

Table 6. 5 Recap: content analysis of the municipal documents

Category Number	Pre-determined categories based on political ecology and vulnerability literature	KCAP (2014)	Community Sustainability Report (2017)	WGCA (2019)	CLP (2021)
1	Demonstrating an explicit sensitivity to the idea of climate change vulnerability	Yes	Not explicitly	Not explicitly	Yes
2	Usage of a scientific framing of vulnerability	Yes	Yes	Yes	Yes
3	Usage of a human Security framing of vulnerability	Few traces	Yes	No	Few traces
4	Considering the differentiated impacts of climate change upon distinct social groups.	No	No	No	No
5	Seeking to avoid maladaptation and unintended effect of adaptation on marginal groups.	No	No	No	No

The result of content analysis indicates that two out of the four documents I analyzed demonstrate an explicit sensitivity to the idea of climate change vulnerability. However, in the other two documents, the idea of vulnerability to climate change can be detected implicitly based on some of the initiatives, objectives, and actions in these documents. The other question I tried to answer in this chapter is that whether these documents adopt a primarily scientific or human security framing of vulnerability. This first question is founded upon the two interpretations of vulnerability introduced by O'Brien et al. (2007) which I reviewed in the analytical framework in detail. One of these framings is scientific framing of vulnerability and managerial discourse focused on sectoral adaptation and reducing GHG emissions. The second one is human security framing which is focused on the causes of and social factors (wellbeing, class, social status gender, etc.) that leaves a group of population vulnerable to shocks and stresses and tries to refine this context prior

to stresses and shocks to vulnerable individuals and groups, to better respond to the changing condition. The result of the content analysis of the documents indicates that all the documents contain both framings (scientific and human security of vulnerability). However, the result of my study suggests that the primary framing in all the documents is scientific framing of vulnerability. This argument is based on the primary focus of the documents on scientific solutions to reduce the GHG emissions to reduce the community's vulnerability in the face of climate change, rather than focusing on the causes and social factors that that leaves a group of the population vulnerable to shocks and stresses.

Moreover, I could not detect any trace of the fourth and the fifth categories in these documents. In the other words, the Climate Leadership Plan (2021) does not explicitly account for the differentiated impacts of climate change upon distinct social groups within Kingston. Put simply, no acknowledgment that different groups face distinct vulnerabilities on account of their socio-economic status; their relative political influence; and their specific exposure or sensitivity to shocks and/or stresses, could be detected in this document.

On this basis, the result of content analysis of the four documents produced by the City of Kingston suggest that the City of Kingston works from a primarily scientific framing of vulnerability. These documents are focused on solutions to mitigate the GHG emissions to reduce vulnerability of the citizens in the face of climate change, as well as technical and sectoral adaptation to reduce exposure of the residence to the impacts of climate change. As the Climate Leadership Plan (2021) declares "Kingston's climate is already changing, and it is imperative to adapt and prepare for climate impacts that are affecting

the community today" (6). There is a growing body of literature on importance of making "rights and justice the target of adaptation" that would counter this scientific or technical framing that the City of Kingston is currently using (Taylor et al. 2022). On this basis, I argue that only by taking a human security framing of vulnerability that can identify the social causes of vulenrability is it possible for policy makers to approach a just and all-inclusive approach to adaptation. This can happen by facilitaing the participation of all sectors of society in the process of decision making in a meaningful way. As Taylor et al. (2022) maintain, discrimination and exclusion are drivers of vulnerability, and "by promoting meaningful participation of groups often excluded from decision-making processes and paying particular attention to how climate action can support the rights of these groups" more just and equitable adaptation outcomes can be achieved.

That said, understanding that policy documents are static statements that may not fully represent active practice, I now follow up with an account of semi-structured interviews with key stakeholders from the City of Kingston and social justice advocated who engage directly or indirectly with climate policies and vulnerable people. In doing so, I aim to find out whether current policymaking practice in the City of Kingston aims to fill some of the gaps that I encountered in the documents, or whether current policymakers are aware and working to counteract them. This triangulation is being done to increase the validity of this research result.

Chapter 7

Results of the Semi-structured Interviews

7.1 Introduction

In the previous chapter, I presented the content analysis of documents produced by the City of Kingston on climate policies to understand whether these policies are seeking to create a form of equitable governance that foregrounds the needs of the most vulnerable people in the face of climate change. The results of this analysis indicated that the documents demonstrate some clear deficits in representing the needs and perspectives of vulnerable groups. These documents are mostly focused on decarbonization and scientific solutions to reduce GHG emissions while questions of justice and vulnerability are silent. As the declaration of climate emergency is quite recent in Kingston and its policies evolving rapidly, in the next stage of the research, I conducted a series of interviews with local government officials, City of Kingston staff and some social justice advocates whose work is either directly or indirectly related to climate change polices and vulnerable individuals/communities. These interviews serve to corroborate, contextualize, and expand the content analysis conducted in the previous chapter. For convenience, I list again the officials and city staff interviewed:

1. Mr. Robert Kiley (Position: Member of Kingston City Council, District 6, March 22, 2022).

2. Ms. Bridget Doherty (Position: Member of Kingston City Council, District 7, April 7, 2022).

3. Ms. Judy O'Leary (Position: Network Coordinator of Climate Caucus, April 13, 2022). This interview provided me with a big picture of bureaucratic processes involved in developing climate policies at national and regional levels.

4. Ms. Joanne Borris (Position: Housing Program Administrator, City of Kingston, April 20, 2022).

5. Ms. Ruth Noordegraaf (Position: Director, Housing and Social Services, City of Kingston, May 20, 2022).

6. Ms. Julie Salter-Keane (Position: Manager of Climate Leadership Division, City of Kingston, May 24, 2022).

I also interviewed people working in the realm of social justice and vulnerability. The interviews with these social justice advocates happened either independently or in the form of focus group, with:

1. Dr. Jeremy Milloy (Position: The Lead Integrity of Creation and Climate Change for the Providence Centre for Justice, Peace, and Integrity of Creation, April 8, 2022).
2. Sister Frances (position: Leadership Person in the Sisters of Providence of St. Vincent De Paul, April 20, 2022)
3. Dr. Susan Belyea (Position: Former Executive Director of Loving Spoonful and current Director of Ban Righ Centre Queen's University, May 9, 2022).
4. Judy Fyfe (Executive Director of St. Vincent DE Paul Society of Kingston, May 9, 2022)
5. Mr. Jamie Swift (Position: Former Director of the Justice, Peace, and Integrity of Creation, May 9, 2022).

Although the majority of social justice advocates I interviewd with have an affiliation with Sisters of Providence of St. Vincent De Paul, this is just an umbrella organization that covers a wide range of social activism in Kingston and does not mean that they all adhered to the same positions or the same types of engagement. Below, I provide a detailed report of analysis of semi-structured interviews with the city officials and social justice advocates. In doing so, I first account the findings of the social justice advocates' interviews to demonstrate their concerns around the issue of vulnerability in the face of climate change. Then I follow up with the findings of the City of Kingston staff interviews to investigate whether the needs of the most vulnerable people are addressed in the climate policymaking. Finally, I connect the result of interview analysis back to the findings of the document analysis of previous chapter.

7.2 Results of Semi-structured Interviews with the social justice advocates

Analysis of the semi-structured interviews led to creation of two core categories:

1) Demonstrating an explicit sensitivity to the idea of climate change vulnerability
2) Equitable climate policies based on a human security framing of vulnerability

Under each main category I came up with a few sub-categories which I detail below:

7.2.1 Demonstrating an explicit sensitivity to the idea of climate change vulnerability

By creating the first main category I tried to investigate to what extent the Kingston climate policies demonstrates an *explicit sensitivity to the idea of vulnerability in the face of climate change*. On this score, I classified the analysis of the semi-structured interviews with the social justice advocates into three sub-categories, under the first main category:

7.2.1.1 Identifying vulnerable groups in terms of climate impacts

Questioned as to which groups of people are the most vulnerable in the face of climate change in Kingston, Dr. Jeremy Milloy pointed to people with low quality housing and people with no housing as the most vulnerable in terms of extreme climate impacts such as extreme heat, freezing events, and storm events. He also pointed out that the vulnerablity of some neighbourhoods in two ways:

> Number one is people who live near our bodies of water. And number two people who live in areas that are not sufficiently treed. We have a lot of tree inequity in the city and there are already issues of lower air quality and higher heat islands and things like that in some of the neighborhoods in our city.

Dr. Milloy also pointed to the "significant refugee population who are already in the city" as vulnerable in the face of climate change and highlighted "the impact that climate would have on our ability and our responsibility to be welcoming climate migrants in the future."

The other participant who talked about the most vulnerable in terms of climate change was Dr. Belyea who pointed to people who spend the most time outside: first unhoused people and then children, particularly those from poor housholds with less access to pools and cooling stations and healthier play spaces. After that she pointed to elderly with breathing issues and children with asthma and asserted that "anybody who is on any kind of margins is disproportionately affected by all these things. She also mentioned people who spend a lot of time outside as more likely to "end up with sun burns and sun damage and skin cancer from that." Dr. Belyea also pointed to the issue of global warming effects on the growing number of pests that never used to be a serious problem in Kingston and said:

> Now people who spend a lot of time outside particularly in liminal areas like Belle park and encamped areas are more likely to get bitten by ticks, which means you're more likely to get Lyme disease. Same with a bunch of, there's a lot of new molds and funguses and sort of pests in the soil that are able to survive with milder winters and hotter summers. So we're seeing more and more of those kinds of effects on the food system for sure, but also in people's houses, problems with mold and new forms of mold and funguses that we aren't used to dealing with around here.

Aligned with the pervious participants Ms. Fyfe also pointed to unhoused people as the most vulnerable in the face of climate change and said:

> I can't imagine anyone being more vulnerable than somebody who does not have a place to live. Particularly talking about the environment, climate change on the extreme, cold and extremely hot days; absolutely life threatening to be outside with a reprieve from the heat. So that to me is a very vulnerable group. But within that there's also I am seeing other vulnerabilities other cracks, for instance, people who are housed or are housed kind of quarterly.

Overall, Sister Frances also pointed to a community-needs assessment that her organization has done in 2016 which came up with the following list as the priority groups of people in need of services in Kingston including “aboriginal people, families, particularly families made up of women and children, youth, older adults, adults with disabilities, people with mental health problems and addictions and newcomers to the area” which is very much aligned with what the previous participants mentioned above. Conclusively, based on the social justice advocates I interviewed in this research, people who live in poverty and specially those who have no place to live are the most vulnerable population in terms of climate change. In the other words, the lower the socio-economic status of a person or a community is, the more vulnerable they can be in the face of climate change.

7.2.1.2 Acknowledging the primary causes of vulnerability to climate change

According to almost all of the participants, homelessness, lack of financial support, and inequality are greatest influencers that exacerbate climate vulnerability. For instance, Sister Frances pointed to homelessness as an important factor that increases the vulnerabiliy of people in terms of climate impact. She mentioned Bell Park and encampments of homeless people there and highlighted the difficulty of encouraging "people who have fear of any kind of structures" to live in a shelter as another problem the City face in tackling the issue of homelessness. She also pointed to the tiny houses constructed in Portsmouth Olympic Harbour as a good initiative, however, she mentioned that there are some issues in this regard which the City needs to consider:

> The tiny houses … was a marvelous beginning… but part of the problem too is you can't take people out of their own milieu, like you can't transport them to the west of Kingston very easily, or across the Cataraqui River to the east side and expect that they will be able to find their own friends their own comfort, just because they now have a bit of a roof over their head.

In addition, Dr. Milloy highlighted poverty as the main factor that negatively impacts the ability of people "to insulate themselves from a lot of climate shocks." According to Dr. Milloy:

> In our community, people with the lowest resources are going to be less able, in the future, to handle rising food costs, rising fuel costs, and housing costs. If they lose their home they will find it very difficult to find a new home. So, one's vulnerability definitely increases as one's income decreases.

Likewise, Dr. Belyea pointed to poverty and lack of access to better facilities as the main factor that exacerbates every environmental problem. She also pointed to increasing cost of food as a side effect of global warming which "of course, disproportionately affects people living in poverty and people trying to manage on a budget" and said:

> You don't have to be in deep, desperate poverty to be affected by the rising cost of food as we're all seeing now, and the rising cost of gas…. Because when our food crops are threatened by global warming, so are our fuel, the fuel that we grow in the bio, crops that we grow for fuel are also affected, which can also drive the cost of fuel up and every time prices go up on anything for anything, people living in poverty are just disproportionately affected.

Finally, Ms. Fyfe pointed to inequality in finacial status of people and not affording air conditioner as a recent problem and explained:

> When I think of the hot summers that we have had, those who can no longer or can't really afford air conditioning [are the most vulnerable]. And I don't think we in Canada, really consider that to be so essential, because this isn't southern United States where they're incredibly high temperatures all year round. It's now becoming very difficult to live without the aid of air conditioning in summer. I predict that you're going to see some vulnerable populations such as the very elderly, people living on the top floors of high rise apartments that don't have access to cooling. They're going to be vulnerable, whereas others living in our community with swimming pool, air conditioning, and pretty drinks with umbrellas will be fine.

In this regard, Sister Frances criticized the "the whole lack of justice for vulnerable populations" and "the lack of organization and policies that help them get a leg up in society." She aslo pointed out that "the distribution of wealth" is dreadful in North America, which causees some people to suffer more than others from climate change effects.

Under this sub-cateogry, aligned with the previous one, poverty, social inequality, and a lack of policies and organizations for equitable distribution of resources, were introduced as the main reason that excerbates climate change vulnerability. Lack of justice and inequality in financial status was introduced as the most important factors by the social justice advocates that increase people's vulnerability in the face of climate change.

7.2.1.3 Including vulnerable population voices to become aware of their needs

Under this sub-category I try to shed light on whether the City of Kingston has some strategies in place to hear the voices of various groups of society who are vulnerable in terms of climate change to be informed of their challenges and needs. In other words, I investigate whether there are systems in place to capture and use localized lived experience of the most vulnerable people in relation to climate change effects in the process of climate policymaking. In response to this question, the social justice advocates expressed serious concerns with the government policies and approaches toward the consultation processes by the City of Kingston to foreground the needs of the most vulnerable.

For instance, Dr. Milloy pointed to different issues in this regard which systematically exclude the marginalized and low-income people from being involved in the process of consultation and said:

> There's a technological issue there. And not everybody has that technology. There's an economic issue. Not everybody has the time. There is a massive engagement, justice political issue. …people who have been traditionally marginalized from the structures of city government and city processes, which tend to overwhelmingly be low income people, racialized, [and] with disabilities.

Similarly, Dr. Belyea considered the online process of reaching out to the city staff and government officials full of barriers because of the the neccessity of being online, creating an account, and remembering the password for going through the portal. She believed that it is not a very friendly process for collecting information, specially for people who are not educated enough to do that. She was not very optimistic about the community consultation program being done in a meaningful way and said:

> I'd be really hesitant to suggest to somebody that they could have their voice heard, because I think they will end up as… there'll be a report and there'll be

> some nice ideas in it. And then that report will be out of date and there will need to be another report before anything actually happens; or they'll just go in a whole new direction, has nothing to do with the report. I'm very skeptical of the city putting a lot of work into trying to increase its community consultation program.

Ms. Fyfe aslo expressed her concerns about the "the damage that's done to vulnerable people who are consulted, told that their opinion matters so very much and then completely ignored" and said:

> I do believe that people need to be heard. And I think there's dignity in voicing what your opinion and position is. So I want that for a somewhat otherwise invisible silent group that I serve. I'd love for them to have an opportunity to speak and to share their thoughts because they're brilliant in many ways, and they have experience it's worth listening to.

Mr. Swift also told a similar story and expressed his pesimistic view in vulnerable group's voice being heard in a meaningful way and said:

> When I worked for representar faith coalition, a lobby group in Ontario around poverty, and sometimes we'd had meetings in Toronto and we do our best to bring in people with the buzzword of lived experience with poverty, which I think is the right thing to do. And then you … sit around the table and some poor devil given the chance to speak about their lives, they would take up the entire time telling their story, because it's never been heard before. And there I was grinding my teeth saying, we're trying to maintain political opposition here and I found it frustrating but I at the same time I really understood the need for these folks to tell their story and be heard… But unless it's part of a broader social political movement, I don't see if it's just a bunch of box ticking by some large powerful institution that I don't really see much point to it.

In this regard, Dr. Milloy pointed to lack of knowledge as one reason that there is not a equity lens adapted in creating the climate policies and stated:

> The City plans to institute a carbon lens, however, and the City willing to consider and address equity concerns, but it wasn't created with an equity and justice lens…Because it is a consult process and it's done from the top down, I think there's a lot of missed knowledge of what injustice looks like in our community and what vulnerability looks like in our community.

In short, this sub-category indicates that marginalized group (low income, racialized people and people with disabilities) are being systematicly excluded from the process of

consultation because of technological and accessability issues. Moreover, in some instances that they were included in the process of consultation, according to the social justice advocates, it was done only for the purpose of some little boxes being ticked and not being done in a meaningful way. They also pointed to the damage that can be done to the vulnerable people after being consulted and then their voice being ignored.

7.2.2 Equitable climate policies based on human-security framing of vulnerability

The second main category of this chapter was also created based on the gap I came up with in the content analysis of the documents produced by the City of Kingston (Chapter 6). The result of document analysis of chapter 6 suggests that the City of Kingston's climate policies are mostly focused on decarbonization to mitigate the climate change impacts. In the other words, it suggests that the City has adopted a broadly scientific approach to climate vulnerability that focuses primarily on reducing the GHG emissions. As a consequence, the documents produced by the City of Kingston arguably overlook the importance of human-security or contextual framing of vulnerability.

As stated in the theoretical framework chapter of this research, present day vulnerability is created through overlapping socio-economic and environmental processes that must be addressed to reduce vulnerability in the future (Hopkins 2015; Burton et al. 2002 cited in O'Brien et al. 2007). Since climate change is already impacting people, particularly people with lower socio-economic status, this research suggests that the climate policies should incorporate the most vulnerable population's need into their agenda to achieve climate justice. As Taylor et al. (2022: 5) maintain: "climate justice is concerned with linking development and human rights to safeguard the rights of the most vulnerable, through attention to distributive, procedural and recognitional justice." They argue that

"justice and rights-based approaches aim to address social inequalities and processes of discrimination or exclusion driving vulnerability… by promoting meaningful participation of groups often excluded from decision-making processes and paying particular attention to how climate action can support the rights of these groups" (5). Based on this perspective, vulnerability can only be reduced by considering the social contexts in which climate change occurs to enable individuals and groups to better respond to varied shocks and stresses. On this basis, contextual interpretation of vulnerability emphasizes on "the need to mitigate vulnerability on the basis of equity and justice" (Adger 2006). In this regard, Kelly and Adger (2000) argue that any analysis of vulnerability must consider the "architecture of entitlements" which is the social, economic, and institutional factors that influence levels of vulnerability within a community or nation and promote or constrain options for adaptation (O'Brien et al. 2007). To further our understanding of these dynamics, semi-structured interviews with social justice advocates investigated their experiences and observations on the City's interactions with vulnerable populations around four key themes:

7.2.2.1 Addressing present day inability to cope with external changes

In relation to the support that the unhoused population need to receive for reducing the impact of climate change on them, Sister Frances pointed to the help they need in terms of their addictions, clothing, warmth, meal programs and housing within the city. She mentioned that Martha's Table and Lionhearts and the two Church lunch programs by George and St. Mary's Cathedral as food services that try to increase food security within the community. In addition to them, Sister Frances pointed to the food bank as "a mainstay, except it's very hard for people to get to the food bank if they don't have

transportation." However, she highlighted that these supports are helpful, but self-empowerment should be the ultimate goal. In addition she pointed to the importance of providing people with affordable housing, food scurity and basic income:

> I do believe our governments on all levels, municipal, provincial and federal are starting to see how some of these all links together… by increasing life skills in helping people beat their addictions helping provide affordable housing. I would say increasing cost of living is killing all of the vulnerable. You … wonder with the cost of heat, food, electricity, how as a society we are ever going to change the whole picture…. I think collectively we have to try to come up with some better policies for that and I think the city of Kingston may be one which has gotten the message and has begun at least to try to integrate…If we could work together better at all levels, that we could turn the whole climate catastrophe around in 10 years, and if we don't, then it's going to be too late.

Dr. Milloy pointed to the fact that society took too much agency from people who do not have money and assumes that they do not want to have choices in their lives. He asserted that it is important that their voice be heard, and they be able to speak on equal level with the City about what they need and is important to their lives. He also highlighted the importance of life experience and said:

> When you give actually people impacted the opportunities to contribute meaningfully on their terms, rather than just being tapped into a process, you get new information or information that is new to the people making decisions. Otherwise, you don't have that lived experience.

Sister Frances also provided an applicable suggestion in regard to using the lived experience of the people who were already in a vulnerable situation and lifted themselves up. She said:

> One key thing is to identify any survivors who have come through the various programs who have turned things around for themselves. They still have the experience of being totally vulnerable, but they also know something about the systems that can be used to help people get out of that…. To begin, having some dialogue there [in the Bell park], that would be very very difficult, I think. But someone who's had that experience themselves could be extremely valuable. And I would like to see that happening more and more instead of just the leaders of the various groups that are trying to support the vulnerable. I mean, they will have

> some insight to because of the experience of working with people but it would be great to be able to find some who have actually been able to improve their lives, using whatever supports are there….Those are the people with the actual information that we all need.

One of the themes that came up during the interviews were the issues that people with disabilities face in moving about in the city, especially during the intensive climate events. In this regard, Dr. Milloy emphasized on disability as a barrier for enjoying a smooth transportation which can affect all other aspects and activities in life and needs to be addressed by the policy makers:

> Our streets and sidewalks are not necessarily laid out for being able to be used by people who are rolling or walking or have mobility impairments during the winter and our storm events, again, are becoming more frequent ice, flash freezing type stuff, all these things, and so there's going to be an impact there and how people are able to move about in the city, which also connects to all these other things about whether you can get food or whether you can connect with relatives, right.

He also pointed out gender as a variable that can excerbate climate impact on women as they age and experience financial difficulties:

> Women in our community are more likely to age in poverty. And that certainly determines what kind of home you live in and whether it's going to be protected if it gets to be 40 degrees for a week. There are a lot of intersections issues relating to climate now and in the future.

Consequently, the social justice advocates accounted the most important needs of vulnerable people in terms of affordable housing, food security, clothing and warmth, transportation and helping them with their addiction. Aligned with the previous sub-categories, the needs of the most vulnerable can be related to inequality in financial status which can be solved by providing them with sufficient income. This sub-category is related to the argument that climate change does not affect all people equally. In the other words climate policies should consider the differentiated impact of climate change on

different social groups. So, although scientific framing of vulnerability and reducing the GHG emissions is important, the present day inabilities of people in coping with the impact of the climate chage should also be taken into account to develop climate just policies and plans.

7.2.2.2 Addressing affordable housing crisis and shelter issues in Kingston

Dr. Milloy also pointed to the Integrated Care Hub and their amazing work in helping unhoused people to deal with trauma, build community in a safe place, and provide them with food and social activities. He also mentioned their impressive work in saving so many lives specially of those who use substances by their harm reduction efforts. Additionally, Dr. Milloy mentioned the tiny cabins as a creative way of housing people which has good potential. However, he criticized the policies which lead to commodification of housing and said:

> Neither of those things is enough, and what people who don't have housing need is homes and income to stay in those homes… One of the biggest things I've learned on an issue of inequity is our entire housing model, in terms of what needs to be done in the public sphere. You will hear this from … people [that it] is supply based,… and that's nonsense, [it] is not a supply problem….25% of homes in Ontario last year were bought by somebody who already owns a home. By just focusing on supply, you're again investing in the people who already are doing very well in this insane housing market, which is people who build homes for profit. And you're not investing in the needs of communities. You're not investing in housing. You're just creating more commodities for capital.

Mr. Swift also criticized the Kingston senior levels of government for approaching housing as a commodity and something that can be sold on the market which led to the current housing inaffordability and market failure. He highlighted that:

> Markets are incapable and not interested in providing people with decent, affordable shelter here in Kingston. You'll have to look as recently as the city's Task Force on housing which came out with supply side approach to housing, ie stoking the market making it easier for private sector developers to build housing

> without reference to affordability and that I think is a sign of the times and the political tendencies right here in Kingston.

Dr. Milloy stated that the City has a structural problem:

> A lot of the most controversial local issues do tend to be about development market… the climate crisis now in these struggles… is used like the Bible, like you can just take anything you want here to get to us to support any argument. Like we have to build this because of the climate crisis. You can't build this because of the climate crisis that happens on every development. Right? And so I think that highlights …a problem about where capital and resources and power are located.

However, Dr. Milloy highlighted that the City's hands are tied by what the private development and the Federal Housing Strategy and provincial housing work does:

> We haven't built affordable housing in Canada since the mid 90s. And so the city is limited to what it can do and also the city is limited in what it can do from the demand side because you know, we've also since the mid 90s, completely slashed anti poverty measures social insurance rates whenever you look at… [however] at the end of the day, the city is not meaningfully challenging or divorcing itself from the notion that our housing problems is a supply side problem. And every time there is a development in our community that is controversial from a climate perspective from a neighborhood perspective, from a quality of life perspective, we always get told, well, this is a housing crisis. I get told that on the tannery property all the time I said you're building 1500 units, none of them are affordable, let alone social housing. And so this is not a you know, an intervention into the housing crisis.

Conclusively, lack of affordable housing was introduced as an outstanidng issue by the social justice advocates which created by the fact of approching housing as a commodity. This issue led to the current housing market failure and unaffordable housing problems in Kingston and Ontario.

7.2.2.3 Adressing the food security issue

The other issue that can be worsen by climate change is food insecurity. In response to the question that whether climate policies can be effective in addressing the food

insecurity Dr. Susan Belyea believed that there is no way out of food security issues "without a radical restructuring of global capitalism". She stated that no climate mitigation strategies is enough to address the issues around food security. As she argued agricultural, technologies and more local food are all good for the environment and for the people that afford food. However, non of these plans and actions can solve the problem of "people who are actually living with food insecurity, what they need is more resources to be able to access food." Her ideas is related to the arguement that climate change affect different people differently, and people who bearing the brunt of climatechange while contributing the least in creating it are ironically benefitting the least from climate policies. As Dr. Belyea explained:

> We know that flooding the market with food doesn't bring the prices down. [The rise of prices has] been slow and steady for a number of years and now kind of rapid and steady. We're not going to see them go down significantly, maybe on a few items, but once those are the prices I think those remain the prices. So I don't think that supply like creating a better agricultural supply and agricultural technology, I don't think they would be adequate to actually address food insecurity.

Conforming what Dr. Susan Belyea said Ms. Fyfe maintained that:

> I don't think it's just a matter of if we had more food, the price will go down. I don't think that's true. My concern is people are not having enough food because they can't afford to spend $2,000 a month in rent. And that's not even for that great place. You know, I don't know how people are expected to live on Ontario Works and on Disability, when good luck finding anything for under $1000 a month in Kingston. And we keep acknowledging Oh, there's a housing problem…I don't understand why this can't be addressed.

Mr. Swift also confirmed the above-mentioned ideas and pointed to research that he had done with his colleague and friend Dr. Elaine Power and their book about basic income. Based on this research he asserted that:

> [It is a] fact that soup kitchens meal programs, food banks do not address the fundamental problem [of food affordability]. The fundamental problem is people do not have the money to participate in the market. The market is the market for

> food. It's run by supermarkets and controlled by large international, integrated global agribusiness firms. You're not going to get at the solution to that kind of a problem without addressing the issue of the fact that people do not have enough money to participate in these markets and as I said before markets that are often failing.

Ms. Judy Fyfe regarding the necessity of considering justice and equity and the increasing number of people who cannot afford their food said:

> I'm fearful that society is going to think that it's just acceptable for people in that income bracket or lower…. It really feels like there's just this stretching out of polar live streams. It's gonna be those living in complete poverty, reliant on charities for food, and those who hold all the resources. And I just think it's going to be exasperated as the costs go up … St. Vincent DePaul, and I started 10 years ago, [used to] serve 40, 65, 80 meals a day, which was a lot, but it was manageable, but last Monday, we served 348 [meals].

In sum, the food security issue is closely related to the afordable housing issue, and therein related to a lack of sufficient income. As the social justice advocates who participated in this study pointed out, food insecurity will not be solved with producing more food because the problem is not related to the supplies of food, but is related to unjust distribution of wealth and resources in the society which leave many people with the issue of not being able to afford to eat enough food.

7.2.2.4 Addressing the issue of equity and justice in climate policies

This sub-category was created based on the contextual approach originated from a human security framing O'Brien et al. (2007) and led me to assess the extent to which City officials acknowledge the importance of equity and justice when tackling climate vulnerability. Dr. Milloy raised the issue that climate change is a justice problem rather than a technical problem and needs to be considered from equity and justice perspective:

> I don't believe that climate change is a technical problem, and it is in some senses a scientific problem, but it is to me… a structural economic problem of capitalism, and injustice that produce the climate crisis, that we are not able to

> sufficiently address it without addressing the domination and exploitation of a capitalist system in terms of how it treats the planet and people of the planet.

He also criticized the the City and its Climate Action Plan for not "sufficiently confirming the role and power of organized money in our community, causing climate crisis and preventing us from acting." He emphesized that he does not expect people to "massively transcend the structures they work in". He emphasised that structural change is necessary, rather than simply having the right people in positions of power. However, he maintain that:

> This is a climate emergency. This is a civilization level threat. This is the biggest issue of the century. I do not think that the Plan, and this is an observation more than criticism, sufficiently confronts the role of private capital in our community of creating climate crisis…. The Plan's outlook is that the system we have works okay, and needs some tweaks, to respond to the climate crisis, which is the position by most governments around the world… However, I do still think that that's a problem. And so I will raise it. You know, the fact is, like with that piece about the home energy retrofits is because there is not the will or the ability to sufficiently engage private rental and construction capital in fixing their homes.

As Dr. Milloy stated there is a gap in adapting a justice and equity lens in Kingston Climate Leadership Plan. To support his argument he pointed to "the piece in the climate leadership plan about exploring deep energy retrofits for institutional and apartment buildings was we will look into it between seven and 20 years from now" and explained:

> I looked at that piece and I said, right now, the biggest push to where the money is to reduce emissions in our climate leadership plan, is in energy retrofits, which is fine... That's where the most emissions are. Although we can talk about engagement with the private sector and their responsibility for emissions. The biggest emitter in our community has not been meaningfully engaged in that justice piece for me. But ok! Energy, home energy costs, perfect. However, it's completely targeted and funded at people who own homes…. So people with the most ability and the most knowledge and the most time and most contacts and most ability to navigate the system are being privileged.

He also confirmed our observation which indicated that it is not entirely self-evident how to buy, when to buy, how to have some money upfront for the evaluation of your home

etc. and said as “a PhD who works in the field” I found it so complicated to do all the application process with the federal government and then get back to Sustainable Kingston (the local implementing body). He also criticized this program in terms of efficiency and said:

> You know where the most bang for your buck is gonna go? If you have one building that has 500 people that are doing it versus doing it with 500 people for one house at a time. Do the math! So I literally was thinking that when I said how is there an equity lens here and that's what they pointed to and I was like wow, we are on very different pages.

Dr. Milloy pointedto two initiatives as examples where the City can do better in adapting a justice lens in its policies and plans than what has already been done. As the first example, he pointed to the Kingston-Toronto flight and the City’s advertising campaign promoting the decision by saying that it is the best the solution for the stressful driving from Toronto to Kingston on 401 with all that traffic. He highlighted that this decision privileges “emissions for those people who can afford to fly from Kingston to Toronto, which very few people on community and that's a realistic expense… and it's devastating for the climate , now we have a direct train.” As another example he pointed out the City moving ahead with “supporting a private proposal to build offering for cruise ships… on the the former pole ducks near Portsmouth.” He criticized this decision and said:

> We hope that we can do everything the same way and build an economy around the consumption of the wealthy and somehow hope that that's not going to rebound negatively, is everybody else going to have to be asked to do more or suffer more. Because we weren't really serious about maybe not letting money do whatever money wants…, and I've certainly heard too that they will be a more “environmentally friendly” cruise than another cruises (laughing).

In response to the question that how she views energy retrofitting program and solar panel systems Dr. Belyea believed that it is a “complicated process for the average homeowner to engage.” She asserted that :

> It is kind of gotta be a full time job to figure out how to get the audits, how to get the rebates, how to find the workers. There's no workers right now. How to find people that actually do the retrofitting for you, money up front, maybe you'll get some of it back, but it's all really unclear. And I've looked into it for some neighbors.

7.3 Findings of the semi-structured interviews with City officials

In this section I present the result of my interviews with the City of Kingston's officials and staff whose work is directly or indirectly related to climate policies and vulnerabilities. In doing so, I aim to uncover whether present policies and plans adequately represent the needs and perspectives of vulnerable groups. In other words, I seek to understand whether the result of the interviews with the City of Kingston officials confirms the justice and equality deficiencies which was uncovered in the document analysis of the previous chapter and semi-structured interviews with the social justice advocates.

7.3.1 Demonstrating an explicit sensitivity to the idea of vulnerability in the face of climate change

By creating the first main category I investigate to what extent City officials are sensitive to the vulnerability of marginalized groups in the face of climate change. In this regard, three sub-categories emerged under the first pre-determined category which include:

7.3.1.1 Identifying vulnerable groups in terms of climate impacts

In response to the question of which groups of people are the most vulnerable in the face of climate change in Kingston, Councilor Kiley pointed to eight groups including "homeless people, elderly, people with disability, illegal immigrants, poor people who don't afford heating or cooling equipment, people who has dependency on drug and

alcohol…urban agriculturist [and] indigenous folks." The other groups Councilor Kiley mentioned are urban agriculturists who "might rely on more predictable climate, especially around precipitation for growing food getting into market." He also pointed to people who are connected to the lands like indigenous in ceremonial terms as groups who are vulnerable to climate change. However, among all Councilor Kiley highlighted "unhoused population" as the most vulnerable.

Additionally, Ms. Borris highlighted the unhoused populations as the most "susceptible to what's going on with the weather and climate and the longer and harsher winters and the much hotter summers." Similarly, Ms. Ruth Noordegraaf in this regard said, "the elephant in the room is obviously homelessness… [and] just like every city right now we do have people that unfortunately are homeless."

In short, aligned with the findings of the social advocates interviews, the City of Kingston officials also pointed to people who are marginalized in any way, specially people who live in poverty and unhoused people as the most vulenrable groups in the face of climate change.

7.3.1.2 Acknowledging the primary causes of vulnerability to climate change

According to almost all City officials, homelessmness, lack of financial support, and inequality are the greatest influencers that exacerbate climate vulnerability. For instance, Councilor Kiley highlighted "unhoused population" as the most vulnerable, because their situation is "potentially life or death situation based on the changing climate." He announced their number around 400 people according to official data, while he mentioned that this number "is probably fewer than what is the reality."

However, Councilor Kiley explained that not having a roof over head for some of the unhoused population is by their choice because “the shelter system that exists or the support city has, or other groups have, don't meet their needs.” According to Councilor Kiley the issue that this unhoused population face is due to extreme weather events like extremely hot and cold days which can be potentially deadly for these people.

Ms. Noordegraaf also aslo pointed to “lack of affordable housing … combined quite often with some health related challenges, substance use, like drug use, or other substances” as the most imortant factors that intensify climate vulnerability.

Lack of financial resources or poverty is another important factor that increases climate vulnerability according to participants of this research. For instance, to provide an example to demonstrate how poverty can increase the vulnerability of people in the face of climate change Councilor Doherty pointed to a map from the World Bank and explained:

> [The map] shows you the displacement that's anticipated from the World Bank to happen by 2050. What is really interesting in that map is of course, most of the displacement is in the south. But Australia and New Zealand, have no displacement. Not because climate change isn't happening there, but because they’re rich. Their rich western countries. It's all about money and inequality.

In this regard, Ms. Borris also pointed to financial problems some people face to heat their home, fix a broken furness or increasing electricity rates or woods even to burn fires and that might render them homeless because their home becomes inhabitable. So according to her, climate change impacts every single member or marginalized group of a population.

Finally, inequality was highlihgted as another factor that exacerbates climate vulnerabilty. For instance, according to Councilor Doherty, a lack of financial resources

and inequality are “deeply mashed into the challenges with climate change.” She asserted that in addition to extreme weather events, climate change leads to some other issues such as food prices which is hard on people with less finacial resources. Councilor Doherty also pointed to a lack of finacial resources as a problem which does not allow some people to buy an air conditioner, which, due to increasing temperatures in Kingston, is increasingly hard to live without in recent years.

The other issue that affects people in the case of heat waves in summer, according to Councilor Doherty, is “tree inequity”, which is again related to lack of financial resources and is a problem in poor neighborhoods while the wealthy regions of the city are very well treed.

Ms. Judy O’Leary also expressed the same concern and pointed to CDC and BC webinar on the correlation between income and death in the climate extreme events and said:

> If you're ever looking for more data on the heat dome, there was the CDC and BC who did a grand rounds webinar shortly after and they presented some really interesting correlations between who died and two things, the income levels or neighborhood and the number of trees. And then again, the number of trees depends on the income level as well. So there was a incredibly strong correlation between income and deaths in that horrible event.

The findings of this sub-category also confirms the result of the similar one in the social justice advocates’ interview section. As one of the participants stated that lack of financial resources and inequality are deeply mashed into climate change vulnerability. Inequality in distribution of wealth and resources is the primary reason that does not allow the underprivileged to participate in the market in order to satisfy their needs in terms of housing, food, warming and cooling, clothing, health and all other basic needs that safeguard people from climate change impacts.

7.3.1.3 Including vulnerable population voices to become aware of their needs

The question here is whether the City of Kingston has strategies in place to hear the voices of vulnerable groups in society so as to be informed of their challenges and needs. In response to this question, City officials were clearly more optimistic than the social justice advocates. As the City officials expressed, they are aware of the neccessity of hearing vulnerable voices and doing their best to accommodate their needs.

For instance, in response to the question that whether the Housing and Social Services Department in the City of Kingston include people who don't have access to technology Ms. Borris said that they consider not only people who have difficulty in accessing to the technology but also people who are poor in the sense of their literacy levels, and cultural understanding:

> So that means that we are having focus groups, we're doing surveys, we're ensuring that people are compensated for their time if they're willing to meet with us to vote in that focus group. We make sure that clients have a number of different ways to reach out and connect with us. And then we make sure that there's actually staff on site so that we can have those in person conversations and get the feedback directly as well. So there's no length we'll go to to try and ensure that everybody has an opportunity to have a voice.

Moreover, in response to the question of how the goverment can include the voices of vulnerable people, specially those who do not know of or feel comfortable participating in the consultation processes, Councilor Doherty highlighted the importance of hearing people's life stories and using them to adjust the policies. She explained how she once took a single mother who was experiencing energy poverty with her to the relevant minister to tell them her life story about the pressure of paying the rent and heating her home. This led the minister to change a policy. She added that "it's really important … to get on ground and listen to people."

However, Councilor Kiley asserted that the people who were engaged in the consulation events were largely from white middle class. As Councilor Kiley suggested:

> That is in part … because of the demographics of the city, and also because there hasn't, to my knowledge, been that kind of explicit marrying of the two considerations in Kingston again, with no malicious intent; but just the reality that perhaps until recently, that hasn't been something pursued by the city or maybe even by activists.

In conclusion, this subcategory indicates that the poilcy makers are more optimistic than the social justice advocates, in terms of their effort to include the voice of the most vulnerable in the process of decision making. However, as Councilor Kiely states, consultation processes have historically mostly included white middle class people. It suggests that marginalized populations have mostly been left out, although unintendedly, from consultation proceses. This leads to their voices and needs not being fully considered.

7.3.2 Equitable climate policies based on human-security framing of vulnerability

The second main category of this chapter was created based on the gap that I found in the content analysis of the documents produced by the City of Kingston (Chapter 6). That content analysis suggested that the City is overly focused on decarbonization to mitigation the climate change. As a consequence, the documents produced by the City of Kingston arguably overlook the importance of human-security or contextual vulnerability.

On this basis, to find out whether the human security framing can be detected in the Kingston City officals plans and policies, one of the main questions I posed in the semi-structured interviews was that whether City officials are considering the differentiated impacts of climate change upon distinct social groups. Underneath this main category I

investigated how much the municipal government is responsive to the needs of vulnerable population in the face of climate change and what kind of public programs exist to mitigate their needs.

According to the previous main category “unhoused people” and “people with finanicial needs” are ones who are bearing the brunt of climate change without much contribution which raises the issue of “double injustice.” Under the second category, I investigated how City officials are approaching the issue of affordable housing, poverty and food security as important vectors of climate change vulnerability. In other words, I seek to shed light on how much the City acknowledges justice and equity in their climate change adaptation policies. The analysis of the semi-structured interviews resulted in creation of six sub-categories under this main category, based on a combination of inductive and deductive coding, which include:

7.3.2.1 Addressing present day inability to cope with external changes

The first sub-category under the human security framing of vulenrability main category is whether the Kingston local officials address the present day inability of vulnerable peoples to cope with external changes and what plans they have to do so.

The main action highlighted in this section by the City officials to reduce climate change vulnerability was building “warming and cooling centres” to protect people from extreme weather events. For instance, Councilor Doherty stated that in this regard, the City responds to crises like neighborhood problems, which is complaint driven. One reason for this is that, according to Councilor Doherty, there is much financial pressure on this file. The other reason is that some Councilors do not want to spend any more money on poverty issues such as the Integrated Care Hub or on the sleeping cabins. So although the

City staff are very caring and aware of the need in this area, they need approval from Council for spending more money on them which is not necessarily guaranteed. However, they do some other possible things like “keep the hours of the libraries open longer.”

The other City official who mentioned the solution in this regard was Ms. Borris who said that her department tries to ensure that they have supports in place for people who choose to live outside of the shelters ahead of the season “to either warm up or cool down and to be safe from bad storm or whatever the case might be”. Based on Ms. Borris interview City of Kingston intention to embeded climate change concerns into its policies and planning. She pointed to the two major ways that her department tries to achieve this goal. First, perpetuating weather extremes and colder snaps providing access to warm spaces and second, perpetuating extreme heat by providing access to cooling stations in the summer. In regard to the City of Kingston’s plans for providing more cool spaces, she explained:

> Nothing has been decided by Council yet but we're in discussion around ensuring that we are able to have spaces for that. The City Hall and the librarys are open as well in this summer as cooling stations. And our street outreach workers are always carrying cases of water around for individuals who live out in the rough and are providing all of those pieces so definitely an eye to ensuring that our individuals are not as impacted by climate changes that they shouldn't be.

Councilor Doherty also pointed to the need of cooling and warming centers for unhoused people and also for people who suffer from energy poverty. Additionally, Ms. Salter-Keane mentioned the warming and cooling satations in the winter and in the summer and said:

> So we have the temperature which does get very, very hot. You know the vulnerable populations do not have a place to go there. They are able to come into City Hall for one, and we've worked with the libraries and the health unit who

> will post that these cooling stations are available for individuals to come in and cool. So those are some of the simple ones and easy ones to implement.

The other point related to the present day vulnerability that came up in the interviews with the policy makers was the tree inequality. For instance Councilor Doherty recalled to the time she did door knocking and mentioned how she learned about the phenomenon of "tree inequality":

> In the richer areas I stood under the coolness of the trees. In the poor neighborhoods in social housing areas, there were no trees and in some of the social housing areas, people paid for their cooling and heating as well. And as I was on the Kingston Frontenac Housing Corporation, and I brought that up. We need to plant trees.

Also, Ms. Salter-Keane pointed to heat mapping and planting trees as an effort to find equitable solutions and said:

> When it hits 35 Celsius and I can go home and sit underneath a tree air conditioning, where that lone vulnerable population they don't have any choice or any chance of doing so… And so over this we're working with students from Queen's and our forestry department and our GIS department to map heat islands more or less and that's like one thing about equity like, you know, the idea of everybody should have trees and and when you start mapping areas of the city where there's trees and no trees, it really becomes an equitable component as well. So that's one of the first steps where we're from our perspective of nature based solutions is a heat mapping.

In sum, according to the City officials, providing cooling centers, and warming centers and increasing the tree canopy are three main actions the City considers for decreasing the present day vulnerability of marginalised people in terms of climate change. Another theme that emerged under addressing the present day vulnerability is regarding the Kingston public transportation. In this respect, Ms. Noordegraaf also pointed to transportation facilities for supporting the vulnerable community with access to transit:

> There are clients who are in receipt of social assistance, they also are able to receive a free bus pass, we also have a program called the municipal fee

> assistance program, which is if you're a low income worker, but you're under a certain amount of income, you can also get a reduced price for transit pass.

Additionally, Kingston public transportation was highlighted as progressive by Ms. Judy O'Leary the Network Coordinator of Climate Caucus. She mentioned that interstingly one of the counselors in Victoria brought some of the work done in Kingston on transit to Victoria. According to Ms. O'Leary "[He] managed to get free transit for children and then managed to get that promoted through BC." In response to the question of how the policies for reducing the emissions in the transit area can consider the needs of the most vulnerable groups in terms of transportation Ms. O'Leary said:

> The active transportation tends to be more, again, on the well-off people that can afford to run out of bicycles and take their time to do that. So I think the focus area would be transit, better transit, cheaper transit, and we've seen some really interesting things for some of these for smaller communities, but also midsize to some developing on demand transit.

She also mentioned other initiatives to support lower income vulnerable people in transit:

> Some communities have actually partnered with Uber and that was Innisfil, Ontario. They partnered with Uber and local taxi companies to develop some on demand transit. And that definitely was geared to, I would say more lower income vulnerable people looking for ways to get to work that didn't involve street transfers.

Affordable transit for vulnerable people is important as it is related to all other activities of people like buying food, visiting other people, or commuting around the city for different purposes, etc. Accessible and affordable public transit also can reduce the vulnerability of people with disability. It is also an important step in reducing the emissions. The interviews suggest that Kingston is a progressive city in terms of providing affordable transit compared to other mid-sized cities in Canada.

Another issue that can be impacted by climate change is food insecurity. In this regard Ms. Salter-Keane had a positive view and pointed to food security initatives in Kingston

Climate Action Plan and said “we have a lot of food security and availability of local foods [there]….which I know certainly through our housing and our cultural recreation groups are already looking at that from food security, but we'll be looking at it from a perspective from the climate action as well.”

7.3.2.2 Addressing affordable housing crisis and shelter issues in Kingston

The next main category that emerged in regard to considering the needs of the most vulnerable people in terms of climate change was the affordable housing crisis and shelter issues in Kingston. In this regard, Ms. Borris named some of the financial supports that the Housing and Social Services provides the community, such as jobs, employment programs, and life stabilization supports. She also pointed to other services to save people form being homeless:

> On my end, things on the housing and homelessness side, we have the service manager, meaning that the Ministry of Housing and affairs has downloaded funding so that we oversee the homelessness programs within the City of Kingston, and we work under a housing first model, which means that we have street outreach prevention diversion to try and keep people from becoming homeless. We have emergency shelter systems, rehab housing first programs to try and get individuals housed and assist them in stabilizing that housing. And then we have some small financial pieces housing prevention loss fund, where individuals who might be behind on some rent or utilities can apply for a one time financial grants to be able to, hopefully prevent them from becoming homeless.

Also, Ms. Noordegraaf, in response to the question of what policies and plans exist to reduce climate change vulnerability, asserted that she does not think that the City is doing what it can. However, she pointed to a few things that, in her opinion, the City is trying to accomplish such as Social Housing which, according to her, “need some investments to really bring them up to the current standard.”

Additionally, in response to the kind of facilities or plans that the City provides to tackle the vulnerablity of people in terms of climate change, especially those in need, Ms.

Noordegraaf pointed to requirements in place for the developers to make sure new developments are high-quality in terms of infrastructure, comfort, and energy use efficiency.

Despite all the efforts that the city officials do to take the needs of the most vulnerable people into account, there are some gaps and shortcomings detected in Kingston in terms of affordable housing. In this regard, in response to the question as to whether specific policies or mechanisms are in place to consider the needs of the most vulnerable population, Councilor Kiley believed these are "not as robustly as there should be." He explained that although the City provided some services like shelters for the unhoused people, many of them prefer to camp in Bell Park rather than staying in the shelters and he considers it as eye opening observation to become aware of, as he maintained:

> From a policy perspective, what have we structured in the wrong way that keeps them out there are really important; answers like, you can't partner up in the shelters, you can't have animals…. So I'm seeing that shelter review is going to come back and hopefully change policies that would incent people that when they're especially vulnerable or especially in need, with extreme weather, for example, they would feel comfortable and safe going into the places that we do have and that are actually there in numbers; because often presented especially in the media that oh, there isn't a space. There is, but the people don't want a space that is available. So that's a problem, at least from my perspective, because what's the point of having if they're not using it?

7.3.2.3 Addressing the issue of equity and justice in climate policies

Based on a contextual approach influenced by political ecology, vulnerability is not simply quantifiable based on biophysical factors alone and social and economic factors should be included (O'Brien et al. 2007). On this basis I pushed further to understand the degree to which the City officials acknowledge the importance of equity and justice to tackle climate vulnerability.

In this regard Councilor Kiley acknowledged that climate change "considerations need to be baked into everything we're doing… but it hasn't happened yet. So the structures are changing to allow that to occur." He also pointed out that the City has hired a Manager for Equity, Diversity and Inclusion by the City of Kingston in 2021 for the first time and this is one of the structural changes that has happened as a sign of acknowledging the importance of equity and justice issues in technical solutions.

Additionally, Councilor Doherty asserted that climate change and inequality are not two seprate issues, but it is one complex crisis in which "inequality is very deeply mashed into the challenges with climate change." As an example, according to Councilor Doherty, "when it comes to extreme [heat] people can go out and buy an air conditioner ,and they're fine, or people who already have air conditioners [are fine]. But people who can't afford air conditioners, that's a problem." She also pointed to the issue of "tree inequity" in her district, wherein trees are mostly planted in more affluent neighbourhoods, which is an eye opening example prove the importance of human security framing of vulnerability to climate change. She told of her memory of door knocking as:

"In the richer areas I stood under the coolness of the trees. In the poor neighborhoods in social housing areas, there were no trees and in some of the social housing areas, people paid for their cooling and heating as well. And as I was on the Kingston Frontenac Housing Corporation, and I brought that up. We need to plant trees. So of course, there's people who don't have the financial resources. You don't have to be poor necessarily to have not the financial resources to buy an air conditioning. They're not cheap."

In the interview with Ms. O'Leary, we mentioned the tragic loss of life that was highly concentrated amongst certain segments of the population in cities like Vancouver because of extreme heat. We asked if there was a need for analysis of vulnerability rather than just

focusing on resilience. In response, she noted how far the idea of marrying climate change and social justice has come:

> It has changed unbelievably. And we're only started in 2019. And in 2019, even early 2020, when we tried to raise equity, climate justice issues, [some people were like] no, no, you guys gotta focus on decarbonisation. And now we're seeing a huge change in thinking and I think part of that is also in 2019- 2020. We've heard people saying, Yeah, we must get ready for climate change... And now all our members that we talked to say it's right here in my backyard, what can I do about it? It's been a huge change in thinking and so certainly in our work, we think it's absolutely integral. We can't just look at decarbonisation without looking at justice, planetary boundaries. And you'll see on our handbook, we've got a whole section on climate justice… but I don't know that it's percolated down to too many climate plans. It's getting they're starting to see it in there.

In response to the question of whether the City of Kingston considers social equality in its efforts to transform the energy system – such as taking the energy poverty and vulnerability into account – Councilor Doherty pointed to the group Kingston 350. According to Councilor Doherty this civil society group's current project is to collect the savings from municipality owned solar projects and redistribute some of the profits among low income people. However she mentioned that it is a tough job, and still there is no straightforward answer for how they can benefit the low income people.

7.3.2.4 Considering the differentiated impacts of climate change upon distinct social groups

Analysing the differentiated impacts of climate change upon distinct social groups is extracted from political ecology theory. In this regard, Councilor Doherty's words affirmed the fact that climate change does not affect everyone similarly, and money is an important variable that can fix the energy or housing problem for people that do not face financial difficulties, however those in need will suffer the most. She pointed to this fact on the mega level as well and said:

> There's a map from the World Bank. I forgot the year the map is from. But it shows you the displacement that's anticipated from the World Bank to happen by 2050. What is really interesting in that map is of course, most of the displacement is in the south. But Austria and New Zealand, have no displacement. Not because climate change isn't happening there, but because they're rich. Their rich western countries. It's all about money and inequality. Yes, old people will suffer but only those who don't have enough resources.

Ms. Noordegraaf mentioned that although the City staff want to help other people, sometimes their hands are tied owing to current regulations and practices. She also acknowledged the fact that there is no one and the only one solution that can serve everyone's needs "because we are all different and we all need different programs and models." But at the same time she asserted that it is not possible to add too many solutions to the system by saying that:

> What I find really challenging as a city staff where I know we are providing services, and it might be individuals that don't feel like that service for them is an adequate solution. But… [we] cannot add like 100 different solutions to the system that's going to be incredibly expensive and hard to manage…. so you … get to a point where it's like, okay, I know it's not perfect solution, but it's a solution for you now and we're helping you get into a better solution. You don't want to be very patronizing, but ultimately, at some point, like if you have shelter beds avalible, let's say but you may not feel super comfortable in a shelter setting but it's fine for now. And it's a few days or a few weeks and then we get into another housing solution.

7.3.2.5 Bureaucratic and political barriers in the way of climate justice

The result of this analysis indicates that a lack of financial resources – alongside a lack of prioritisation – is an impportant barrier in the way of addressing climate vulnerability in an equitable way. In this regard Councilor Doherty stated that the council at the time of this study has been mindful of climate change and also there were counselors who care

about poverty and some of them care about both poverty and climate change. However, she complained that there has not been enough financial support availible recently for tackeling these kind of issues and said:

> I was heavily involved on energy poverty during the Green Energy Act. So, we really had a lot of support in the past. Like before Ford we had the provincial and federal funding for these kinds of programs. But as soon as Ford got elected, he got rid of that. It wasn't part of his strategic plan (Laughing).

Ms. Noordegraaf also pointed to the limitation in fundings as a problem which make them to prioritize:

> We are always very mindful of the funding that we got … I think the quality of housing through the lens of climate change and adaptation is definitely something that we're very aware of, the funding that's coming to us federally and provincially, also has those very specific expectations for investing money and investing units, so they stay as much as possible up to date… We have new housing projects that have come online, so really we have more support services in place.

Ms. Noordegraaf also asserted that her department is not well equipped to support the most vulnerable population in the face of climate change:

> From a climate change and adaptation, we are certainly seeing people that are in precarious situations…. We're not that equipped to deal with supporting our most vulnerable population… we do need more emergency housing and more sustainable housing solutions to support people but that really goes hand in hand with having additional support services in place.

Councilor Doherty also criticized that "energy has become so politicized." She also expressed another concern in terms of renewables and nuclear and stated that:

> The concern I have is all of this investing in nuclear means that moving forward, they will need customers, and that [they] do not want to have people having their renewable energy, like it will be the opposite. In fact, in some jurisdictions, I have read but I forget where they're actually not just moving it away from renewable because of these reasons. They're actually pushing out… creating fees for renewable that are so expensive, because they need to protect the customers to

pay for the nuclear. So nuclear is, by far in my opinion, one of the biggest dangers for moving forward with renewables.

7.3.2.6 Justice lens in Kingston Home Energy Retrofit Program

One of the main questions of the semi-structured interviews was about the decarbonisation strategies like home retrofitting and solar paneling and how the policy makers and the City officials bring an energy poverty and justice lens in, to help shape a policy like energy retrofitting. This question is based on the fact that the people who aware of and apply for this program are mostly middle class people who are first, educated enough to navigate its complex route of applying and second, have the upfront money to do it.

In other words, decarbonization strategies like home retrofitting and solar paneling can be strongly tilted towards the middle class consumers and homeowners. The question which shaped this category is whether there is any mechanism in place to introduce or bring this program down to a level for low-income owners and renters. Equally, I sought to address whether there is a vision to resolve the tension in this program that sees the benefits of the program clustered around the middle classes. In short, I am investigating whether there is a move towards a second generation of resilience thinking in practice, which considers these cross-cutting inequalities as essential for how decarbonization strategies might play out.

In response to this quesiton Councilor Doherty confirmed “that is a weakness of the program.” She expressed her interest in working to provide the facitites of this program for “people who might be renting” and creating a “situation where renters can work with landlords”. She assesrted that “we want to make sure that this program is really utilized

for people who need the help." She also maintained that "It's early days in this program", so the programm is not finalized and the City staff are still working on it. In response to the question of what gaps exist in these policies, Councilor Doherty pointed to accessibility, ability to use technology, understanding and language and gap of trust. She also criticized the Prime Minister Mike Harris's policies:

> who poor bashed people saying that they were using the system. And I'm telling you one thing, that middle to high incomes is much more likely to use the system and take advantage of everything that's available a lot.

Finally she asserted that programs like Home Retrofit "should be for the people who need it… but often these systems are complicated, and accessibility is a problem." Moreover, Ms. Ruth Noordegraaf, regarding the more inclusive plans to pursue energy justice in the community said, "we have been able to support our social housing providers which are the landlords of kind of low income housing, with some investments into their buildings. We and again new affordable housing developments that will fund always has requirements as well to include energy efficiency and kind of some of the interventions." However, she asserted that the incentive programs are not built around vulnerable populations and are mostly beneficial to homeowers:

> I think the reality of these kind of incentive programs is that they're certainly created around the population that would own property…. I think, ultimately to your point, I think those programs right now are not necessarily inclusive to vulnerable populations. Typically, the more vulnerable populations will not be a home owner, so it is not necessarily something on their radar.

In response to the question of whether there is an intention to open up the programs like Home Energy Retrofit or Renewable Energies for more marginal populations, Ms. Borris said that the Housing Program department tries to ensure that there is a wide range of programs for a wide range of clients. For instance she pointed to Discretionary Residency

Benefits and Ontario Disability Support stating that if somebody has a home or needs the appliances they can apply to their program for funding. She also mentioned the Energy Star ratings and their funding for buying woods or oil for people who live in the country. However, about the Home Energy Retrofit Program, she declared that:

> we've looked at ways to ensure that it's sustainable in longer term means and yet we don't want to be pouring money into something that's just going to fall apart in five or 10 years…. there was a lot of discussion with sustainability Kingston about the different applications that some of our home owners or marginally housed can utilize to assist them with decreasing some of their utility costs… again, even when a lot of our individuals are housed, there aren't many leases or rents with utilities included. So utility costs are going to be a big issue.

The final question was around the issue of energy poverty in rental properties and whether the policy makers are considering providing the renters with facilities or financial support for installing solar panels as an upfront investment for dealing with the energy scarcity, as they don't necessarily have the upfront capital, in addition to the negotiation of the bureaucracy around applying for such support, as this is also difficult. So the question was that if, in a 10 year horizon, could there be opportunities to explore this opportunity with the low income rental market. In this regard Ms. Borris said:

> I don't work with the social housing program, but we have a lot of social housing units that we assist with capital costs, and I agree entirely, it's time we start talking to some of them about potentially having solar panels on the rooftops and things like that. So there are climate controls in different units. There's lots that we can start to look at. We haven't quite got there yet, but it's a good reminder that it's certainly something that we need to be thinking about. We're coming up for another 10 year housing for homelessness plan. And that's probably a good time to start thinking about that.

According to Ms. O'Leary, Toronto has done positive work in including the justice and equity piece in there climate resilience plans because "they talked about, their transform to plan is for healthy, equitable and prosperous Toronto." They put equity right up in

there…it's coming for sure, [although at first] everyone started with decarbonization… [and] got some focus on counting GHG.

Ms. O'Leary also mentioned that:

> I think in the whole housing area, part of the problem is all the retrofits stuff goes to homeowners using tax programs. So there's very, very little for renters. So if we're doing doing a project this summer, one of our students is going to work on affordable low energy housing for us. Because we saw that as a really big gap.

According to Ms. Salter-Keane, one of her department's priorities was "to develop a program for homeowners to reduce their greenhouse gas emissions, which is the better homes Kingston program which is retrofit program." In response to the question of whether there is a more systematic attempt to bring a vulnerability perspective into Kingston's climate change, based on the fact that different groups in the city are differently vulnerable to different impacts of climate change, she pointed to the Little Forest Kingston organization planting trees and said:

> So over this we're working with students from Queen's and our forestry department and our GIS department to map heat islands more or less and that's like one thing about equity. The idea of everybody should have trees and and when you start mapping areas of the city where there's trees and no trees, it really becomes an equitable component as well. So that's one of the first steps where, from our perspective of nature based solutions, is a heat mapping. So that's one really good example.

7.4 Concluding summary

The present chapter presented the results of a series of interviews with Kingston government officials and social justice advocates to better understand how Kingston's climate policymaking and planning is evolving. I first interviewed social justice advocates to provide a clearer illustration of the gaps and areas that require improvement. Then I interviewed key policymakers within the municipality. For analysing the

interviews, I utilized a hybrid coding technique which is a combination of prior and emergent coding. Consequently, I created two main categories based on the political ecology literature and vulnerability approach and the gap I detected in the previous chapter. Then after analysing the interviews a few sub-categories emerged under each main pre-determined category.

The interviews analysed within this chapter suggests that there is a clear sensitivity to the idea of vulnerability to climate change and the necessity of equitable governance and policy making in terms of climate change within the City of Kingston. However, there remain significant barriers to equitable governance. Considering the novelty of the declaration of a climate emergency and its related climate policies, there are still notable areas that needs to be improved to achieve a more just and equitable strategy. In the next chapter, chapter 8, I will provide a detailed discussion of the findings of this chapter in relation to the previous chapters.

Chapter 8

Discussion and Conclusion

8.1 Discussion

In this final chapter, I will summarize the key findings of this dissertation in relation to its main research questions and discuss the interpretation and significance of the results in detail. While acknowledging the limitations of this research, in the concluding section, I will provide some recommendations in relation to practical applications of my findings for just and equitable urban climate change adaptation policies as well as suggestions for future research in the field. In doing so I discuss the findings of the document analysis and semi-structured interviews in two sections based on the two main research questions of this dissertation:

Section 1 includes a discussion of chapters 4 and 5 which is based upon adaptive governance theory and resilience thinking approach. This section incorporates document analysis and semi-structured interviews to investigate to what degree City of Kingston is integrating a form of adaptive governance suitable to address resilience concerns into policymaking.

Section 2 includes a discussion of chapters 6 and 7 and is built upon a political ecology theory and vulnerability approach. This section combines document analysis and semi-structured interviews to understand whether the climate policies implemented by City of Kingston embody the principles of equitable governance that take the needs of the most vulnerable population groups into account.

In this context, I will discuss the result of this dissertation using three key arguments based on the empirical findings of this research:

First, I suggest that there are some elements of adaptive governance and resilience thinking in Kingston climate policies which need to be further and more explicitly developed in future policymaking. For instance, the empirical analysis of documents and semi-structured interviews indicate that the City is cognizant of the importance of encouraging social cooperation and collaboration and the importance of connecting vertical governance to horizontal layers of society that are the essential components of adaptive governance. However, the evidence from the interviews suggests there are some obstacles in the way of participation and engagement of all sectors of the society in decision making processes, in a meaningful way to shape the outcome. Consequently, those obstacles can reproduce a lack of trust and awareness of the importance of climate change actions in the residential sector and reduce their collaboration which is essential for successful implementation of adaptive governance.

Second, the data analysis traces some implicit and explicit references to the idea of climate vulnerability in some of areas of policymaking. However, based on empirical analysis of the documents and the semi-structured interviews with social justice advocates and City of Kingston officials, I suggest that the importance of justice-oriented approach to avoid maladaptation and unintended effects of adaptation on marginal groups is not integrated in the documents produced by the City of Kingston and is only partially present in the minds of policy makers. In this respect, I argue that Kingston's climate policies are overly focused on mitigating the GHG emissions and reducing the exposure of residents to negative impacts of climate change yet are fundamentally lacking in addressing important socio-economic causes of vulnerability. While some policymakers are aware of this necessity and acknowledge the gap in current policy, there is yet no

structured and strategic method to foreground equity and justice concerns systematically within climate governance.

Finally, I make a broader conceptual argument about the relationship between adaptive governance and vulnerability and present some suggestions and recommendations.

8.1.1 Adaptive governance and resilience thinking in Kingston climate policies

The first section of this dissertation was designed to trace the components of adaptive governance and resilience thinking in Kingston's climate policies and plans. The empirical data analysis of this section identified some components of adaptive governance and resilience thinking in the documents produced by the City of Kingston on climate policies. Nonetheless, this research suggests that these components should be more explicitly and practically considered by City government moving forward. Overall, the results of content analysis suggest that these documents are sensitive to the necessity of encouraging social cooperation and collaboration and the importance of connecting vertical governance to horizontal layers of society which are the essential components of adaptive governance. However, there is a gap in these documents on questions of social memory and local experiences in shaping policy formation. This raises questions about the degree to which policymaking is sufficiently decentralized, bottom-up and community-engaged. At the same time, there is little evidence that the City of Kingston identified common interests of different stakeholders and dealing with uncertainty when stakeholders with conflicting interests are engaged. Finally, I could not find strong evidence that the City prioritizes the ongoing adjustment of governance structures and policies in an evolving, and adaptive fashion.

The document content analysis was then expanded through key stakeholder interviews. It is useful to break the varied elements of adaptive governance down point by point by integrating the content analysis of documents produced by the City of Kingston in chapter 4 with the semi-structured interviews in chapter 5.

First, I argue that the importance of the initial component of adaptive governance, which is *trust-building to mobilize diverse social sectors and encouraging social cooperation and collaboration to benefit from social capital*, is acknowledged and clearly articulated in both the documents produced by City of Kingston and in the interviews with the local government officials. This suggests that local policy makers in Kingston are keenly aware of the importance of community collaboration for successful implementation of climate plans. However, my interviews showed that the theory of community collaboration, which is well articulated in the adaptive governance literature (See Wondolleck and Yaffee 2000; Weber 2003), has not proceeded quite far enough in practice. I found two main obstacles in the full implementation of this category. First, the interviews suggest that certain sectors are not fully engaged and collaborative in reducing GHG emissions, owing to differences of interests and a lack of a clear regulatory framework to do so. One of these is the ICI (industrial, commercial, and institutional) sector. Considering that the city does not have any "real authority over them [refers to ICI sector] unless these industries decide to propose an expansion" as one of the participants (Ms. O'Leary) mentioned, it is not an easy task to convince them to collaborate in reducing GHG emissions when it is not aligned with their interests. This finding is aligned with de Abreu and de Andrade (2019) which suggests that addressing the priorities and interests of different stakeholders is a challenge for governments to

encourage their collaboration. Put simply, the City of Kingston needs to engage better with business and industrial sectors to bring them on board with its broader emissions reductions strategies. Community engagement around climate change cannot simply be limited to households and the public sector.

The second point highlighted in the interviews relates to the integration of the residential sectors of the population or the community. The results of my interviews suggest that these sectors are not fully engaged in collaborative efforts to reducing their emissions. Two main reasons were flagged in the interviews for this obstacle. First, most people do not see themselves as being on the frontlines of the climate crisis, and second, if the City tries to engage people, they will have expectations in return which can be hard on the City to meet. In short, evidence from the interviews suggest that the obstacles can be attributed to lack of trust and sense of urgency of the climate issues in the residential sector and prioritizing their own interests in the ICI sector. The results of the interviews indicate that it is a very difficult job to get the residents and the ICI sector to play their necessary role to help Kingston community to meet Net Zero goals. So, the City of Kingston needs to be explicit in how it is going to engage with all these actors and bring them to the table to collaborate to achieve the goal of more adaptive form of governance and increase the community's resilience in the face of climate change. As Doyle et al. (2014) suggest, for tackling this obstacle governments need to facilitate and coordinate the participation of all stakeholders to guarantee inclusion of their interests and assist answering their question of "what is in it for me" (62).

In relation to the residents, based on the findings of this study within the second and third category, I suggest that the city needs to raise more awareness about the fact that climate

emergency is real and is affecting people in their everyday life. To do so, it needs to build trust within the community by engaging the community in decision making and using their inputs in shaping the policy outcomes in the meaningful way. In other words, I suggest that the key of filling the gap of residents' participation is in implementation of the second and the third categories or components of adaptive governance in a meaningful way. These categories are *connecting vertical governance to horizontal layers of society by consultation with public* as well as *flexible and learning-based management rooted in bottom-up and community-engaged decision making*. The result of this study shows that – despite some progress - there are barriers and gaps in both second and third component of adaptive governance. These consequently impede the first theme happening in a meaningful way. In essence, if policy makers wish to benefit from collaboration of the community for successful implementation of climate adaptation plans, they must build trust among community by engaging them in the process of decision-making and use their feedback to shape outcomes in a meaningful way. The result of this study suggests that there is a gap in this sense, since the engagement process has been attempted several times, but the result of the consultation has not been fully used by policymakers in decision making. This leads to lack of trust and shortcoming in community collaboration, as some of the social justice advocates mentioned in the semi-structured interviews.

The fourth category, *operating across different scales and co-management of resources*, is also an important component of adaptive governance for successful implementation of the climate policies and plans. According to the semi-structured interviews the local government has their hands tied due to the lack of ability to generate their revenues. So,

the climate action plans need to be operated and funded across different scales of local, provincial, and federal governments to receive enough funding for implementation of the policies and plans. In addition, according to the interviews it is a false impression that all the climate change adaptation work can be done by the climate or sustainability coordinator. To be implemented successfully, a climate lens should be developed and adapted in all departments of the City.

Additionally, underneath the fourth category, I briefly looked into the climate lens of two cities (Brantford and London, Ontario) that Ms. O'Leary, the Network Coordinator of Climate Caucus introduced as progressive mid-sized cities in terms of climate policies and plans. In case of London[22], policymakers realized that there is no one tool or checklist that can work well across all elements of city governance. So, they tried to create specific tools for each sector that fits their specific needs. Similarly in the Brantford Webinar it was noted that "many decisions considered by Council have climate impacts and has therefore adopted a climate lens tool that will detail the impacts of potential GHG emissions related to submitted reports to Council."[23]

The fifth category or component of adaptive governance investigated in this research was *identifying common interests of different stakeholders and dealing with uncertainty when many stakeholders with conflicting interests are engaged*. Through the content analysis of the documents, I could not find traces of awareness or attention to the importance of this component. On the other hand, the results of the semi-structure interviews indicate that policymakers intend to be as inclusive as possible. However, despite best intentions, there

[22] https://youtu.be/rnMkoWYBBJY
[23] https://youtu.be/vSSxGi-7H-A

are some issues that need to be addressed. For instance, according to the city officials it is extremely difficult to make policies that can fits needs of everyone at the same time. In other words, pleasing everyone is impossible. Additionally, although it is very important to bring the big emitters, and specially developers, to the table and convince them to become a part of the solution, it is hard to persuade them to do something contrary to their profits and interests. One solution to these challenges can be engaging grassroot organizations and seeking the help of respected members of each community to build a collective sense of mission that can push both City government and the ICI sector out of a business-as-usual trajectory.

The fifth category is closely related to the first category and the challenges of encouraging community collaboration. Combining the results of the first and the fifth categories I suggest that to encourage the community collaboration the City of Kingston need to work closely with residents and the ICI sector for building trust among the community. Trust building can happen when all stakeholders are being included in the process of bottom-up decision making. To this end the City needs to intensify the consultation processes with the community and use the results of the consultation in decision making in a meaningful and more transparent way. In other words, if the community sees that the results of the consultations are explicitly reflected in the outcomes of policy making, this can build trust. It is important to note that no sectors of the society should be excluded from these processes, especially the marginalized individuals and groups as they are the most vulnerable in the face of climate change and can also be easily left out due to their lack of voice and influence. As de Abreu and de Andrade (2019) suggest “in the absence of useful governance elements, leadership is vital

to include weaker groups and encourage collaboration. Collaborative processes involve face-to-face dialogue, building trust, commitment, and defining the goals to be achieved. Nevertheless, actors will not collaborate without reducing policy formulation costs, increasing democratic participation, or establishing fruitful relationships between stakeholders" (6) Although it is very difficult to meet the needs of everyone at the same time, the governors cannot expect to benefit from community's collaboration once inclusion of everyone's interests is not guaranteed. This obstacle can be better handled by coordinating and facilitating participation of all the stakeholders and adjusting the policies on a regular basis considering the outcomes of the consultation and participation processes which I further analyze throughout the sixth category.

The sixth category is the *ongoing adjustment of governance structures and policies.* This category was not explicitly and clearly addressed in the documents produced by the City of Kingston. However, the semi-structured interviews indicate that the city bureaucracy has begun to shift in this direction after the declaration of climate emergency given that a new manager division of climate change was developed under one of the main four City commissioners. So, the governance structure has been adjusted to some extent. However, in terms of implementation of the climate lens and ongoing adjustment of the policies, according to the City officials, it is still in development because the declaration of climate emergency is quite recent and yet climate change is not considered across all sectors of City planning and governance.

Finally, the last category that is *working with the idea of resilience,* investigates what the policy makers mean when they use the concept of resilience. The result of the interviews is aligned with the description of resilience in the documents produced by the City of

Kingston. The policy makers divided resilience into two components. First, mitigation that is reducing the GHG emissions to limit climate change. And second, adaptation which implies creating the proactive plans to be prepared for the impact. Some of the pieces that were also mentioned in the interviews for increasing the resilience of the citizens included access to food, and access to a warming and cooling center. As Councilor Doherty asserted, the perfect world is a society in which everyone has enough. This idea is related to the idea of equity and justice which I will investigate in the second section of this discussion.

The results of the document analysis of Chapter 4 and semi-structured interviews of chapter 5 are summarized in the Table 8.1 and Table 8.2 below.

Table 8. 1 Recap: content analysis of the municipal documents in Chapter 4

Category Number	Core Categories of Adaptive Governance & Resilience Thinking	KCAP (2014)	Community Sustainability Report (2017)	WGCA (2019)	CLP (2021)
1	Trust-building to mobilize diverse social sectors and encouraging social cooperation and collaboration to benefit from social capital	Yes	Yes	Yes	Yes
2	Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback	Yes	No	Yes	Yes

3	**Flexible and learning-based management: highlighting the role of social memory and local experiences in shaping the outcome and decentralized, bottom-up and community-engaged decision making in a meaningful way**	No	No	Yes	No
4	**Operating across different scales and co-management of resources**	Yes	No	No	Yes
5	**Identifying common interests of different stakeholders and dealing with uncertainty when stakeholders with conflicting interests are engaged**	No	No	No	No
6	**Embracing change and ongoing adjustment of governance structures and policies without abandoning essential functions and identity**	No	No	No	No
7	**Working with the idea of resilience**	Yes	To some extent	No	Yes

Table 8. 2 Results of the semi-structured interviews in Chapter 5

	Prior or deductive categories	Emergent or inductive categories
1	Trust-building to mobilize diverse social sectors, and encouraging social cooperation and collaboration to benefit from social capital	• Acknowledging the importance of trust building • Emphasising on the necessity of community collaboration • Weaknesses and challenges • Solution

2	Connecting vertical governance to horizontal layers of society, consultation with public and including locally developed rules and feedback	• Acknowledging the importance of public participation and feedback • Different mechanism to include various range of voices in the process of consultation • Barriers and challenges
3	Flexible and learning-based management: highlighting the role of social memory and local experiences in shaping the outcome and decentralized, bottom-up and community-engaged decision making in a meaningful way to take action	• Desire and acknowledging the use of public feedback in creating the plans and shaping the outcome • Challenges and Critics
4	Operating across different scales and co-management of resources	• Necessity of support from the higher levels of government (provincial, and federal) to solve the municipals' funding problems • Successful strategies in other cities • Necessity of being more creative and better management of the existing fundings
5	Identifying common interests of different stakeholders and dealing with uncertainty when stakeholders with conflicting interests are engaged	• Policy makers' intention and effort to be as inclusive as possible • Pleasing everyone as an impossible mission • Grassroots efforts and seeking the help of strong members of each community • Huge contribution of developers as important stakeholders who contribute a lot in carbon emissions and are difficult to convince participate in plans against their profits
6	Embracing change and ongoing adjustment of governance structures and policies without abandoning the essential function and identity	• Alternation and structural change of the government bureaucracy • Climate lens in development but not yet fully implemented
7	Working with idea of Resilience	• Mitigation: understanding the potential weather conditions and reducing the emissions • Adaptation: creating the proactive plans to be prepared for the impact

8.1.2 Explicit integration of vulnerability and justice-orientation approach

The second section of this dissertation, chapters 6 and 7, addressed the question of vulnerability and equitable climate change governance by combining document analysis and semi-structured interviews. The empirical data analysis of this section identifies both explicit and implicit references to the idea of climate vulnerability in some official documents. However, it indicates that a substantive justice-oriented approach to avoid maladaptation is not fully integrated in the documents produced by the City of Kingston. Concurrently, analysis of interviews suggested that such a perspective is only partially present in the discourse of policy makers. On this basis, my findings suggest that Kingston climate policies are more focused on mitigation and technical solutions to reduce GHG emissions rather than justice-oriented adaptation, although the policymakers are aware of its necessity and acknowledge this gap. This finding is aligned with the results of Guyadeen et al. (2019) that noted "Canadian municipal climate policies prioritize climate change mitigation over adaptation" (121).

At a more finely grained level, the content analysis of the documents in the second section was built upon five pre-determined categories that I extracted from theories of political ecology and vulnerability literature. These results that are summarized and listed in the Table 8.3 were subsequently used to create the two pre-determined categories for analysis of the semi-structured interviews in chapter 7.

Table 8. 3 Recap: content analysis of the municipal documents in Chapter 6

Category Number	Pre-determined categories based on political ecology and vulnerability literature	KCAP (2014)	Community Sustainability Report (2017)	WGCA (2019)	CLP (2021)
1	Demonstrating an explicit sensitivity to the idea of climate change vulnerability	Yes	Not explicitly	Not explicitly	Yes
2	Usage of a scientific framing of vulnerability	Yes	Yes	Yes	Yes
3	Usage of a human Security framing of vulnerability	Few traces	Yes	No	Few traces
4	Considering the differentiated impacts of climate change upon distinct social groups.	No	No	No	No
5	Seeking to avoid maladaptation and unintended effect of adaptation on marginal groups.	No	No	No	No

Building from the content analysis of documents produced by the City of Kingston in chapter 6, and the semi-structured interviews in chapter 7, I suggest that the first category of the second section analysis, *demonstrating an explicit sensitivity to the idea of climate change vulnerability,* is not strongly present in most of the documents. There are some occasional implicit and explicit indications of a vulnerability perspective in some of the documents such as Climate Leadership Plan (2021). Nonetheless, the emphasis of vulnerability and risk assessment components in this document is revolving around the climate impact on the infrastructure damage, life cycle of buildings and transportation. Only once, in page 7, this document points to the climate change impact on vulnerable

people such as elderly, youth, and low-income people in relation to extreme heat and water supply issues.

Moving to the semi-structured interviews, I asked social advocates and City officials questions about who are the most vulnerable to climate change impacts and whether their voices are heard in the process of decision making. The interviews with social justice advocates highlighted houseless and low-income populations as disproportionally vulnerable in the face of weather extremes like heat waves, freezing events and storms. According to the social justice advocates the most prominent causes of vulnerability is precarious socio-economic status related to unequal distributions of wealth and other inequalities. Additionally, social justice advocates believed that people of low socio-economic status are broadly excluded from process of decision-making due to technical, bureaucratic, engagement, justice, and political barriers. They emphasized that this exclusion is indicative of a process of marginalization and, overall, negatively impacts the effectiveness and equity of climate change policymaking in Kingston.

The results of the interviews with the City officials reinforce the perspective put forward by social justice advocates. Officials also highlighted houseless people and then low-income as the most vulnerable in part because a lack of financial resources is deeply engrained in climate change vulnerability. The results of interviews with the City offficials suggest that inequality in wealth and resource distribution prevents underprivileged social groups from participating in the market to satisfy their needs in terms of housing, food, warming, cooling, clothing, health and all other basic needs that safeguard people from climate change impacts.

In contrast, City officials were clearly more optimistic than the social justice advocates that strategies are in place to hear the voices of more marginal groups and to act accordingly. As City officials expressed, they are aware of the neccessity of hearing vulnerable voices and doing their best to accommodate their needs. For instance they pointed to focus groups, surveys, street reachout or in person meetings with compensation for people's time as methods of hearing these voices. However, Councilor Kiley acknowledged that historically, consultation processes have mostly included white middle class people. He pointed that this happened with no malicious intent, yet this situation is created partly because of the demographic of the City and partly because suitable methods of working with these groups do not presently exist, particularly when consultation exercises were online. This finding suggests that so far the marginalized population were mostly left out from consultation proceses which lead to their voices and needs not being heard and considered.

On this basis, the results of the interviews, with both social advocates and the City officials, suggests that voices of marginalized people are excluded from processes of decisionmaking. This issue is correlated with lack of trust in the underprivileged social groups which breaks their sense of belonging to the community and closeness to the political class. This issue explains their lack of collaboration which was flagged by the City officials in the first section of the discussion. These are barriers in the way of successful implementation of adaptive governance which is primarily reliant on community engagement and collaboration and bottom-up decision making. The findings of this category are listed and summarized in Table 8.4.

Table 8. 4 The participants' ideas about climate change vulnerability

	Sensitivity to the idea of vulnerability	**Social justice advocates' responses**	**The City officials' responses**
1	**The most vulnerable groups in terms of climate impacts**	-people with no housing -people with low quality housing -people who spend a lot of time outside -people with disability -people with mental health problems -people with addiction -single mother households -aboriginals -youth -older adults -newcomers to an area -future climate migrants -neighbourhoods near the bodies of water -neighbourhoods that are not sufficiently treed -neighbourhoods with low air quality -neighbourhoods of high heat islands	-homeless -elderly -people with disability -illegal migrants -poor people who cannot afford heating or cooling equipment -people who have dependency on drug and alcohol -urban agriculture - indigenous people
2	**The primary causes of vulnerability to climate change**	-poverty caused by unequal distribution of wealth -inequality and lack of justice caused by lack of policies and organizations for equal distribution of resources	-lack of financial resources -lack of affordable housing combined with health issues and substance use -inequality
3	**Including vulnerable population's voices to become aware of their needs**	There are many barriers in the way of inclusion of marginalized people's voices: -technological barriers -time limitations	-considering people who have difficulty in accessing to the technology

		-literacy and education issues -disability -massive engagement, justice, and political issues -the result of the consultation is not meaningfully used in shaping the outcome. -marginalized people are being consulted and then their voices being ignored.	-considering people are poor in the sense of their literacy level -focus group -survey -compensating people's time for participating in consultation process -eager to hear people's stories -people engaged in the consultation are largely white and middle class with no malicious intend; partly because of the demographic and partly because it has not persuaded by the City and even by the activists.

The second and third pre-determined categories for analyzing the documents, listed in the Table 8.5, are *scientific framing* versus *human security framing of vulnerability*. Scientific framing of vulnerability or outcome vulnerability is attributed to negative outcome of climate change and reducing it involves exposure reduction which is facilitated by developing mitigation and adaptation strategies to reduce the negative outcomes of climate change (O'Brien et al. 2007). On the other hand, human security framing of vulnerability advocates linking the "localized expressions of vulnerability to broader, historically formed structures of power and privilege" (Taylor 2014: 15). This approach which is also known as contextual vulnerability challenges the dominance of the outcome vulnerability (Hopkins 2015). Contextual vulnerability which is concerned with a human-security perspective, asserts that climate change affects different

individuals and societies differently. This approach interprets vulnerability as a present-day inability to cope with external changes with an emphasis on "the need to mitigate vulnerability on the basis of equity and justice" (Adger 2006).

Based on the results of content analysis of the four documents created by the City of Kingston, I argue that a scientific framing is the dominant approach of Kingston Climate policies, with an emphasis on reducing GHG emissions, as well as reducing exposure of the residents to the impacts of climate change by adapting sectoral and technical solutions. For instance, as stated in Kingston Climate Action Plan (2014) the main goal of this Plan is to address climate change at the local level with a commitment to reducing GHG emissions (KCAP 2014). Most of the actions and initiatives listed or explained in the four documents I analyzed and are classified under scientific framing of vulnerability. There are very few actions or plans that I could arguably classify as examples of human security framing of vulnerability as summarized in Table 8. 5, below. This finding indicates that Kingston's climate policymaking orientation that focuses on mitigation and scientific solutions, over justice-oriented adaptation, along with contextual framing, is aligned with many other western countries policymaking approach. As Mazmanian et al. (2013) asserts "at the policy planning stage, adaptation has experienced much lower salience than mitigation. The salience of GHG reduction has been the central focus of the International Panel on Climate Change (IPCC) and has been embraced by the United Nations, especially the European Union and environmentalists across the United States" (191). Moreover, these findings are parallel with the literature that highlights the dominance of scientific framing in climate policies at a global scale (see Hopkins 2015; O'Brien et al. 2007).

Table 8. 5 Climate policies classified under different framings of vulnerability

Different framings of vulnerability	climate adaptation initiatives and actions extracted from documents produced by City of Kingston
Scientific framing of vulnerability	**Kingston Climate Action Plan (2014):** • Emphasizing on scientific ways to reduce GHG emissions all over the document • Application for conducting shade audits • Vulnerability assessment to storm-proof assets Inviting organizations to conduct vulnerability assessment **Community Sustainability Report (2017)** • Some local institutions and businesses took action to shrink GHG emissions in Kingston • Tesla Powerwall • Decreasing GHG emissions released from manicipal operations by 3% **Working Group on Climate Action Report to Council (2019):** • Reduce greenhouse gas emissions by 15% across the City's operations by 2022. • Incrementally electrify the City's fleet of vehicles including public transit • Target recycling and waste reduction strategies for businesses, institutions, and multi-residential buildings • Develop and promote incentives for residents to reduce their energy use and become part of city-wide solutions to meet Kingston's carbon neutral target • Enhance and expand green spaces, protect wetlands, and increase the tree canopy through greening initiatives **Kingston Climate Leadership Plan (2021):** • Focus of the document is on mitigation and reducing GHG emissions • Local sources of renewable energy for poweirng buildings, vehicles and equipment • Home energy efficiency programs for residents and neighbourhoods to inhance their sustainablity. So the emphesie of this document is on transition to a low carbon society • Low carbon retrofits for home owners. • Developing active transportation and foster transit-oriented development • Afforestation and increasing tree canopy • Geospatial Mapping of Risks and Vulnerabilities

Human security framing of vulnerability	**Kingston Climate Action Plan (2014):** • Checking on vulnerable person by a community information line (211) • Determining the air conditioning emergency generating conditions of long-term care homes and retirement homes **Community Sustainability Report (2017):** • Begin Again Group (BAG) initiative (supports local refugee women to build community and develop financial independence) • Disabilities Mentoring Day (DMD) (brings people with disabilities and businesses together" to help them expand their professional network and devlop their working skills • Food security (supporting local farmers & facilitate fresh food access) **Working Group on Climate Action Report to Council (2019):** • No clues are found **Kingston Climate Leadership Plan (2021):** • Supporting of the local food system

There is no doubt that conducting policies and plans to reduce GHG emissions and limiting the exposure of the community to the negative impacts of climate change are important and essential. However, I suggest that Kingston municipality needs to consider the danger of a narrow approach to climate policies which fails to raise issues of equity and justice in its policymaking. As Brook (2003) states the limitation of this approach is that a linear approach to vulnerability as an end point tends to result in the over-emphasis on reducing exposure through implementing technical solutions and developing adaptive capacity to limit negative outcome. This in turn can cause the danger of a reductionist view of adaptation to "building local capacity rather than addressing the fundamental

causes of vulnerability, including geopolitical and economic contexts" (Brook 2003 cited in O'Brien et al. 2007).

Reinforcing this point, there are no instances of the fourth and fifth categories, listed in Table 3, in any of the documents. In other words, documents produced by the City of Kingston do not explicitly account for the differentiated impacts of climate change upon distinct social groups within Kingston. At no point in these documents is there an explicit acknowledgement that different groups face vulnerabilities on account of their socio-economic status; their relative political influence; and their specific exposure or sensitivity to shocks and/or stresses.

To further investigate the City's approach in terms of a scientific verses a human security framing of vulnerability, I embedded related questions in the semi-structured interviews. In this regard, I specifically focused on the needs of 'unhoused people' and 'people with financial needs'. These social groups were highlighted in the first section of the interviews as the most vulnerable who bear the brunt of climate change in the Kingston context. With this focus, I sought to determine whether City officials explicitly incorporates justice and equity concerns into their climate policies. The analysis of the semi-structured interviews with social justice advocates and the city of Kingston officials in this regard are listed and summerized in the Table 8.6 and 8.7, below.

Table 8. 6 Findings of semi-structured interviews with social justice advocates

	Equitable climate policies based on human-security framing of vulnerability	**Social justice advocates' suggestions and points about needs of marginalized people who are the most vulnerable in the face of climate change**

1	**Addressing present day inability to cope with external changes**	• Providing people with affordable housing, basic income, food security • Increasing their life skills to beat their addiction • Not taking away the poor's agency • Providing the marginalized people opportunities to speak on equal level with the city about what they need and is important to them • Learning from their life experience and their stories and using this information in policymaking and shaping the outcome • Identifying survivors and people who have been able to improve and use their experiences and information • Removing the barrier of smooth transportation for people with disabilities • Considering gender as a variable that can excerbated climate impact on women as they age and experience financial issues
2	**Addressing affordable housing crisis and shelter issues in Kingston**	• Shelters, tiny cabins, and integrated care hub are very helpful but not sufficient to unroot the issue of homelessness • People who don't have housing need homes and income to stay in those homes. • Beating the inequality in the entire housing model instead of focusing on supply because the housing issue in Canada is not supply based, it is the result if inequal distribution and using the housing as commodities for capital. • Prevent approaching housing as a commodity. • Stop using housing crisis as an excuse for development in our community that is controversial from a climate perspective from a neighborhood perspective, from a quality of life perspective, because eventually they make more comodities for captial at the expense of the lowincome people while having nothing to do with affordable housing let alone social housing.
3	**Adressing food security issue**	• There is no way out of food security issues "without a radical restructuring of global capitalism." • Agricultural, technologies and more local food are all good for the environment and for the people that can afford food. However, non of these strategies can solve the problem of "people who are actually living with food insecurity. What they need is more resources to be able to access food." • The food insecurity issue is not supply based, it is due to unequal distribution of wealth • Kitchens meal programs, food banks do not address the fundamental problem [of food affordability]. The fundamental problem is people do not have the money to participate in the market.
4	**Addressing the issue of equity and justice in climate policies**	• Climate change is structural economic problem of capitalism rather than technical problem and needs to be considered from equity and justice perspective. • Kingston Climate Action Plan is not "sufficiently confirming the role and power of organized money in our community, causing climate crisis and preventing us from acting. • Not sufficient engagement with the private sector and their responsibility for emissions. The biggest emitters in our community have not been meaningfully engaged in that justice piece.

		• There is a gap in adapting a justice and equity lens in Kingston Climate Leadership Plan. Here are three examples: 1) Home energy retrofits: Two justice gaps in home energy retrofits: first, there is not the will or the ability to sufficiently engage private rental and construction capital in fixing their homes. What if you have one building that has 500 people that are doing it versus doing it 500 people one house at a time. And second, it's completely targeted and funded at people who own homes…. So people with the most ability and the most knowledge and the most time and most contacts and most ability to navigate the system are being privileged. 2) Kingston-Toronto flight and the City's advertising campaign promoting the decision by saying that it is the best the solution for the stressful driving from Toronto to Kingston on 401 with all that traffic. This decision privilege "emissions for those people who can afford to fly from Kingston to Toronto, which very few people on community and that's a realistic expense… and it's devastating for the climate , now we have a direct train." 3) The City moving ahead with supporting a private proposal to build offering for cruise ships… on the the former pole docks near Portsmouth." This is a route to build an economy around the consumption of the wealthy and asking everyone else to do more or suffer more.

Table 8. 7 Findings of semi-structured interviews with City officials

	Equitable climate policies based on human-security framing of vulnerability	**Social justice advocates' suggestions and points about marginalized people who are the most vulnerable in the face of climate change**
1	**Addressing present day inability to cope with external changes**	• Building warming and cooling centres to protect people from extreme weather events. • Keeping the hours of the libraries open longer. • street outreach workers are always carrying cases of water around for individuals who live out. • Planting trees to solve the tree inequality problem in low-income neighborhoods. • Maping heat islands and monitoring where there are trees and no trees. • Free bus pass or reduced-price transit pass for low-income. • Free transit for children. • Kingston is a progressive city in terms of providing affordable transit compare to other mid-sized cities in Canada.

2	**Addressing affordable housing crisis and shelter issues in Kingston**	• Employment programs and Life stabilization supports provided by Housing and Social Services. • Street outreach prevention diversion to try and keep people from becoming homeless. • Emergency shelter systems, rehab housing first programs to get individuals housed and assist them in stabilizing that housing. • One time financial grants for people who are behind on rent or utilities to prevent them from becoming homeless. • Specific requirements in place for the developers to make sure new high-quality developments. • Supporting social housing providers which are the landlords of of lowincome housing, with some investments into their buildings • Housing Program department tries to ensure that there is a wide range of programs for a wide range of clients… Discretionary Residency Benefits, and Ontario Disability Support and stated that if somebody has a home or need the appliances they can apply to their program for funding • A new high tech building has recently been opened on 27 Right which does social housing and affordable housing • The City provided some services like shelters for the unhoused people, however, many of them prefer to camp in Bell Park rather than staying in the shelters because of some issues like they can't partner up in the shelters, or can't have animals • Shelter review is going to come back and hopefully change policies that would incent people to feel comfortable and safe going into the places to be safe from extreme weather.
3	**Addressing the issue of equity and justice in climate policies**	• Climate change considerations need to be baked into everything we're doing… but it hasn't happened yet. • The City has hired a Manager for Equity, Diversity and Inclusion by the City of Kingston in 2021 for the first time and this is one of the structural changes that has happened as a sign of acknowledging the importance of equity and justice issues in technical solusions. • Inequality is very deeply mashed into the challenges with climate change…when it comes to extreme [heat] people can go out and buy an air conditioner ,and they're fine but people who can't afford air conditioners, that's a problem • Problem of tree inequality exists in low-income neighborhoods which reduce the air quality of these areas. • Tragic loss of life was highly concentrated amongst marginalized population in cities like Vancouver because of extreme heat. • Decarbonisation without looking at justice does not solve the climate change problems. • The current project of Group Kingston 350 to collect the savings from municipality owned solar projects and redistribute some of the profits among lowincome people, but still there is no straightforward answer for how they can benefit the lowincome people.
4	**Considering the differentiated impacts of climate change**	• Confirming that climate change does not affect everyone similarly, and money is an important variable that can fix the energy or housing problem for people who do not face financial difficulties. • People who do not have enough resources will suffer the most. • There is no one and the only one solution that can serves everyone's needs "because we are all different and we all need different programs and models

	upon distinct social groups	
5	**Bureacratic and political barriers in the way of climate justice**	• Lack of enough Federal and provincial funding to tackle poverty and related climate change issues. • Housing and Social Services department not equipped enough to support the most vulnerable population in the face of climate change. • Despite their best intentions, the City staffs' hands are tied because they must follow rules, shooting and direction • Energy has become so politicized • Huge investing in nuclear means that moving forward, they will need customers, so they do not want to have people having their renewable energy So nuclear is one of the biggest dangers for moving forward with renewables.
6	**Justice lens in Kingston Home Energy Retrofit Program**	• Expressing intrest in creating a situation where renters can work with landlords to benefit from Home Energy Retrofit programm. • It's early days in this program so the programm is not finalized and the City staff are still working on it. • Gap of accessibility, ability to use technology, understanding, language and trust • Home Retrofit should be for the people who need it… but often these systems are complicated, and accessibilities is a problem • The reality of incentive programs like energy retrofit is that they're certainly created around the population that would own property… those programs right now are not necessarily inclusive to vulnerable populations • Energy Star ratings and their funding for buying woods or oil for people who live in the country. • Social housing units that we assist with capital costs, and I agree entirely, it's time we start talking to some of them about potentially having solar panels on the rooftops. So there is are climate controls in different units. There is lots that we can start to look at. • Retrofits stuff goes to homeowners using tax programs. So there is almost no benefit in this program for renters.

The results of the interviews with the social justice advocates are aligned with the theories of human security framing of vulnerability. They pointed to homeless people, indigenous people, women, youth, elderly, low-incomes people, migrants, people with addiction, disability, or mental health, as the most vulnerable in the face of climate change. As it is evident in the Table 8.6, related to the need to addressing present-day

inability to cope with external changes, social justice advocates highlight the different requirements of social, economic, and political justice such as affordable housing, basic income, food security, life skills, having a voice in shaping the outcomes of decision-making, etc., for the vulnerable sectors of society to be empowered and equipped against the negative impacts of the climate change.

Based on these findings and looking through the intersectionality lens, I argue that climate change vulnerability lands at the intersection of precarious social and economic status, race, gender, age, ability and having political voice. As Hill-Collins and Bilge (2016) state, intersectionality is an analytical tool that facilitates understanding social inequality is not being shaped only by one factor but created "by many axes that work together and influence each other" (2). On this basis and based on the results of the semi-structured interviews, I suggest that climate change impacts do not land equally across different social sectors of the population in Kingston. The more people are in a precarious situation in any of these axes of socio-economic status, the more they will be affected by climate change impacts. These findings highlight the importance of pursuing equity and justice in climate change adaptation policies which can be realized by utilizing the human security framing of vulnerability.

However, the results of my interviews with social justice advocates and the City officials confirm the findings of document analysis, indicating the dominance of scientific framing of vulnerability in Kingston climate change adaptation policies. The document analysis section indicates that Kingston's climate policies revolve around mitigating GHG emissions and seeks technical solutions to reduce the exposure of the residents to the negative impacts of climate change. The results of the interviews with the City officials

confirm these findings. In response to the question of what their policies are to help vulnerable population in the face of climate change, they pointed to some actions such as building warming and cooling centers, keeping the libraries open for people who need to warm up or cool down, shelters, street outreach workers with cases of water, mapping heat islands and planting trees in areas that suffer from tree inequality. These actions all are categorized under adaptive technical solutions to reduce the exposure of marginalized people to the nagative impacts of climate change which are important but not enough to beat the beast of social and environmental inequality and climate change vulnerability. Looking throught the political ecology and intersectionality lens to the results of the semi-structured interviews I suggest that the intersection of capitalism and neoliberalism places the brunt of climate change impacts on the shoulders of marginalized populations. In this respect, to reduce the weight of climate change vulnerability which falls across marginalized (especially low income) more than any other sectors of the population, Kingston manucipality needs to take one step back to address the fundemental inequality issues which, according to the results of my interviews, is a structural economic problem of capitalism rather than technical problem. This problem needs to be considered from an equity and justice perspective by equal distribution of wealth among different sectors of society. As the social justice advocates state, to effectively be safe from extreme weather events, homeless people need homes and enough income to stay in those homes, rather than shelters and warming and cooling centers. Similarly, the problem of people with food insecurity only can be addressed by ensuring enough income to participate in the market, not by charity and meal plans.

In terms of considering different impacts of climate change on different social groups almost all the participants of this study confirmed that climate change does not affect everyone equally, and that people who have less resources suffer more. However, while acknowledging this reality and expressing their best intentions to help people who suffer the most, the City officials criticized the lack of Federal and provincial funding to tackle poverty and related climate change issues in Kingston. For instance, the Housing and Social Services department officials complain about not being equipped enough to support the most vulnerable people. They criticized the rules and regulations and lack of funding for tying their hands in this respect. They also emphasised that meeting everyone's expectations is very difficult and almost impossible.

Although these issues and the difficulty of policymaking in an inclusive manner is understandable, in addition to acknowledging the local policy makers' hard work, the result of this study flags some flaws in addressing the issue of equity and justice in Kingston climate adaptation policies that can be addressed by some shifts in policy directions. For instance, the Home Energy Retrofits program which consumes a large amount of tax credit is criticized by the social justice advocates for not incorporating the justice component for two main reasons. First, there is not the will or the ability to sufficiently engage private rental and construction capital in fixing their homes. And second, it is completely targeted and funded at people who own homes. So people with the most knowledge, time, contacts and ability to navigate the system are being privileged. This issue was confirmed and acknowledged by the City officials, however, they stated that this program is still new and they are still working on it. The second example that was mentioned by one of the social justice advocates is the Kingston-

Toronto flight and the City's advertising campaign promoting the decision by saying that it is the best solution for the stressful driving from Toronto to Kingston on 401. This decision is an example of privileged "emissions for those people who can afford to fly from Kingston to Toronto, which very few people on community and that's a realistic expense… and it's devastating for the climate" as one the participants asserted. The third example is "the City moving ahead with supporting a private proposal to build offering for cruise ships… on the the former docks near Portsmouth." These examples suggest that there is a tendency in some sectors of the City to build an economy around the consumption habits of the wealthy. This route lead to the obligation of "asking everyone else to do more or suffer more" as one of the participants state, which will inevitably end up with a lack of trust in lower socio-economic sectors of the population, which will reduce their willingness to collaborate in what the City needs them to do for achieving the Net Zero. Putting these pieces together will help us to understand some of the reasons for and challenges of persuading grassroot engagement, along with the difficulties of convincing the community to live green.

8.1.3 Relationship between adaptive governance and vulnerability

In this section I elaborate on how the integration of an adaptive governance and justice-oriented perspective to climate vulnerability might occur at the conceptual level to help inform policymaking that can benefit all sectors of society by fostering justice and inclusion. As is confirmed by the findings of this study, practicing adaptive governance without considering vulnerability concerns is problematic. It is important to note that, without considering inequality and marginality, the idea of adaptability will lead to maladaptation which will need further adaptation measures in turn. For instance, one of the

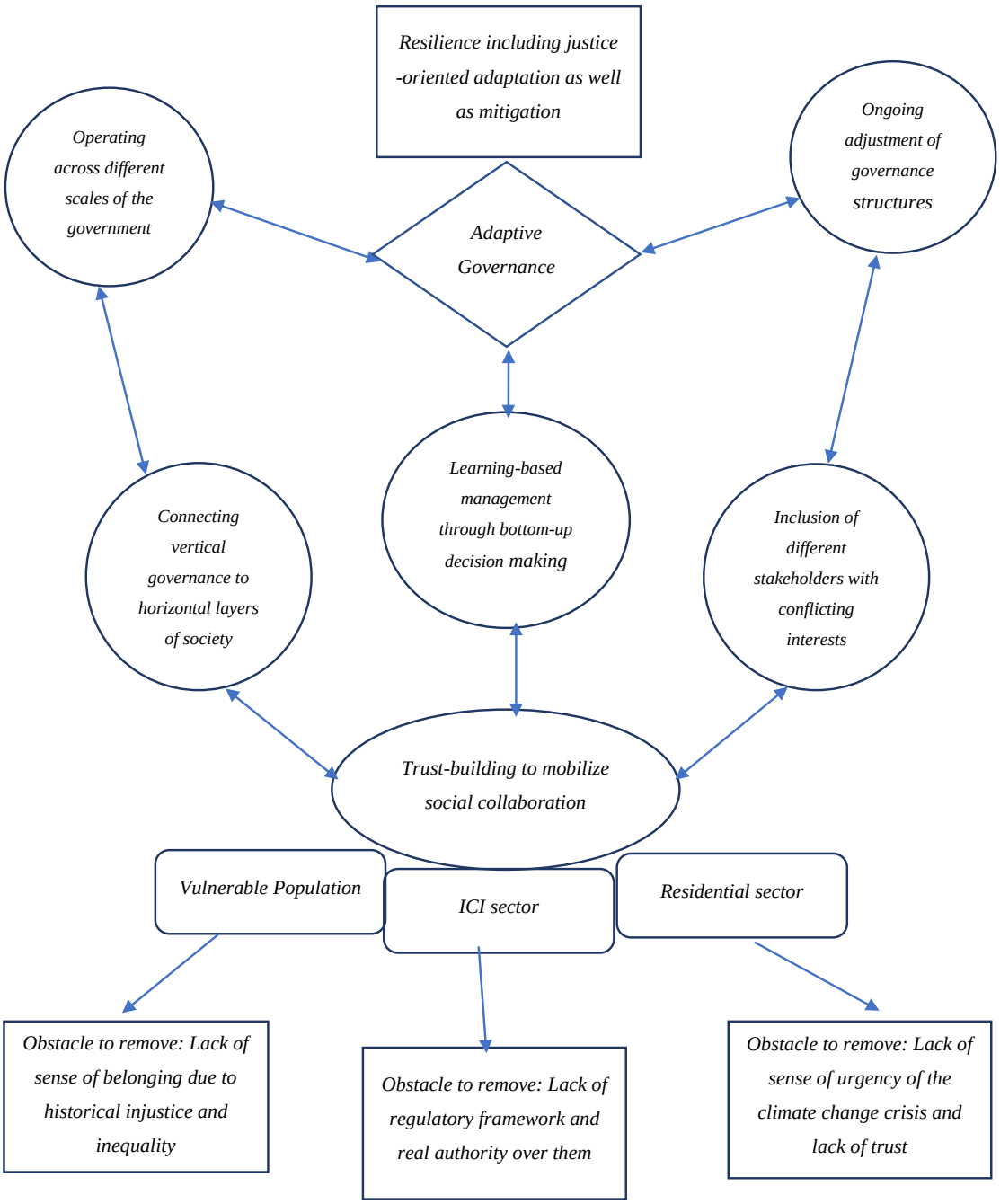
components of adaptive governance is public engagement and participation. This has been attempted by the City of Kingston by online surveys and sending out emails to receive the input of the community. But according to the semi-structured interviews, such strategies have not created a fully inclusive process because not everyone in the community has access to the internet, the required time to invest in city engagement, or is motivated by sense of belonging to the community to participate in the surveys. Moreover, the City relies on self-subscription to its email list. So, as some of the participants of this study acknowledged, the participation and engagement process is skewed toward the predominantly white and middle-class population and cannot be argued to be an equitable process.

Based on these findings I argue that adaptive governance in Kingston needs to take the vulnerability perspective much more explicitly into account if it wants to prevent maladaptive governance that skews policy towards the interests of already relatively privileged social groups.

Figure 8.1 below illustrates the findings of this study and the patterns identified through content analysis of the governmental documents and semi-structure interviews.

The top part of this figure illustrates the six components of adaptive governance, represented by the circles. Theses components were extracted from the analytical framework developed in this dissertation. The rectangles in the bottom part of the figure represent obstacles to community collaboration which is an essential component of successful implementation of adaptive governance. Including the bottom portion of the figure demonstrates that overcoming these obstcles can assist the City of Kingston in achieving a more just, equitable and successful adaptive governance.

Figure 8. 1 Justice-oriented adaptive governance component



8.2 Conclusion

Conclusively, this study acknowledges that City of Kingston has had a sequential series of policies and plans around climate change that are broadly positive in relation to other municipal approaches. According to Guyadeen et al. (2019), in evaluating the quality of 63 Canadian municipalities' climate policies based on their fact base, goals, policies, implementation, monitoring and evaluation, inter-organizational coordination, participation, and plan organization and presentation, Kingston has been ranked as the leading municipality. Nonetheless, this first-ranking position is related primarily to mitigation efforts rather than adaptation strategies (Guyadeen et al. 2019). The findings of my study are aligned with Guyadeen et al. (2019) and confirm that the City's climate policies emphasize mitigation and reducing greenhouse gas emissions over other concerns. However, although Kingston is strong in mitigation policies, it strongly needs to create a new strategy around justice-oriented adaptive policies that bring the needs of the most vulnerable populations into account to foster a stronger sense of equity and justice within both adaptation and mitigation. In this respect, they need to act to reduce the weight of climate change vulnerability which falls primarily upon marginalized people and especially low incomes more than any other sectors of population. To do so, the City needs to take one step back to address the fundamental inequality issues which according to the results of my interviews are structural socio-economic issues including political voicelessness rather than technical problems that require technical solutions. In short, the City of Kingston needs to reconsider its climate policies from equity and justice perspective as its primary pathway forward in the coming five years.

8.2.1 The research contribution and practical recommendations for policymakers

Mitigation and adaptation should be considered as two interrelated procedures. Consequently, emphasizing scientific and technical solutions to reduce emissions at the expense of a vulnerability-orientated perspective will likely lead to maladaptive consequences in which inequalities and vulnerabilities are heightened. According to the city of Kingston,[24] less than 2% of the carbon emissions of Kingston is because of municipal operations. This indicates that the city cannot reach its GHG reduction goals if residential and ICI sectors do not take part. In other words, effective mitigation cannot happen without the community collaboration, and the latter requires a strong approach to adaptation measures. For encouraging collaboration, policymakers and functionaries need to build trust and trust building is dependent on community engagement by effective and all-inclusive grass-root and bottom-up decision making. This can nourish a sense of belonging among the community, because they can trust that their voices and their interests matter and will be safeguarded by the governors. Consequently, community collaboration will be enhanced which is the essential element for successful implementation of mitigation policies.

The primary way forward is for the City of Kingston would be to launch a new strategy for its climate policymaking in 2023-28. This strategy would switch emphasis away from mitigation towards the so-far ignored elements of climate change adaptation within the city. It would start by asking the question of who is vulnerable to climate change and why. It would also ask who is best able to prepare – including engaging city programs such as retrofitting – and why. To do so, a justice-orientated approach will be necessary -

[24] https://www.cityofkingston.ca/residents/environment-sustainability/climate-change-energy

one that is deeply embedded in a consultative and grassroots orientated approach. Participation must move beyond the limits of internet-orientated consultation towards face-to-face consultations with different stakeholders and representatives of different sectors of society, especially people who can easily be excluded because of a lack of political power. The results of the consultation should be used in shaping the outcome to enhance trust within the society and promote community engagement and consequently enhance collaboration.

This dissertation makes three significant contributions. Firstly, on the analytical level it combines adaptive governance approach with the political ecology perspective, which is a growing field in the literature. This combination provides a unique way to operationalize documentary and interview analysis.

Secondly, this study makes an imperial contribution by systematically applying the methodology to assess the accomplishments and gaps within the City of Kingston's climate policies. This approach has helped to identify crucial gaps, particularly in the area of equity and justice orientation. The findings of this study reveals that the City of Kingston's climate policies are not effectively addressing the needs of all members of society in a just and equitable manner.

Thirdly, this study has practical implications. Based on the empirical contributions, this study advocates for the City of Kingston to fundamentally re-addresses its climate policies. Specifically, the study suggests that the next climate change document of the City of Kingston needs to focus on policies that address both mitigation and adaptation. This requires the City to prioritize equity and justice orientation in their policies to ensure that all members of the community benefit from their climate change initiatives.

Overall, this study has made a significant contribution to the literature by providing a novel analytical tool that brings together two important perspectives. Its empirical contributions have highlighted the shortcomings of current climate policies in the City of Kingston and provided practical recommendations for future policy development.

8.2.2 Limitations of the study

Acknowledging the limitations of a study provides an opportunity for the researcher to critically think about the research problem and methodology, as well as providing the scientific community with better suggestions for further research (Price and Murnan 2004). As any other research, this research has some limitations in relation to the research problem under investigation.

The first limitation of this study is related to the difficulty of making an appointment with the City officials due to their busy schedule, so I could not interview with all the official that I had wished to (i.e., the Mayor). Additionally, in some cases the appointment times were very short and did not allow me to ask all the questions.

The second limitation is related to the difficulties of accessing to people who might be considered marginalized and as a result, vulnerable in the face of climate change. This difficulty was due to the COVID 19 Pandemic. In the initial designing of the study, I planned to interview with the vulnerable people as well as the social justice advocates who work with them for the vulnerability section. However, due to the Pandemic the in-person interviews were impossible, and the only possible way was via Zoom meeting. This made recruiting and interviewing with the vulnerable people extremely challenging due to their lack of access to internet, so we deleted this part, despite our initial plans to include their voices and perspectives in this study.

The other limitation of this study as a qualitative study is that at times the participants, particularly the City officials and staff members may answer the questions cautiously. As a qualitative researcher I understand the possibility of cautious answers which does not reflect a comprehensive picture of reality, given that their positions are bound up with those policies. That is why I interviewed both policy makers and engaged community members who are advocating social justice. Then, I raised critiques levied by the latter group with policymakers to see how they responded to them. Despite such methods, it is notable that a key point uncovered in the dissertation is that the City of Kingston is not formally considering equity and justice perspective in their climate policies. In other words, equity is not in their conceptual framework, and horizon of climate policies, at all, that should be.

Finally, there are always some questions that emerge after coding and analyzing qualitative data that a researcher may wish to have collected. This research is no exception: there are questions that I now wish I had asked during interviews. That said, these can be addressed in future studies which I will suggest in the next section.

8.2.3 Suggestions for future research

As the climate change emergency has just recently been declared in Kingston (in 2019), the related policies in this regard are still evolving and in progress according to the City officials. A further study in 3 to 5 years would be recommended to evaluate the progress of Kingston's policies in integrating a justice and equity lens in its policies.

Additionally, conducting a comparative study between Kingston's climate policies as a successful model in mitigation with a more successful city case in justice-oriented adaptation policies can be beneficial to further understand the effectiveness of justice lens

in adaptation. Brantford and London are two case examples introduced by one of the participants of this study as progressive examples of adopting justice lens in their climate policies and blending the climate policies in all their departments, rather than exclusively in one department. In this respect, a comparative study between Kingston, Brantford and London could be beneficial to create a more comprehensive model for successful implementations of climate policies incorporating both adaptation and mitigation.

Finally, conducting a study using the marginalized and vulnerable population as a sample is an imperative to further understand their perspectives, needs, and challenges which is exacerbated by climate change impacts. An original and firsthand information on their needs and expectations can be beneficial for the policymakers to plan for justice-oriented climate policies.

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Appendix A

Ethics Approval

September 13, 2021

Ms. Elham Yousefinejad
Queen's University
Department of Sociology

Title: "GSOC-198-21 Climate Change Governance: A Pathway to Resilience-building and Vulnerability-Reduction Policies in Kingston;" TRAQ # 6034434

Dear Ms. Yousefinejad:

The General Research Ethics Board (GREB), by means of a delegated board review, has cleared your proposal entitled **"GSOC-198-21 Climate Change Governance: A Pathway to Resilience-building and Vulnerability-Reduction Policies in Kingston"** for ethical compliance with the Tri-Council Guidelines (TCPS 2) and Queen's ethics policies. In accordance with the Tri-Council Guidelines (Article 6.14) and Standard Operating Procedures (405), your project has been cleared for one year.

You are reminded of your obligation to submit an annual renewal form prior to the annual renewal due date (access this form at http://www.queensu.ca/traq/signon.html/; click on "Events;" under "Create New Event" click on "General Research Ethics Board Annual Renewal/Closure Form for Cleared Studies"). Please note that when your research project is completed, you need to submit an Annual Renewal/Closure Form in Romeo/traq indicating that the project is 'completed' so that the file can be closed. This should be submitted at the time of completion; there is no need to wait until the annual renewal due date.

You are reminded of your obligation to advise the GREB of any adverse event(s) that occur during this one-year period (access this form at http://www.queensu.ca/traq/signon.html/; click on "Events;" under "Create New Event" click on "General Research Ethics Board Adverse Event Form"). An adverse event includes, but is not limited to, a complaint, a change or unexpected event that alters the level of risk for the researcher or participants or situation that requires a substantial change in approach to a participant(s). You are also advised that all adverse events must be reported to the GREB within 48 hours.

You are also reminded that all changes that might affect human participants must be cleared by the GREB. For example, you must report changes to the level of risk, applicant characteristics, and implementation of new procedures. To submit an amendment form, access the application by at http://www.queensu.ca/traq/signon.html; click on "Events;" under "Create New Event" click on "General Research Ethics Board Request for the Amendment of Approved Studies." Once submitted, these changes will automatically be sent to the Ethics Coordinator, GREB, at University Research Services for further review and clearance by GREB or the Chair, GREB.

On behalf of the General Research Ethics Board, I wish you continued success in your research.

Sincerely,

Professor Dean A. Tripp, PhD
Chair, General Research Ethics Board (GREB)
Departments of Psychology, Anesthesiology & Urology
Queen's University

Appendix B

Ethics Renewal

Dear Ms. Yousefinejad:

RE: GREB Annual Renewal Clearance TRAQ #: 6034434 "GSOC-198-21 Climate Change Governance: A Pathway to Resilience-building and Vulnerability-Reduction Policies in Kingston"

Date Ethics Clearance Effective: August 25, 2022
Ethics Clearance Expiry Date: August 25, 2023
Review Type: Delegated
Lapse in Ethics Clearance: N/A

This email serves as your notification that the Queen's University General Research Ethics Board (GREB) has reviewed your annual renewal event form submission and ethics clearance is extended for one year as indicated above.

Appendix C

Letter of Information and Consent

Letter of Information (LOI)/Consent – Interview, risk, compensation

For Semi-structured interviews

Study Title: Climate Change Governance: A Pathway to Resilience-building and Vulnerability-Reduction Policies in Kingston.

Name of Principal Investigator: Ms. Elham Yousefinejad, Faculty of Arts and Sciences, Department of sociology, Queen's University, Kingston, Canada.
Name of Supervisor: Dr. Marcus Taylor, Department of Global Development Studies, Queen's University, Kingston, Canada.

Thank you for agreeing to this interview! In this interview I am going to be asking you questions about climate change policies in Kingston.
I am inviting government officials / NGO sector and academicians working on climate change and environmental issues to take part in a research study. The purpose of this study is to analyze local government policies and nongovernmental organizations (NGOs) plans associated with Kingston climate change and sustainable Kingston plans. In doing so this research project seeks to identify both strengths and weaknesses of Kingston's policies and practices and try to present best-practice prescriptions for other municipalities to build a comprehensive climate change plan, and for Kingston to fill its existing plan gaps. Given your expertise in this subject matter, I wish to interview you about what you see as the primary challenges to climate change adaptation in Kingston and what policies are most appropriate for sustainable climate change mitigation in Kingston, taking the most vulnerable individuals and collectives' need into account. If you agree to take part, I will interview you once for up to one hour using zoom meeting.
No demographics or sensitive information about you will be collected for the purpose of this study.
I would like to record the interview so that I may maintain an accurate record of your statements for transcription and analysis. However, you may keep your camera off so that you are only be audio recorded. Your confidentiality will be protected to the level requested by you. I may wish to quote from these interviews. If you do not wish for me to do so, you may notify me at any time.
There are no known physical, psychological, economic or social risks involved with the participation in this research. There are no direct benefits to you as a participant, either. Your participation is truly appreciated; however, you will not be paid for taking part in this study.
Participation is voluntary. You do not have to answer any questions you do not want to. You can stop your participation at any time by telling the researcher without any penalty/ impact on your employment/ academic standing. You may request to have your data withdrawn from the study up until 6 months after the interview by contacting me at 16ey7@queensu.ca.

The study data will be stored on an encrypted hard drive on Queen's University servers. If you consent to give your name, your interview will be filled by name, otherwise your interviews will be stored securely by a study ID number. Access to study data is limited to researchers on the study team, as well as the Queen's General Research Ethics Board (GREB) may request access to study data to ensure that the researcher(s) have or are meeting their ethical obligations in conducting this research. GREB is bound by confidentiality and will not disclose any personal information, this promise does not include anonymous or publicly available information. I will keep your data securely for at least five years per Queen's University Policy, after which the de-identified data will be deposited into the Queen's University's Institutional

Repository. Your name or the code file identifying your pseudonym and study ID number will be destroyed five years after study closure. That means all the data and zoom recordings will be destroyed by August 2026.

I plan to publish the results of this study in academic journals and present them at conferences. I will not include any quotes or personally identifying information and real name from the interviews when presenting my findings without your consent. During the interview, please let me know if you say anything you do not want me to quote. However, if you give me consent, you will be identified during the research/dissemination by your name and your position in your organization.

If you have any ethics concerns, please contact the General Research Ethics Board (GREB) at 1-844-535-2988 (Toll free in North America) or email chair.GREB@queensu.ca. Call 1-613-533-2988 if outside North America. If non-English speaking participants wish to contact the Chair for ethics concerns, translation assistance may be necessary, as the REB Chair communicates in English only.

If you have any questions about the research, please contact me at 16ey7@queensu.ca or my supervisor Professor Marcus Taylor, Associate Professor & Head of Department of Global Development Studies, Queen's University, Kingston, Ontario, Canada K7L 3N6. Tel. (01) (613) 533-6000 ext. 77655. Email: marcus.taylor@queensu.ca.

This Letter of Information provides you with the details to help you make an informed choice. All your questions should be answered to your satisfaction before you decide whether or not to participate in this research study. Keep one copy of the Letter of Information for your records and upload one electronic **signed copy** to me, Elham Yousefinejad, to the OneDrive link that I will send to you separately prior to the interview.
You have not waived any legal rights by consenting to participate in this study.

Thank you for participating in my research study titled Climate Change Governance: A Pathway to Resilience-building and Vulnerability-Reduction Policies in Kingston. Your time and effort to participate in this study in greatly appreciated!
Would you be willing to pass along the name and contact information of any co-worker who might be interested to participate in an interview? Yes / no

If Yes: May I ask you to contact this person for their permission so I may contact them? Here is my e-mail address (16ey7@queensu.ca)– could I ask you to send me a quick email with their contact information once you've spoken to them? Thank you.

Of course, there is no obligation for you to pass along this information, and there will be no penalty if you do not provide this information.

I will be letting potential participants whom you refer know that you were the source of the referral. You also have the right to request that you are given time to notify the potential participants prior to me contacting them.
Please don't hesitate to let me know by email if you have any additional comments or questions in the light of information provided in this letter.

Please choose among the following options for the request of confidentiality (You may choose more than one option):

☐ You have my permission to name me directly and name my position in my organization within the project.

☐ You have my permission to only name my organization within the project.

☐ You have my permission to use quotation in your research project.

☐ You have my permission to audio record my interview.

☐ You have my permission to video record my interview as well as audio record.

☐ You may reveal my identity to those participants I have referred.

By signing below, I am verifying that: I have read the Letter of Information and all my questions have been answered.

_____	_____	_____
Signature of Participant	PRINTED NAME	Date
_____	_Elham Yousefinejad_____	_____
Signature of Researcher	PRINTED NAME	Date

Appendix D

Interview Guide for City officials

Elham Yousefinejad

Semi-structured interview Guide: Climate Change Policies in Kingston

<u>Questions for Key policy makers and government officials, directors, and midlevel staff of municipal departments in Kingston:</u>

A. Governance and Resilience:

1) Can you tell me about the Kingston Climate Action Plan: How did this document come into existence and what difference does it make to policy planning and governance in Kingston?
2) What is the relationship between the Kingston Climate Action Plan and the declaration of a climate emergency?
3) It is often said that climate change requires not just a shift in municipal policies, but also a shift in how a city is governed. Are there important changes in Kingston's governance processes stemming from the Action Plan and the Climate Emergency declaration?
4) How do you see those changing governance processes evolving over the coming decade?
5) Might you explain how your department/office fits into the city's wider climate change policymaking processes?
6) What are the key shocks and stresses that you think will impact how your specific department functions?
7) The idea of building resilience has been put at the centre of Kingston's climate change policy. What, for you, are the core elements of resilience? How does your department seek to build resilience through its actions?
8) It is often said that climate change policies should be built upon precise and accurate information and data. Where do the government and Kingston municipality's information and data come from?
    a. Are there specific areas where we lack data?
9) What governance structures are in place to gain insight about climate change challenges and solutions from local populations?

B. Vulnerable Groups:

1) Within Kingston, which specific groups within the population are considered most vulnerable to climate change impacts and why?
2) What are the climatic change challenges these vulnerable individual or groups face, and in what way climate change can impact these individuals or groups?
3) How does the pursuit of resilience within Kingston incorporate these groups?
4) Are there specific policies or mechanisms that seek to reduce vulnerability in these groups?
5) What government actions might be needed in this respect over the next 15 years given the climate impacts you expect?

Appendix E

Interview Guide for the Social Justice Advocates

Elham Yousefinejad

Semi-structured interview Guide: Equitable Climate Change Policies in Kingston

Questions for Directors and staffs of nongovernmental and community-based organizations and local experts in Kingston who work with marginalised groups:

1) Might you briefly describe the key functions that your organization undertakes within the social sector in Kingston?
2) With respect to this work, are there any social groups or parts of the population that could be labelled as vulnerable groups within Kingston at present?
3) In your opinion, what are the primary factors that produce this vulnerability over time?
4) At a municipal level, how responsive is the government to the needs of these groups? What kinds of public programmes currently exist to mitigate their vulnerability?
5) Has your organization considered any of the ways that climate change might increase the vulnerability of the groups that you work with?
6) It is suggested that Kingston is likely to experience more extreme weather events over the coming decade. This will include hotter and drier summers, higher intensity rainfall events, warmer winters, icing conditions, and new types of pests and diseases. Which if any of these weather events might impact your organization's operations or the people you serve?
7) The City of Kingston has declared a climate emergency and produced a climate action plan. Do you feel that the issues your organization works with are adequately represented in this planning?
8) Do you have any additional information or comments that you would like to add in light of themes/issues we have discussed? Do you have any questions?