Understanding decision-making at the rural-urban fringe: the cases of the Cape Winelands Biosphere Reserve, South Africa and the Niagara Escarpment Biosphere Reserve, Canada.

by

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AUTHOR'S DECLARATION

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

As urban areas continue to expand into rural areas the world is experiencing a loss of productive agricultural land and diminishing natural habitats and associated ecosystems. The space where urban meets rural is known as the rural-urban fringe and what happens in these areas ultimately determines urban development patterns. Despite being such an important area, the rural-urban fringe is poorly understood and is often described as a "blurry" space – blurry in land patterns because it is where multiple uses collide and in how individuals interact in this space (since actors with often diverse opinions on how land should be used coexist there). Furthermore, there is no single body of scholarly literature that explains why and how decisions get made in rural-urban fringe areas.

This thesis contributes to filling this gap in literature by helping to (i) understand and explain the decision-making processes at the rural-urban fringe; (ii) create an analytical framework for understanding decision-making dynamics at the rural-urban fringe within two UNESCO Biosphere Reserves: the Cape Winelands Biosphere Reserve, South Africa and the Niagara Escarpment Biosphere Reserve, Canada; and (iii) construct a theory of decision-making for better outcomes at the rural-urban fringe. The analytical framework is divided into two parts with components drawn from problem-solving (including governance and management) and critical (critical political economy and resilience) theories. The premise is that each part contributes to a holistic understanding that they cannot accomplish on their own. The analytical framework is used as the analytical platform for consideration of the research data and is the basis on which the thesis' theoretical contribution is built. Specifically, each case study is first examined within the context of existing governance and management processes. This reveals the character of key issues and dynamics and the resulting policy responses. The cases are then located within the broader analytical contexts of critical political economy and resilience. This reveals the historical and structural dynamics often overlooked or neglected in problem-solving approaches.

The thesis reveals that in both case studies, government policy notwithstanding, decision-making within the rural-urban fringe is primarily determined by neoliberal ideologies of economic development and 'return on investment'. What emerges from the application of the analytical framework to the two case studies is a theory of decision-making for better outcomes at the rural-urban fringe, wherein "better" means a process for achieving outcomes in line with the stated goals of policies and plans, generally framed by the idea of sustainable development. The theory asserts that effective decision-making for environmentally sustainable and socially equitable outcomes at the

rural-urban fringe requires six conditions to be in place: (1) sufficient economic resources; (2) adequate knowledge; (3) forgiving time scale; (4) capable state; (5) robust legal structure; (6) favorable global context. All six are important though at this stage it cannot be said with absolute certainty whether better-for-all decisions may emerge in the absence of one or more of these conditions.

This theory makes a meaningful contribution to the scholarship on the rural-urban fringe and advances knowledge by articulating a new integrated approach to better decision-making that addresses the explanatory weaknesses identified by this thesis for each of the five bodies of literature considered.

Acknowledgements

Dedication

There are moments in life when everything changes. That moment happened for me in 2006, when I met the man I married. I dedicate this thesis to my husband, partner, and best friend, Larry Swatuk. I love you more and more with every passing year. Thank you for everything you've done for me, for your support, and for who you are.

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Chapter 1

Introduction

1.1 Introduction and research context

The rural-urban fringe is an area of transition between rural and urban land uses. As cities continue to expand at escalating rates into rural hinterlands, the globe faces rapid loss of productive agricultural land and loss of natural habitats and associated ecosystems (United Nations Environment Programme, 2013). More than half of the world's population now lives in urban areas and this is projected to rise by 2.6 billion, from 3.6 billion in 2011 to 6.2 billion in 2050 (United Nations, Department of Economic and Social Affairs, 2012). This means that the environmental pressures that are a result of the urbanization process will continue to escalate into rural landscapes as cities expand outwards to accommodate this migration of people to urban areas.

This is problematic because 60 per cent of the world's ecosystem services have already been degraded (Millennium Ecosystem Assessment, 2005); and the changes to the ecosystem are resulting in abrupt and potentially irreversible consequences such as new diseases, changes in water quality, dead zones in oceans and climate change. The poor are disproportionately impacted by changes to ecosystems (UNEP, 2005). In fact, the Millennium Ecosystem Assessment (UNEP, 2005, p. 2) reported that "over the past 50 years, humans have changed ecosystems more rapidly and extensively than in any comparable period of time in human history".[1]

The world also faces serious social and economic problems. The State of the World's Cities Report 2012/2013: Prosperity of Cities states: "Never before had humankind faced cascading crises of all types as have affected it since 2008, from financial to economic to environmental to social to political. Soaring unemployment, food shortages and attendant price rises, strains on financial institutions, insecurity and political instability, among other crises" (UN-Habitat, 2013). How and where urban areas expand has an impact on social and economic realities (UN-Habitat, 2013). There are also numerous social, psychological, and economic benefits to conserving greenspace (UNEP, 2005).

Multiple planning strategies are used to combat the problem of urban expansion into rural landscapes so that valuable ecosystems can be protected. For example, some regions incorporate greenbelts or "green wedges" into their Master Plans (Gant et al., 2010). These areas are legislated so

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[1]   The Millennium Ecosystem Assessment (2005) lists the top reasons for ecosystem degradation as demands for food, fresh water, timber, and fuel.

that certain portions of land surrounding or near urban centres are protected from urban types of development. Another example of planning strategies aimed at conservation or environmentally friendly forms of development is UNESCO's World Biosphere Reserve programme. This is a network of areas that have committed to implementing land use strategies that encourage conservation or more environmentally supportive forms of development to be exemplary demonstrations of beneficial integration of stewardship and human activity for sustainable livelihoods. Yet, despite these strategies for protecting rural landscapes from development, and despite the fact that rural-urban fringe research has been undertaken since the 1940s, there is limited understanding of how decisions get made in rural-urban fringe areas (Sharp and Clark, 2008; Scott et al., 2013; Clark, 2009; Bryant, 1973; Bryant, 1981). Specifically, where one might expect decision-making to be more sensitive to environmental and social needs such as where lands are gazetted as UNESCO Biosphere Reserves, in places with a long track record of democratic decision-making (Canada) and in places where a relatively new democratic government is intentionally aiming at social and environmental sustainability (South Africa), one sees instead a scramble for resources with mixed outcomes (see Watkins, et al., 2003), many of which are suboptimal and founded on environmentally unsustainable land-use practices that privilege particular elements of society. Why is this so?

1.2 Purpose of thesis

The purpose of this thesis is to understand and explain decision-making processes at the rural-urban fringe. In order to achieve this purpose, I apply an analytical framework to the case studies that emerged from reviewing planning theory, complex systems and resilience, political economy, governance and management. I also reviewed contemporary thinking on planning at the rural-urban fringe. Specifically, this review showed that no single body of literature provided an explanation for decision-making within rural-urban fringe areas. Neither could any one approach, on its own, provide adequate insight into the complex and interrelated dynamics among actors, forces, and factors that are obviously at play in the study areas. Thus, I drew from these bodies of literature to create an analytical framework to be used for analyzing decision-making at the rural-urban fringe. The framework is used as the analytical platform for the research data and is the basis on which the thesis's theoretical and empirical contributions are built. These contributions (i) lead to a better understanding of existing decisions that may lead toward better planning for sustainability at the

rural-urban fringe; (ii) build an analytical framework of analysis that planners and decision-makers can use to assist them in understanding the complete context in which they are making decisions; and (iii) construct a theory of decision-making for better outcomes at the rural-urban fringe.[2]

1.3 Research questions

Through the application of the analytical framework to the case studies, I attempt to answer the following questions:

1) What factors influence planning decision-making processes in the rural-urban fringe?

2) What insights emerge from the application of an analytical framework that includes governance and management (both defined as problem-solving theories) and critical political economy and resilience (both defined as critical theories)?[3]

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[2]   The thesis does not specifically address what are to be the necessary components for achieving sustainability at the rural-urban fringe. Ideally, the specific components would be derived on a case-by-case basis, emerge from an iterative process involving all stakeholders in a meaningful way (as per the governance and management literature recommendations), and reflect the sustainability goals that are articulated in the plans and policies of each study area. For example, see the Niagara Escarpment Planning and Development Act (1990) Section 8.a-g (Niagara Escarpment Commission, 2013b) and the Municipality of Stellenbosch Spatial Development Framework (2012), Part 1, pages 1-11 (Stellenbosch Municipality, 2012). (For a potential means of arriving at specific criteria see Gibson, 2005).

[3]   According to Cox (1981, in Cox with Sinclair, 1996, pp. 87-91), '[T]he pressures of social reality present themselves to consciousness as problems. A primary task of theory is to become clearly aware of these problems, to enable the mind to come to grips with the reality it confronts ... [T]heory can serve two distinct purposes. One is a simple, direct response: to be a guide to help solve the problems posed within the terms of the particular perspective which was the point of departure. The other is more reflective upon the process of theorizing itself: to become aware of the perspective which gives rise to theorizing, and its relations to other perspectives ... and to open up the possibility of choosing a different valid perspective from which the problematic becomes one of creating an alternative world ... The first perspective gives rise to *problem-solving theory*. It takes the world as it finds it, with the prevailing social and power relationships and the institutions into which they are organized, as the given framework for action. The general aim of problem solving is to make these relationships and institutions work smoothly by dealing effectively with particular sources of trouble ... The strength of the problem-solving approach lies in its ability to fix limits or parameters to a problem area and to reduce the statement of a particular problem to a limited number of variables which are amenable to relatively close and precise examination ... The second purpose leads to *critical theory*. It is critical in the sense that it stands apart from the prevailing order of the world and asks how that order came about. Critical theory, unlike problem-solving theory, does not take institutions and social power relations for granted but calls them into question by concerning itself with their origins and how and whether they might be in the process of changing ... [T]he critical approach leads toward the construction of a larger picture of the whole of which the initially contemplated part is just one component, and seeks to understand the process of change in which both parts and whole are involved ... [P]roblem-solving theory is conservative, since it aims to solve the problems arising in various parts of a complex whole in order to smooth the functioning of the whole ... Critical theory ... approaches practice from a perspective which transcends that of the existing order, which problem-solving theory takes as its starting point. Critical theory allows for a normative choice in favor of a social and political order different from the prevailing order, but it limits the range of choice to alternative orders which are feasible

3) What, if any, generalizations can we draw from the two comparative cases, such that better land-use planning decisions may be made in the future, within the contexts of (i) each specific case study; (ii) at the rural-urban fringe in general?

4) How does having UNESCO Biosphere Reserve status influence planning decisions in the rural-urban fringe?

1.4 Methodology

This thesis uses a comparative case study approach and applies the analytical framework to the two areas of 1) Jamestown, Western Cape, which is located within the Cape Winelands Biosphere Reserve, South Africa; and 2) the most southerly portion of the Niagara Escarpment Biosphere Reserve, Ontario, Canada, commonly known as the Greater Golden Horseshoe. The goal of examining these two case studies and applying the analytical framework is to (i) explain the decision-making processes in the rural-urban fringe; and (ii) construct a theory of decision-making for sustainability at the rural-urban fringe.

These cases have been chosen because they are located in two very different countries socially, politically and economically, yet both have rural landscapes that experience pressure for development. Areas within Biosphere Reserves were chosen because it is assumed that if sustainable development and protection of greenspace can occur anywhere in the world, it should be within these areas because their stakeholders must demonstrate a commitment to the pillars of the UNESCO Man and Biosphere Programme before obtaining the status. The areas were also chosen because both Biosphere Reserves are close to rapidly expanding major international metropolitan areas (Cape Town, South Africa and Toronto, Canada). Accordingly, it is assumed that because of this, tension between protection and development should be much greater than if the Biosphere Reserves were located far from major urban centres.

Examining the tension between the requirement to adhere to UNESCO Biosphere Reserve goals and pressure for development due to proximity of rapidly expanding metropolitans provides insight into the key factors that cause land to be developed or protected. Another important characteristic of the case study areas is they are both characterized as rural-urban fringe areas, which are areas most vulnerable to development. This research uses the definition of Scott (2013) and the

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transformations of the existing world ... In this way critical theory can be a guide to strategic action for bringing about an alternative order, whereas problem-solving theory is a guide to tactical actions which, intended or unintended, sustain the existing order.'

OECD (2011) who both describe the rural-urban fringe as rural areas that have characteristics of urbanism. For instance, rural areas become the rural-urban fringe when urbanites move to these areas, bringing urban ideas and ways of life with them (Scott, 2013). Furthermore, the rural-urban fringe may be a rural community from which the residents commute to the city on a daily basis for work (Scott, 2013). In fact, the OECD (2011) has stated that there is no rural land left in the United Kingdom, it is all rural-urban fringe.

The comparative case study methodological approach provides a robust dimension to qualitative research because it allows a researcher to examine that which is being studied within a particular case setting and compare across cases (Baxter and Jack, 2008). The goal of using two case studies that are based in different political, social and economic realities is to see whether or not a common cause can be found that impacts development outcomes, despite these economic, political and social differences. Data collection for both studies consisted of policy and planning document analysis, key informant interviews, observational research through planning and Biosphere Reserve meetings that I was able to attend, review of grey literature (brochures, pamphlets, etc.), inspection and analysis of geographical information systems (GIS) and other (especially older) maps and photographs, observation through spending time in both areas, and the taking (and later analysis) of photographs and video (see Chapter 3).

The analytical framework is divided into two sections: problem solving theory (including governance and management) and critical theory (including resilience and political economy). First each case is examined through a problem-solving lens to reveal the character of key issues and dynamics and the resulting policy responses. Each case is then examined within critical political economy and resilience to reveal the historical and structural dynamics often overlooked or neglected in problem-solving approaches. This analytical approach was used to help answer the research questions stated in Section 1.3.

1.5 Structure of dissertation

Chapter 1 provides an introduction to the thesis and illustrates why the research presented in this dissertation is important. Chapter 2 presents a review and critique of the literature viewed as necessary for answering the research questions. A benefit of this dissertation is that the interdisciplinary approach that I use helps solve what is a practical planning dilemma: what happens within decision-making processes that causes land to be developed in ways evidently incompatible

with progress towards sustainability? For this reason, the literature review draws upon a variety of bodies of literature that cross disciplines. It discusses why urban expansion is an issue, then focuses on the rural-urban fringe, introducing it as a highly complex space with multiple actors and users. The rural-urban fringe is of key significance for urban expansion since it is this area where land changes from natural to rural to urban uses. Planning theory and methods are next examined to provide an understanding of the immediate context in which land use decisions get made. Then concepts of resilience and complex systems are introduced because scholars of this field argue that best outcomes for sustainable, resilient systems require approaching problems from a new, multi-dimensional perspective. I discuss political economy literature next because the other literatures (resilience, governance and management) do not adequately address the issue of economic and political power. The focus next shifts to governance and management because this body of literature examines how decisions get made and implemented. I then weave these bodies of literature together because collectively they serve as a more complete tool for analyzing decision-making processes at the rural-urban fringe (more complete than one body of literature can contribute on its own). The weaving together of this literature becomes the analytical framework for decision-making at the rural-urban fringe in this chapter. The analytical framework is divided into problem solving theories (including governance and management) and critical theories (critical political economy and resilience).

Chapter 3 presents the case methodology in which the research process is outlined from initial data collection and review through to analysis.

Chapters 4 and 5 examine both case studies through the problem-solving component of the analytical framework. Specifically governance and management are the two theories within problem-solving theories that are used to situate the case studies within their existing context. Chapter 4 focuses on the South African case and discusses the interview results and other research findings, with common themes and concepts grouped together. The South African case demonstrates the impact of the past on current plans and outcomes as planners struggle with how to implement steps towards a truly integrated society after the country was left with the spatial realities of a once formally highly divided society. This sheds light on the factors influencing decision-making processes and outcomes in rural-urban fringe areas, and how power influences planning decisions in the rural-urban fringe. Chapter 4 also provides insight into how having the UNESCO Biosphere Reserve status influences decision-making in the rural-urban fringe. In Chapter 5, I utilize the results from interviews and other research sources described in the methodology section, and determine that the

Canadian case demonstrates that strong law and policy are essential to protect land as nature or for agricultural use. The role of power and politics and its impact on economic outcomes (and vice versa) is a key outcome that emerged from the Canadian case. The findings in this chapter also shed light into the factors influencing decision-making processes and outcomes in rural-urban fringe areas, and how power influences planning decisions in the rural-urban fringe. Chapter 5 also provides insight into how having the UNESCO Biosphere Reserve status influences decision-making in the rural-urban fringe. Chapters 6 and 7 apply the second component of the analytical framework: critical theory, through critical political economy and resilience. It is important to note that I do not conduct a complete assessment as it is beyond the scope of this dissertation. My intention here is to highlight the value of including critical perspectives in understanding and explaining decision-making at the rural-urban fringe. Ideally, in a real decision-making setting, a full 4-stage analysis would be conducted.[4] Chapter 8 discusses the results from the analysis. In both the South African and Canadian cases, and notwithstanding existing protective land use policy and legislation in both locations, decision-making within the rural-urban fringe is primarily determined by market approaches to economic development and 'return on investment.' This finding is encapsulated by the phrase 'political economy of rural-urban fringe spatiality'.

Based on the findings from the case studies, Chapter 9 presents a theory of decision-making for sustainable planning at the rural-urban fringe. The evidence suggests that where better decisions were made (i.e. those promoting sustainability and social equity), six conditions were in place: (i) sufficient economic resources; (ii) adequate knowledge; (iii) forgiving time scale; (iv) a capable state; (v) robust legal structure; and (vi) favorable global context. The findings from the case studies are reshaped as a theory of sustainability planning at the rural-urban fringe, so presenting testable hypotheses that may be applied elsewhere in the world.

Figure 1 describes the flow of logic illustrated within this dissertation.

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1). THE PROBLEM

- Cities are expanding into rural hinterland.
- This is a problem for multiple reasons such as: (1) loss of productive agricultural land; (2) loss of natural habitats and associated ecosystems; (3) adverse social consequences of undesirable change.

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[4] There are a number of resilience assessments in existence (for instance, see the Resilience Alliance, 2013 and Walker et al., 2002). One may choose one of these or create a new assessment that incorporates multiple models. It could also take into consideration sustainability assessments, such as that developed by Gibson (2006).

2) WHY I AM LOOKING AT IT

- The space where urban meets rural is known as the rural-urban fringe. Better understanding of how decisions get made at the rural-urban fringe will help combat the problem identified above.

3) FIRST STEP

- I looked to scholarly literature to find out what others have said about decision-making processes at the rural-urban fringe. Specifically I turned to planning theory, complex systems and resilience, political economy, governance and management.

4) WHAT I FOUND

- No single body of literature provided an explanation.

5) DEVELOPMENT OF ANALYTICAL FRAMEWORK

- There is no single body of literature that explains why and how decisions get made that do not respect ecological and agricultural (and other sustainability-related) considerations.
- I combined four bodies of literature (governance, management, resilience and political economy) to create an analytical framework to be used for analyzing decision-making at the rural-urban fringe.
- The analytical framework is used as the analytical platform for the research data and is the basis on which the thesis's theoretical contribution is built.

6) METHOD

- The analytical framework was divided into two sections: problem solving theory (including governance and management) and critical theory (including resilience and political economy).
- Two case studies (the Niagara Escarpment Biosphere Reserve and the Cape Winelands Biosphere Reserve) were then examined, using the analytical framework as a guide for analysis.
- The goal of this was to (i) explain the decision-making processes in the rural-urban fringe; and (ii) construct a theory of decision-making for sustainability at the rural-urban fringe.

7) APPROACH

- (1). Each case was examined through a problem-solving lens to reveal the character of key issues and dynamics and the resulting policy responses.
- (2). Each case was next examined within critical political economy and resilience - this reveals the historical and structural dynamics often overlooked or neglected in problem-solving approaches.

8) RESULT

- In both contexts, and notwithstanding existing protective land use policy and legislation in both locations, decision-making within the rural-urban fringe is primarily determined by market approaches to economic development and 'return on investment.' This finding is encapsulated by the phrase 'political economy of rural-urban fringe spatiality'.

9) DEVELOPMENT OF THEORY

- Out of the results from the case studies, I developed a theory of decision-making for sustainability at

the rural-urban fringe that can help to ensure that development decisions affecting the rural-urban fringe are made in the best interests of ecological and social factors.

- This theory asserts that decision-making for environmentally sustainable and socially equitable outcomes at the rural-urban fringe require six conditions to be in place: (i) sufficient economic resources; (ii) adequate knowledge; (iii) forgiving time scale; (iv) a capable state; (v) robust legal structure; and (vi) favorable global context.

10) CONCLUSION

- The framework and the theory contribute to the scholarship on 'sustainable development' within the rural-urban fringe, and advances knowledge by articulating a new, integrated approach to 'better-for-all' decision-making that addresses the explanatory weaknesses identified by this thesis for each of the five bodies of literature considered.

Figure 1: Flow of logic of dissertation

1.6 Conclusion

Cities are expanding in an unsustainable manner. This is problematic for goals of maintaining environmental integrity and human well-being. Decisions that determine whether or not land becomes developed, and the type of development that occurs, happen at the rural-urban fringe (Essien and Akpan, 2013; Hierala et al., 2013; Csatári et al., 2013). The rural-urban fringe is a space of transition between urban and rural use, and is considerably under researched in academic literature (Pacione, 2012; Bittner and Sofer, 2012). This chapter has outlined the main purpose (and first research question) of this PhD: to understand decision-making at the rural urban fringe. This chapter introduced the two case study areas: the Cape Winelands Biosphere Reserve, Cape Winelands, South Africa and the Niagara Escarpment Biosphere Reserve, Ontario, Canada.

I have briefly introduced the analytical framework that I apply to the case studies. The analytical framework is divided into two themes: problem-solving theory and critical theory. Governance and management literature fit within the problem-solving theme and critical political economy and resilience are critical theories. The thesis furthermore aims to offer insights that emerge from the application of this analytical framework in order to address the second research question.

From this research I answer the third research question: "What, if any, generalizations can we draw from the two comparative cases, such that better land-use planning decisions may be made in the future, within the contexts of (i) each specific case study; (ii) at the rural-urban fringe in general?" Finally, the thesis also provides insight into whether or not UNESCO Biosphere Reserve status influences planning decisions in rural-urban fringe areas. Finally, this chapter provided an overview of the chapters that make up the thesis, accompanied by its flow of logic.

The next Chapter, the Literature Review, explains why the rural-urban fringe is important to the study, including prevailing research on the topic. Secondly, it discusses planning theory and methods that dominate thinking relevant to the thesis. Thirdly, the chapter discusses the literatures that make up the analytical framework. This includes problem-solving theories (governance and management) and critical theories (critical political economy and resilience).

Chapter 2
Literature Review

2.1 Introduction

This thesis is ultimately about change, including change that is deliberate and directly influenced by people, change that is anticipated and bearable, and change that is unanticipated and the undesirable consequences of human endeavour. Planners change the world, and mean to do so. Given their involvement in the allocation of often scarce resources, planners co-habit decision-making space with many other actors drawn from the state, civil society and the private sector. Since resources are scarce (land, labour, capital), and objectives regarding appropriate "development" differ, the structures of governance are critical to positive social actions: how to decide the allocation of resources; by whom; through what process; for whom and to what end?

Once a decision about a particular course of action has been made, it must be acted upon. This activity requires management, either through existing organizational structures or through ones newly constructed just for the task at hand. It is here that decision-makers must be able to monitor and evaluate the implementation, and to devise new pathways if and when (un)anticipated challenges arise.

Most decisions revolve around this diad of authority: governance and management. Over time this nested form of authority has come under serious critique: it is typically hierarchical, exclusive, technically oriented, demanded by specific sectors of society. Most importantly, it is often accused of using public resources to serve partial and destructive ends: ends that are damaging both to society (by widening income gaps, for example) and to the biophysical environment (through resource degradation) (Sandberg and Wekerle, 2009; Murray and Myers, 2006).

Models of political economy and resilience aim to show decision-makers that their models and methods are inadequate (Trimble and Berkes, 2013; Walker and Salt, 2012; Harvey, 2005; Cox, 1987). This is not to say that all planning, governance and management approaches are complicit in on-going systems of resource capture (Homer-Dixon, 1999). As will be shown below, in this literature review, each of these five perspectives (planning theory, governance, management, resilience and political economy) adds value to our understanding of resource use decision-making, development and management, particularly through each literature's own internal theoretical debates,

and through cross-disciplinary learning. Yet each remains somewhat limited in its scope and therefore ability to offer up an explanation of "the big picture".

This chapter examines planning theory and models, governance, management, political economy, and complex systems/resilience, with an aim of drawing out their most salient and relevant features in order to assemble them into what I am calling an analytical framework for decision-making at the rural-urban fringe. It is analytical in the sense that I apply the framework to two case studies in order to derive a series of hypotheses regarding the ways and means of better decision-making, development and management at the rural-urban fringe, not only in the case study areas, but in rural-urban fringe areas everywhere.

2.2 Why examining urban expansion matters

The current way that cities are expanding has dire consequences for ecosystem sustainability and human quality of life, and this is not limited to a particular geographical region. In fact, UN-HABITAT's *State of the World Cities 2010/2011: Bridging the Urban Divide* report, states "Urban sprawl[5], a trend long associated with North American cities, is fast engulfing many developing countries where real estate developers are pushing a 'world class lifestyle'" (UN-Habitat, 2010a, p.1). Carruthers (2003, p. 477) describes these growth patterns as "inefficient, inequitable, and environmentally insensitive". Rural and natural land is threatened because areas surrounding cities are subject to changes due to population growth, rising income (hence individuals are able to afford more "space" and material goods), increased mobility and accessibility (as there are more automobile owners) (Bryant, 1982). Some scholars such as Clark (2009) blame population growth for urban sprawl, while Blais (2010) explains how land development significantly outpaces population growth, resulting in an increase in land usage per person. Simply put, we are developing land at escalating rates not just because there are more people on the planet. Interestingly, the geographical area of cities is expanding disproportionately to population size (since people essentially consume more space, to house their possessions). Between 1970 and 2000 in the cities of Guadalajara, Mexico; Antananarivo, Madagascar; Johannesburg, South Africa; Cairo, Egypt; Mexico City, Mexico; and cities in China, the surface area of the city grew 1.5 times faster than the population (UN-Habitat, 2010b). Yet people are not paying the full costs of their lifestyle goals such as single-family housing,

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[5] Urban sprawl includes leapfrog development patterns, commercial-strip, low-density and single-use development at or near the urban fringe (Blais, 2010).

automobile ownership and low-rise work places (Carruthers, 2003). Larger homes located far from urban centres are now obtainable because rising incomes, technology and falling commuting costs[6] enable people to maintain their life-style choices (Carruthers, 2003) and much of this is subsidized by people who live in areas with greater density (Blais, 2010).

There are considerable consequences to urban sprawl as it leads to "an increase in the cost of transport, public infrastructure and of residential and commercial development...sprawling metropolitan areas require more energy, metal, concrete and asphalt than do compact cities because homes, offices and utilities are set farther apart...urban sprawl encourages new developments that cause significant loss of prime farmland. When cities are improperly planned urban sprawl also adds to environmental degradation" (UN-Habitat, 2010a, pg. 1).

Responding to expanding urbanization, researchers are trying to understand how farmland can be preserved through growth management strategies, especially in agricultural areas near large cities (Watkins et al., 2003). Open space, wildlife habitat, and the best agricultural land are being lost to urbanization (Theobald, 2001), while urban areas suffer from air pollution, congestion, accidents, inadequate policing, excessive commuting and transportation costs, increased cost of road infrastructure and other public services, social costs, socioeconomic segregation, and health costs (Blais, 2010; Carruthers, 2003). As Clark (2009, p. 1) explains, the continuous urbanization of rural land ultimately results in serious problems such as "sprawl, industrial operations, environmental degradation and [an overall] significant alteration of critical ecosystems".

Central to the quest for preserving agricultural land is food land protection (Watkins et al., 2003). In Ontario, for instance, government officials have expressed the importance of protecting land for food production; however, more often than not development[7] is chosen over agricultural protection due to its richer near term economic contribution (Watkins, et al., 2003). The Republic of South Africa's *State of the Environment Report* (2011) identifies rapid urban expansion and population growth as vital issues for the country as rural land and areas of natural habitat are being developed by sprawling informal and formal settlements. According to the report, those living in informal settlements may occupy open land with hope of securing future housing while wealthier

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[6] This article was written in 2003. With the exception of public transit, commuting costs are currently rising to all time highs. The cost of gas at the time of this writing was $1.35, for instance, and in 2013 it ranged between 74.5 cents per liter and 89.9 cents/liter.

[7] For the purpose of this study, development refers to construction of built form or the alteration via digging or other means of the natural environment for mining purposes. Developers are the individuals that construct this built form.

suburbs such as golfing and country estates emerge, creating division via their walled, gated blocks (Government of South Africa, 2011; Ballard, 2005).

This rapid pace of urban expansion places tremendous pressure on the planning process (UN-Habitat, 2010b). According to Blais (2010, p. 223), mispricing, mis-regulation of land use and mis-incentives are the main problems. "Mis-pricing...the perverse subsidies that arise from under pricing inefficient development and overpricing efficient development is a factor that is clearly and directly linked to the creation of sprawl." She highlights government policies and programs such as flat RRSP withdrawals for first time buyers and land-use regulations as they influence the "supply-side by mandating densities that are lower than what an unbiased market would otherwise provide. By limiting alternatives to conventional low-density suburban growth, regulations such as zoning subdivision controls, and engineering standards ensure that sprawl is the primary form of development and make the suburbs more spread out than would otherwise be the case". She also blames a lack of regional governance for 'leapfrog' forms of developments at the rural-urban fringe. "Regional coordination is required to, at a minimum, coordinate regional scale infrastructure (such as greenspace networks and transportation) between local jurisdictions and with land use...while a lack of it can contribute to sprawl." Yet she also says that there is no guarantee that regional coordination controls or restrains sprawl (Blais, 2010). Essentially current policies and systems favour inefficient development, making it cheaper and in turn more desirable for buyers (Blais, 2010).

Urban expansion has consequences for land at the rural-urban fringe. As Watkins et al. (2003: 7) describe the situation:

> The evolution of land use planning in urban and suburban communities in southern Ontario has created huge demand for developable land on the urban fringe. Unfortunately, much of Ontario's prime agricultural land lies in this urban fringe because, historically, our most prosperous cities were built around the success of the agricultural community. Flat, cleared, agricultural land is not only easily developable, but due to dwindling profits in the agricultural industry, it is also affordable to developers who are seeking to meet the demand for land to accommodate growth. It is often far more profitable in the long term for a farmer to sell [his or her] land, knowing that it may be converted to some non-agricultural land use, than to continue farming the land.

The rural-urban fringe is most vulnerable to urbanization pressure for the reasons mentioned above. In section 2.2, I discuss the prominent thinking about the rural-urban fringe in order to demonstrate why we must pay greater attention to land-use decision-making processes in this area.

2.3 Why the rural-urban fringe?

Even though there is a long recognized connection between sprawl and the rural-urban fringe, its actual definition has varied throughout time and has had numerous names, including transition zone, the fringe, the edge lands (Gant, et al., 2010), and the peri-urban (Pryor, 1968). It has also been labeled with words containing negative connotation, such as "fuzzy" or "messy" (Qviström, 2007; Scott, 2013), "blurry", "complex", "forgotten" (Bryant 1995; Clark, 2009; Scott and Carter, 2011) and is characterized by erratic development patterns (Qviström, 2007; Pacione, 2012). Rather than focusing on the line that determines the urban edge, the interrelationships between rural and urban are now being examined (Scott and Carter, 2011).

While rural-urban fringe scholarship has recently had a rebirth (Scott, 2013; Qviström, 2007; Scott and Carter, 2011; Pacione, 2012; Essien and Pakpan, 2013) expansion within the rural-urban fringe has been an issue since the late 1800s and the early 1900s. In 1942, it was defined as "the area of transition, between well recognized urban land uses and the area devoted to agriculture" (Wehrwein, 1942). In the 1950s, the rural-urban fringe became recognized as an area of transition, where competing and conflicting interests and activities between rural and urban met (Gant et al., 2010). The rural-urban fringe was described in 1968 by Pryor as "the zone of transition in land use, social and demographic characteristics, lying between (a) the continuously built up urban area, and the suburban areas of the central city and (b) the rural hinterland, characterized by the almost complete absence of non-farm dwellings, occupation and land-use" (Pryor, 1968, p. 62).

As the rural-urban fringe concept emerged throughout history, it was increasingly described as a dynamic area and one that Bryant et al. (1982) felt was difficult to define; although they felt that it represents a continuum[8] from the urban to the rural, dominantly characterized by transition. Then in 2009, Clark asserted that rural-urban fringe areas share the physical, demographic and occupational characteristics with the nearby cities yet residents of the rural-urban fringe have "varying access to urban services and facilities…[and have] limited voice in urban planning and development".

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[8]   According to Bryant et al. (1982), the continuum varies from place to place since the pressures that influence rural-urban fringe changes vary. Its order changes and it may appear in various directions around the same city.

Currently, the literature predominantly agrees that the rural-urban fringe is a zone of transition between rural and urban (Gant et al., 2010; Bittner et al., 2013; Hierala et al., 2013; Haller, 2013).

The rural-urban fringe is of great significance for this thesis because of the multitude of land uses that occurs within it and the essential role that it plays in urbanization patterns (Pacione, 2012; Bittner and Sofer, 2012; Essien and Akpan, 2013; Hierala et al., 2013; Csatári et al., 2013). Rural-urban fringe areas are characterized by a variety of land uses; for instance, within its vague perimeters there may be a shopping plaza, an industrial park, a golf course, housing, an arena, a tech park, a mine, and a farm all co-existing in the same vicinity. It is here where not only tensions about appropriate land use may be seen, but also where contesting ideologies about late-modern development are most clearly articulated (Pacione, 2012; Bittner and Sofer, 2012; Csatári et al., 2013; Essien and Akpan, 2013; Hierala et al., 2013). In other words, what is development and how do we move forward into the 21st century? It is here where some scholars (for instance see Clark, 2009; Sullivan, 1994), claim that the adverse ecological impacts of land transformations are irreversible and may ripple to the larger system. Yet non-economic values for place get little recognition in decision-making processes (Sullivan, 1994; UNFCC, 2013).

Perhaps it is this multiple usage that helps understand why Scott et al. (2013) claim that the rural-urban fringe is a space of policy and decision-making disintegration. Scott et al. (2013) define disintegration as where different policy goals conflict leading to a lack of integration. They further extend this definition to include conflicting social realities and land uses within rural-urban fringe areas. Scott et al. (2013) say that compartmentalizing land uses actually leads to further disintegration; therefore, it is necessary to merge the concepts via an interdisciplinary approach. The overall goal is to combine planning for nature and planning for the built environment, as opposed to accepting the status quo of division. It is only through this that the disintegration that is reflected in outcomes at the rural-urban fringe can be improved (Scott et al., 2013).

Furthermore, the rural-urban fringe is valuable and a space of opportunity (Qviström, 2007; Scott et al., 2013).

The rural-urban fringe marks the territory where land use changes from natural or rural to urban uses (Bittner and Sofer, 2012; Csatári et al., 2013; Pacione, 2012). It is here that urban expansion is realized and where multiple users with often vastly opposing ideas merge (Bittner and Sofer, 2012; Pacione, 2012; Csatári et al., 2013; Hierala et al., 2013; Essien and Akpan, 2013; Haller, 2013). The multiple uses and actors within rural-urban fringe areas furthermore make it a complex

area (Gant et al., 2010; Pacione, 2012; Bittner and Sofer, 2012; Csatári et al., 2013; Hierala et al., 2013; Essien and Akpan, 2013; Haller, 2013). To gain insight into how planning has shaped land use in the rural-urban fringe, I now turn to a review of planning theory and models. It is important to understand how planning theory has evolved because it demonstrates particular ways that planners thought about planning (and practiced planning) at specific moments in time. Planning theory and practice have directly shaped the way cities, communities and neighbourhoods have formed over time, and continue to be formed.

2.4 Planning theory and methods: features and critiques

2.4.1 Planning theory

A review of planning theory tells a story about a shift in discourse, practice, and perhaps even values across time. Rational planning has dominated practice since high modernity when faith in material progress was gaining momentum post-World War 2.[9],[10] It was shaped by a faith in the use of science and technology for human progress and maximizing well-being under the assumption that there are objective experts who can process information without being biased by their own values. This focus on material progress has led many (see Ponting, 1991 for instance) to consider the costs of development such as social inequality and destruction of the very environmental systems that sustain human life. Early planning theories tend to focus on decision-making processes while more recent planning approaches such as Smart Growth and New Urbanism more directly (via providing design solutions) address the problem of accelerating urban expansion. For this reason, smart growth and new urbanism are listed as "methods" in the next section.

Rational planning continues to be the prevailing model used today (Grant, 2008) and has been increasingly driven by principles of the market, with the planner as the technical expert who can process information without bias for the good of one unitary public. The fact that rational planning is largely driven by market forces, in a quest for economic development, a specific type of development outcome occurs: one defined by ideologies of economic development and "return on investment". I contend that this, in fact, is actually an irrational outcome because it fails to take into account social and environmental consequences of development.

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[9]   See Hall, Held and McGrew (1992) for a broad discussion of modernity.
[10] Appendix A depicts the evolution of planning theory since 1900.

The Rational Comprehensive Model adds comprehensiveness to the rational model whereby facts are gathered and alternatives are evaluated before chosen options are elaborated and put forth (Campbell and Fainstein, 2003). Despite the fact that rational planning dominates practice, it has been criticized for many reasons, especially because it is blamed for giving voice only to the powerful while ignoring the needs of the poor and weak (Jacobs, 1992; Healey, 2003; Wheeler 2013).The powerful are usually those whose ideologies are primarily those of economic development (Flyvbjerg, 2007). It is not that the poor do not want economic development; rather it is that they have no voice in determining its form, or the allocation of benefits (Rich, 2013; Nissanke, 2013). One response has been the rise of "participatory development" in global studies (Chambers, 1983). The Rational Comprehensive Model has also been criticized because it has been felt that planners cannot be thoroughly rational and logical because they are constrained by limited knowledge, ingrained culture, and particular values. Hence, there were a number of planning responses to this linear, top-down approach that have emerged and been debated since the 1960s.[11]

One of the approaches that emerged is communicative planning, which had a significant impact on the rational model because it proposed that planners are experiential learners, providing information to participants while being sensitive to various points of junction as opposed to being technocratic experts (Healey, 1996). Planners adopt a non-directive role, acting as facilitators who listen to different actors and obtain consensus among different viewpoints. Communicative planning approaches emerged as a way of including those who are not the most powerful actors and may have different development goals. As Fainstein (2003) has criticized, communicative planning is treated as taking an impartial role. This has the effect of leaving the disempowered with only token benefits or wins while avoiding the interaction between planning, politics and urban development.

Communicative planning was first criticized by political economists for "ignoring the constraining and facilitating role of societal institutions in their interpretation of planning institutions" (Lauria, 2000, p. 331).[12] Fainstein notes that communicative planning doesn't take into account paternalistic or bureaucratic models of decision-making that produce undesirable results and it may

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[11] For instance, see Charles Lindblom's incrementalism planning (2007), John Friedmann's transactive Planning (1993) and Davidoff's advocacy planning (1965).

[12] I have not located literature that specifically states whether or not communicative planning also ignores the political economy of rural-urban fringe spatiality, characterized by ideologies of capitalist development and "return on investment". However, since the literature makes this broad claim about how communicative planning fails in addressing political economy of planning, it implies neglect of political economy in the rural-urban fringe as well as elsewhere.

favour educated communities while the uneducated struggle with the planning process (Fainstein, 2003). Fainstein (2003, p. 179) points to post-Apartheid planning in South Africa as "the most interesting contemporary example of a conscious effort toward meaningful, inclusive, consensual planning". Despite commitment for inclusive planning, the outcome has seen weak efforts to achieve consensus and a mismatch between policy and implementation. "[Despite the well known] Western Cape Economic Development Forum, on the ground large-scale private investors have continued to follow their own locational logic, and low-income housing has continued to spread in low-density fashion on the city edge, where cheaper land is available" (Watson, 1998, p. 347; cf. Cash and Swatuk, 2010). This is a key dimension of what this dissertation is attempting to understand.

Another problem with the rational model is that it fails to synergize contributions from a wide spectrum of stakeholders from different backgrounds. Patsy Healey (1998) introduced collaborative planning which calls for a form of governance to address just this. Collaborative consensus is put forth as a way of transforming cultures and finding open and productive ways to resolve difference and establish win-win scenarios (Grant, 2008). However, it is also criticized for focusing too much on process while ignoring the context, lacking a base in social theory, neglecting power and not impacting structures (Healey, 2003; Campbell and Fainstein, 2003). As will be shown below, critical political economy fills this need for a base in social theory.

Also, planning processes that continue to be primarily rational (whereby rational is defined by primarily scientific and technical factors) tend to also be very linear – although this does not exclude the possibility of feedback loops between the linear steps within the rational model. According to the complex systems and resilience literature, linear processes tend to lead to unsustainable outcomes. Arguably, these unsustainable outcomes are, in fact, irrational in practice. Hence, there are benefits to viewing complex planning problems from a multi-actor dimension.

This critique relates to the question of power. As Campbell and Fainstein (2003) have noted, the understanding of power is one of the most significant changes in planning theory over the past 60 years. The fact that the planning theories that have emerged during this time have all been in response to the power imbalances in application of the Rational Comprehensive Model, then, is no accident. Yet even despite the numerous efforts towards more inclusionary planning theories and methods, power dynamics continue to dominate planning practice. Certainly it continues to lie at the heart of problems with implementation and discrepancies between ideal policy and outcomes (Cash and Swatuk, 2010; Milio, 2010; Beunen et al., 2013). While many have critiqued the role that power plays

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in planning[13], Bent Flyvbjerg (1998) discusses a project (the Aalborg Project) in which he initially intended to focus on rationality and democracy but the opposite actually occurred as he saw that decision-making processes were unanticipated and undemocratic. He wrote: "Institutions that were supposed to represent what they themselves call the 'public interest' were revealed to be deeply embedded in the hidden exercise of power and the protection of special interests" (Flyvbjerg, 2007, p. 318). Referring to Francis Bacon's "knowledge is power", Flyvbjerg (2007) claims that knowledge and power cannot be separated: "knowledge is power but more importantly power is knowledge ... power determines what counts as knowledge, what kind of interpretation attains authority as the dominant interpretation. Power procures the knowledge which supports its purposes, while it ignores or suppresses that knowledge which does not serve it" (Flyvbjerg, 2007, p. 319).[14]

In their study focusing on rural-urban fringe areas, Scott et al. (2013) describe how governments and powerful stakeholders contribute to top-down processes through the manipulation of decision-making, using their positions of power, a theme that also appears in this study. This insight supports the earlier observation made above that "rational" knowledge can lead to irrational outcomes if based on questions and considerations driven by a particular ideological or material agenda. Certainly, defining the foundations of power appears to be integral to the initial establishment of planning projects. Power has been discussed extensively in the literature (for instance, Arnstein (1969) offers a ladder of participation whereby each rung represents the level of power that a citizen has in "determining the plan and/or project"), yet much of the research appears to focus on micro-power plays. For instance, case studies may look at power imbalances in public participation processes[15] as opposed to understanding how the macro neoliberal globalized system favours those with economic and/or political power.[16] While this may happen within a country (for example, the

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13   For instance, see Healey (2003).

14   Flyvbjerg (2007) offers ten propositions for researching rationality and power in other cases.

15   There may be a need to include a certain number of women, low income or individuals with fewer resources in order to show that a variety of people were in the room during discussions; however, it may be only the developers, planners, politicians or those with economic power who dominate the process and, subsequently, the outcome.

16   Neoliberalism is defined as "a theory of political economic practices that proposes that human well-being can best be advanced by liberating individual entrepreneurial freedoms and skills within an institutional framework characterized by strong private property rights, free markets and free trade. The role of the state is to create and preserve an institutional framework appropriate to such practices. The state has to guarantee, for example, the quality and integrity of money. It must also set up those military, defence, police and legal structures and functions required to secure private property rights and to guarantee, by force if need be, the proper functioning of markets. Furthermore, if markets do not exist (in areas such as land, water, education, health care, social security, or environmental pollution) then they must be created, by state action if necessary.

2013 Idle No More movement clearly demonstrates how social and economic conditions are either positive or negative according to whether or not the Canadian is aboriginal or of other descent), province or municipality, it may also occur transnationally. For instance there are power imbalances between African countries and those in the North due to a long history of political and economic intrusions (Cheru, 1997). Yet power imbalances do not have to occur between just the Global South and the Global North (as witnessed by the economic relationship between Greece and Germany in 2012).[17] In establishing the framework for case study analysis, I concur with Pieterse (2008, p. 5) who stresses that complexity within cities is intensified by rapid change, especially due to globalization:

> Even if we are to appreciate the significance of complexity, uncertainty, surprise and therefore open-ended futures, we cannot deny that power is at the heart of city development, because governance boils down to questions of control over decision-making about how resources are used in a sea of competing and different interests. Fortunately our thinking about power has evolved beyond mere notions of 'who benefits?', 'who is getting exploited?', 'how badly are they exploited?', to understanding the dynamic, capillary and decentered nature of circuits of power, which are always unstable and vulnerable to resistance and transformation.

It is these questions that political economy aims to answer. Certainly there are many forms of power; however, following Cox (1987), in this thesis, "power" is understood as capability to determine resource use decisions and outcomes through 1) ideas, 2) institutions, and 3) material capability (see section 2.7).

Next I discuss planning methods because these show that planners have been considering and have been implementing alternative forms of development that some think may be alternatives to urban sprawl.

But beyond these tasks the state should not venture. State interventions in markets (once created) must be kept to a bare minimum because, according to the theory, the state cannot possibly possess enough information to second-guess market signals (prices) and because powerful interest groups will inevitably distort and bias state interventions (particularly in democracies) for their own benefit" (Harvey 2005, p. 2). Globalisation is "a transplanetary *process* or set of *processes* involving increasing *liquidity* and the growing multidirectional *flows* of people, objects, places and information as well as the *structures* they encounter and create that are *barriers* to, or *expedite*, those flows" (Ritzer, 2010, p. 2). Neoliberal globalisation, then, is the economic and political expansion of liberalism globally (Ritzer, 2010).

[17] It is for these reasons that it is appropriate to analyze decision-making dynamics at the rural-urban fringe with the use of critical theories (including critical political economy and resilience/complex systems).

2.4.2 Planning methods

Planning theory mainly focuses on methods of decision-making (for instance, top down or bottom up processes) whereas New Urbanism and Smart Growth deal more with the design and layout of planning. Various forms of decision-making processes discussed above can be used to implement these approaches. For instance, Smart Growth may be implemented via a top-down rational approach or it could entail a communicative/participatory approach. Worldwide, planners try to incorporate the urban design principles of Smart Growth and New Urbanism in part, if not in whole, in new developments and/or regeneration projects. For instance, the theme of intensification within the current urban edge crosses both methods and best practice for environmentally sustainable urban design as it optimizes use of urban space while aiming to protect valuable natural and rural land.

New Urbanism emerged in the 1980s with a mandate to tackle urban sprawl through higher-density, transit and pedestrian friendly neighbourhood design (Fainstein, 2003; Blais, 2010). The New Urbanism movement has impacted planning "more than communicative theory because of its more direct engagement with land use, design, real estate development and environmentalism" (Campbell and Fainstein, 2003, p. 10). However, there are critics, such as Blais (2010) who say that although New Urbanism offers a more pedestrian-friendly urban environment, it has not contributed to a structural alteration that would significantly change the whole development course. Although there are many examples to draw from across North America, Markham, Ontario is one of the most referenced cities for implementing New Urbanism design. The aim is to intensify within the urban envelope while using narrow streets and lots, mixed uses, green space, civic squares, and design to contain outward urban expansion despite growing populations. While New Urbanism has been celebrated for limiting urban sprawl, Grant (1999, pp. 16-17) claims that "good design cannot recreate the social environment of the small community, solve the problems of affordability, reduce environmental resource exploitation, or tempt people to abandon their cars" as people continue to be drawn to traditional suburban environments. Therefore, she feels that New Urbanism has "done nothing to change the reality" of "typical suburbia".

Smart growth emerged in the mid-1990s to "redress the associated costs of typical regional growth patterns by creating a range of housing opportunities and choice; creating walkable neighbourhoods; fostering distinctive, attractive communities with a strong sense of place; mixing land uses; providing a variety of transportation choices; and strengthening and directing development towards existing communities" (Blais, 2010, p. 23). Smart Growth advocates believe that good urban

form is a common good and the public interest can be served by better design. Vancouver, British Columbia is spearheading Smart Growth in North America and is well known for its success at curbing urban sprawl through smart urban planning principles (Fox, 2010). In fact, there is discussion that cities such as Seattle are copying Vancouver's success to combat sprawl (Fox, 2010). However, despite this enthusiasm for Smart Growth, there are, of course, critics of it. A primary criticism is that, although desirable in principle, it contains too much marketing and branding, with little substance, adding a "one size fits all" approach to planning that leaves little to no room for independent creativity of the planning profession (Fainstein, 2003).

In addition to New Urbanism and Smart Growth, other planning approaches are used to contain urban expansion. Ontario Planners recently attribute sustainable (or less unsustainable), efficient development to improved transportation, better urban form, and environmental protection[18] (Blais, 2010). Other approaches include containment[19] and greenbelts[20] to contain urban growth and protect sensitive environmental areas.

Blais (2010) criticizes the abovementioned efforts as ineffective and actually contributing to urban expansion. She believes that the problem is due to: 1) location, amount of land, amount of building, mode of travel and that price shapes urban development patterns; 2) post World War 2 planning approaches that emphasize the role of government subsidies and regulation in ways that facilitate unsustainable urban expansion; 3) direct grants for infrastructure, tax breaks for home ownership make land and housing cheaper than they should be, thus exposing the rural/urban fringe to suburbanization through consumptive behaviour, along with engineering standards and zoning that contribute to unsustainable urban expansion by being too restrictive and creating division within cities; and 4) fragmented urban governance, meaning that growth management planning and implementation at a large scale are not easy to implement because large cities may contain multiple municipal governments.

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[18] These features can be found in the Greater Golden Horseshoe's Places to Grow: Vision for 2031 Plan (see Ministry of Infrastructure, 2009).
[19] This means to create a physical limit to urban expansion via a permanent urban growth boundary.
[20] For instance the Greater Golden Horseshoe's greenbelt located in Ontario protects 1.8 million acres of farmland, environmentally sensitive land and greenspace from urban development; 535,000 acres of lakes, wetlands, river valleys, forests, habitat for wildlife and endangered species and also contributes $2.6 billion to the local economy. Yet it is still threatened by housing and urban development pressure, resource extraction, agriculture, and transportation infrastructure (Greenbelt, 2011).

The facts of sprawl and its impact on the rural-urban fringe point to the limitations of planning theory. Planning theory tends to be anthropocentric and technocentric, aiming, at worst, to engineer short-term solutions that accommodate business as usual. While certain planning theories (such as collaborative planning) address issues of power and advise on the need for public engagement, sprawl continues. Communicative and collaborative planning are more inclusive of multiple stakeholders, but they are not the dominant models that are practiced. Part of the problem is that decision-making in planning claims to be based on science and technical expertise, while following systemic processes embedded in law. Such claims often mask the complex socio-politico dynamics at play in socio-ecological systems (Flyvbjerg, 2007).

This review of planning theory and methods is important for this thesis because it reveals how land use decisions have been made, highlights solutions that have been put forth to combat the problem of expanding urban areas, and discusses limitations of these approaches. This review of planning theory and methods, while not specifically centering on rural-urban fringe areas, sheds light into how planning decisions have been (and continue to be) made, which ultimately influence decision-making (and ultimately outcomes) within rural-urban fringe areas. Planning theory also reveals the tangible consequences of particular forms of decision-making (for instance, some argue that the Rational Comprehensive Model has resulted in disconnected communities while more collaborative approaches are believed to result in more equitable outcomes (although all have had mixed results) (Healy, 2003; Grant 2008)).

In this thesis, insight from the planning literature suggests that the following two questions are important for investigation: What plans are in place? How are plans determined? These are treated in detail in Chapters 4 and 5.[21]

Governance literature provides more of an in depth perspective into forms of decision-making, and this can provide insight into planning practices and outcomes, and decision-making in rural-urban fringe areas. Ultimately, governance literature is highly relevant to understanding decision-making processes that impact urban expansion as, compared to planning theory, it provides a much more rigorous analysis of decision-making processes that affect *all* resources.

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[21]   A summary of all key questions is to be found in Section 2.9.

2.5 Governance

Governance literature centres on the allocation of scarce resources. As demonstrated above, rational planning has dominated planning practice with various other theories influencing the discipline over the years (communicative planning, transactive planning, etc.). This review of the governance literature reveals that achieving equitable governance arrangements is not an easy task. Multiple conflicts arise between and among the diverse groups of actors and stakeholders involved in processes. The literature cautions that state powers often monopolize process and may simply "do what they want" so that a project will meet their set goals, regardless of what occurred in the process. First, I provide an overview of what governance is before discussing some dominant forms of governance, including their advantages and disadvantages.

"The shift to governance signifies a change in the meaning of government, referring to a new process of governing or a changed condition of ordered rule; or the new method by which society is governed" (Rhodes, 1996, p. 3). This has occurred in response to the inability of traditional forms of linear government processes to resolve increasingly complex social and environmental issues. Governance theory helps in analyzing the various networks of interacting actors in a new light (Newman et al., 2004; Rhodes, 1996). While there are many definitions of governance, that put forth by Olsson et al. (2008, p. 2490) is especially useful: "the interacting patterns of actors with conflicting objectives and the instruments chosen to steer social and environmental processes within a particular policy area…Institutions are a central component as are interactions between actors and the multilevel institutional setting, creating complex relationships between people and ecosystem dynamics". The governance concept, therefore, recognizes that decision-making processes are far from linear and involve civil society, government and the private sector all playing roles in deciding outcomes.

A key component of governance is expanding accepted civil participation beyond standard procedures of representative democracy (Newman et al., 2004). Stakeholder participation is essential to good governance[22], which depends on the "legitimacy of the political system and on the respect shown by the people for its institutions. It also depends on the capacity of such institutions to respond

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[22]   Indicators of "good governance" include such factors as accountability, corruption control, transparency, regulatory quality, government effectiveness, rule of law, political stability, and absence of violence and terrorism (Brookings Institute, 2010).

to problems, and to achieve social consensus through agreements and promise" (Borrini-Feyerabend et al., 2000).

According to the United Nations 2008 report *Participatory Governance and the Millennium Development Goals*, "The recent emphasis on good governance as the foundation for sustained and equitable development has generated widespread interest in participation in the development circle, as effective participation by all stakeholders, especially at local levels of government, has come to be viewed as a necessary condition for promoting good governance". Indeed, one could argue that "participation" and "collaboration" in governance are the hallmarks of resilience thinking's approaches to arriving at collective decisions for sustainable socio-ecological outcomes (Armitage et al, 2011; Plummer et al., 2013; Olsson et al., 2006; Berkes et al., 2007; Armitage, 2007). In 2009, Berkes (p. 1693) expanded this 2005 definition to include "a range of arrangements, with different degrees of power sharing, for joint decision-making by the state and communities (or user groups) about a set of resources or an area... [It] shares many features with other kinds of partnerships and co-operative environmental governance arrangements involving multiple actors".

The literature loosely defines participatory governance as the active engagement of citizens in decision-making processes. Participatory democracy goes beyond traditional consultative models to "combine the ideas and values of participatory democracy with effective and innovative modes of policy practice and organizations" (Reddel and Woolcock, 2004, p. 83). Studies support the notion that by creating alliances with state/civil society/market networks and institutions, communities can improve their socio-economic status and society-state relationships can be enhanced (Reddel and Woolcock, 2004). Participatory governance is described as a "regulatory framework in which the task of running public affairs is not solely entrusted to government and the public administration, but involves co-operation between state institutions and civil society groups" (Friedman, 2006, p. 4). Hence, this definition promotes the act of *co-operating* in implementing policy. Friedman goes on to explain that governments increasingly recognize that public approval and support are essential for reaching their objectives. A method of achieving this support is through the engagement of citizens in decision-making processes and implementation of programs. The goal is to create smooth governmental processes. A second rationale for participatory governance is in broadening and deepening democracy by increasing the number of citizens involved capably and effectively in decision-making. In addition to this, Friedmann (2006) explains that participatory governance is also considered as a "pre-condition for durable and sustainable development". Overall, the goal is to

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engage citizens who may not otherwise have a voice and provide opportunities for voters to "weigh" in on policy issues when the act of simply voting in elections is only part of the democratic process. The central assumption behind participatory governance is that if citizens are engaged, then outcomes will result in environmental protection and fairer outcomes for all people (Cornwall, 2008). Also the process is as important as the result because rather than simply being merely pleasure-seeking beings, humans like to apply their powers and capacities. Indeed this participative engagement with others is important since holding and exerting power with others is a key aspect of human expression and fulfillment.

Collaborative governance is "a governing arrangement where one or more public agencies directly engage non-state stakeholders in a collective decision-making process that is formal, consensus-oriented, and deliberative and that aims to make or implement public policy or manage public programs or assets" (Ansell and Gash, 2007, p. 2). It emerged in response to downstream implementation failures and costly, politicized regulation (Ansell and Gash, 2007). Stakeholders must be engaged in these processes because collaboration implies that citizens hold responsibility for shaping policy outcomes.

For example, managing urban green areas in Stockholm, Sweden involves collaborative efforts between non-state actors and both municipal and regional agencies. These efforts include educational projects and restoration projects with groups in civil society (Ernstson, et al., 2010). Despite the collaborative arrangement in place, the authors argue that more can be done to improve collaborative governance efforts in this situation because it "neglects cross-scale dynamics". Specifically, in this case study, Ernstson et al. (2010) found that while regional authorities understand the ecological planning needs, participation of local actors (such as gardeners and park managers) is important for conducting sustainable practice. Unfortunately, the research showed that these actors were often neglected in governance processes. Ernstson et al. (2010) ultimately call for transformation to collaborative governance that is more inclusive, taking into account cross-scale dynamics.

Essential components of collaborative governance are the understanding that stakeholders shape policy through two-way flow of communication and multi-lateral deliberation. Stakeholders engage directly in all stages of decision-making on issues of public affairs, even if the ultimate authority defaults to a public agency. The goal is to enhance relationships in order to transform conflict into cooperation. As opposed to casual interaction, the process is formal, multi-lateral and

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non-linear while requiring institutionalization of collective decision-making processes to reach consensus (Ansell and Gash, 2007). Newman et al. (2004) warn that the goals of the state often dominate attempts at cooperation and participation through collaborative governance. The state may control processes through audits, inspections, and setting national standards for local services, as well as local capacity for authentic participation to shape policy and practice. Also, different norms, practices and power dynamics from multi-layers of governance produces tension within the public policy system and promotes potential conflict between actors (for instance, between local actors and those operating from the state centre) and within actors as they struggle with identification on issues (i.e. internal struggle of loyalty towards organizational versus community actors). For instance, participation is encouraged from above but deliverables from below must be achieved, even if they counter that which is requested at the local level (Newman, et al., 2004). At the same time, there are exceptions to the rule whereby collaborative governance occurs without the direct involvement of government actors, such as in Forest Stewardship Council in Canada.[23]

While some theoretical literature on governance implies a smooth transition from just government to "government plus" (Kaufman et al, 1999; World Bank, 1994; World Bank, 1997), the empirical evidence suggests that "actually existing governance" continues to be fraught with struggles over authority (the ability to govern) and legitimacy (the right to govern) from local to national to global levels (Jenkins, 2001; Pierre, 2000). Thus, arguing in favour of "collaborative" governance often says more about one's ideals than about what is happening on the ground. This is especially the case in less developed countries particularly where common property resources (e.g. forests, fish, water) or public goods (e.g. urban water supply) are concerned (McDougall et al., 2013). At the same time, much of the governance literature takes on a mechanistic character: if you have A, B, C, then you will have "good governance" (WWDR III, 2009; World Bank, 2007). Governance arrangements that are deemed "most desirable"[24] should include networks, organizations, and institutions working together at various levels (Rhodes, 1996) with a focus on humans and ecosystems (Falkenmark and Rockstrom, 2004). Scholars such as Plummer et al. (2013; Duit et al. (2010); Olsson and Galaz (2009); Ebbesson (2010); Weber and Khademian (2013) argue that these network-oriented systems must be creative and promote non-linear management approaches that involve the participation of multiple actors and networks working collaboratively. However, where problem-solving theory fails

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[23]   But the state still steers through legislation.
[24]   This includes governance structures that promote social equity and environmental sustainability.

is in its inability to explain adequately the bottlenecks and barriers to transformative change that mar even the most sophisticated attempts at system reform. Most often they fall back on an absence of leadership (Nadasdy, 2007; Folke et al., 2011) or a need for trust-building exercises (Armitage, 2007).

Nevertheless, the governance literature is important for this study because it shows us that multiple people and groups, with at times vastly different objectives, come together in areas where multiple land uses merge and struggle over appropriate policy, laws, and institutions for resource allocation use and management. The rural-urban fringe is an example of such a space. The governance literature informs us of some of the power plays that are at work, such as the role of the state in processes. However, what it does not do is adequately explain the political economy of decision-making. This is especially so when a liberal view is taken of state and society (Rhodes, 1996). Specifically, it is necessary to understand the economic and political factors of land use and associated decision making within the rural-urban fringe which most impact development outcomes. Governance literature says, for instance, sometimes deliverables from above must be achieved, even if they counter that which is requested at the local level (Newman, et al., 2004), but it does not go into depth on how the interaction between economic and political forces influences the state's final decisions.

Governance literature provides insight into decision-making that planning theory fails to deliver (for example, the concepts of 'steering' versus 'rowing'). Furthermore, governance literature provides an overview of multiple types of decision-making processes, suggesting which are more likely to result in "better for all" outcomes. This insight allows one to examine and better understand the forms of decision-making that is occurring within the rural-urban fringe area (or 'system') they are examining, and contemplate forms that may result in the type of outcome that is desired.

In this thesis, insight from the governance literature suggests that the following two questions are important for investigation: What is the legal and institutional framework? How are disputes resolved? These are treated in detail in Chapters 4 and 5.

Governance is only one part of the puzzle that, when complete, will provide a framework for understanding decision-making at the rural-urban fringe.

2.6 Management

The management literature focuses on the way in which governance outcomes – rules, laws, policies, and procedures – derived in relation to particular goals are realized in practice. In addition, some of

the management literature also focuses on the way resource management shapes governance arrangements. In this study I review co-management, adaptive management and adaptive co-management because it is these approaches that dominate the resilience literature (Plummer et al., 2013; Armitage et al., 2007).

Olsson et al. (2008, p. 9489) define management as "bringing together existing knowledge from diverse sources into new perspectives for practice". Problems arise when decision-makers assume that management (the forms and processes by and through which one applies settled social rules) and governance (the forms and processes upon which one arrives at social rules) are interchangeable when they are actually complementary (Jonker et al., 2010).

Management is important to this thesis because it shows that there are different ways that resources and land are managed – the status quo is not the only option.[25] At the same time, the applicability of these concepts in a rural-urban fringe setting is important because many of the studies focus on a protected area of some sort (such as a watershed area or an ocean resource) – the study sheds very modest light into whether or not these types of management approaches could be applied or, are relevant, in the context of these studies.

Co-management is an institutional arrangement that promotes the implementation of decisions made by multiple networks rather than approaching decision-making from linear approaches. Co-management is created by a two way vertical feedback link between government policy and local institutions with networking playing an essential role (Berkes, 2009). There is an underlying belief that involving local people in decision-making results in "good governance". The arrangement must be an official process as opposed to ad hoc consultation or regular public participation processes. While there is no single definition for the term (Armitage et al., 2007), co-management is associated with natural resource management that involves a fluid process, evolving over time, operating along a continuum involving some type of partnership between public and private actors (Carlsson and Berkes, 2005). The main idea of co-management is that those who are impacted by management decisions should have a say in management decisions (Berkes, 2009; Folke et al., 2005; Olsson et al., 2004), as no one group or agency can possess the full range of knowledge to deal with the complexity of resources (Berkes, 2009; Folke et al., 2005; Pinkerton, 2003).

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[25] The resilience literature primarily turns to these types of management arrangements as the "best" way of achieving positive socio-economic resilience. It has been developed by scholars extracting all of the qualities that are deemed best suited for achieving the type of resilience required for sustainability, and applying them to the type of management arrangements deemed necessary for achieving this type of resilience.

Adaptive management grew out of C.S. Holling's 1970's work on resilience that the environment must be viewed as a non-linear, dynamic, unpredictable social-ecological system. Cognizant of its complexity, the implications of this for environmental management began to emerge in response to the historical approach of controlling what was deemed to be moving linearly towards a peak condition (Folke et. al, 2005). Nadasdy (2007) points out that managing for uncertainty is difficult because of the ever-changing nature of social-ecological systems. What one learned in the past, he contends, may no longer be applicable even if the system has only slightly changed. Therefore, he explains how managing for complexity has been transposed into managing for resilience, presuming that the system being managed is desirable (see Folke et al., 2005), with a goal of creating flexible institutional structures that can learn and adapt to changes (Nadasdy, 2007). Adaptive management therefore emerged as an approach to *managing* linked, inter-dependent multi-level and multi-scale systems (Oglethorpe, 2002).

Currently, the concept of adaptive management is still evolving (Oglethorpe, 2002) and definitions vary. Despite this, proponents of this approach believe that in order to deal with complex, uncertain social-ecological systems, management needs to be flexible and managers must learn from experience – the static approach is obsolete. Paramount to dealing with uncertainty and inevitable change that defines complex systems is ongoing learning (Olsson et al., 2004). The literature says that experiential learning is essential for building social memory to respond to feedback from social-ecological systems (Murray and Marmorek, 2004; Peterson, 2007). Managers cannot remain static nor can they rely on static information since ecosystems are constantly changing, as are the humans that inhabit land (Berkes, 2009). As Berkes et al. explain: "Adaptive management can be seen as the rediscovery of traditional systems of knowledge and management… [it] may be viewed as the scientific analogue of Traditional Ecological Knowledge because of its integration of uncertainty into management strategies and its emphasis on practices that confer resilience" (2000, p. 1260). Later Berkes et al. (2007) point out how the experiential learning that is vital to adaptive management requires input of the local users who have practical knowledge of the systems being managed. However despite this, adaptive management has technocratic roots whereby field experiments are carried out with the intention of learning, often without regard for those with greatest interest in the resource (Lee, 1999; Berkes, 2007). Furthermore, even though some have turned to practices of indigenous people to understand how to manage for flexibility, a key problem is the lack of regard for local people. This impacts the already disempowered, who are unfortunately represented in higher

proportions in aboriginal communities (Berkes, 2009). According to Nadasdy (2007), if one is to truly understand adaptive management as involving social and environmental systems, one cannot ignore how capitalist production is deeply embedded within institutions and management itself. Mere institutional reform through flexible adaptation does not change the underlying cause of inequality. In my view this is the primary barrier to effective decision-making: whereas the ideals of planning, management and governance theory regard participation as necessary for sustainable and more equitable outcomes, mainstream theories are too often premised on liberal understandings of the state and economy where providing a "democrative space" is thought to be "enough" to bring this about (Nadasdy, 2007). To the contrary, these spaces serve to reinforce social hierarchies and lead to sub-optimal (i.e. resource degrading and socially exclusive) outcomes. More nuanced approaches emerging from fields of study such as critical anthropology and critical political ecology (Pinel, 2013; Clare et al., 2013; Takeda and Røpke, 2010), aim to expose these inequalities of power within existing management arrangements, often recognizing that co-management itself is inadequate, but nevertheless an important step towards more equitable and sustainable outcomes.

Adaptive co-management is made up by combining the iterative learning dimension of adaptive management and the linkage dimension of collaborative management (Burton et al., 2007)**.** Adaptive co-management meshes with concepts of complex systems and resilience thinking (Armitage et al., 2007; Burton et al. 2007; Olsson et al., 2004). Complex systems thinking approaches environment and society as dynamic and evolutionary while nested in self-organizing adaptive cycles operating at various scales across a multitude of uncertain continuums (Gunderson and Holling, 1998). Complexity studies form the base upon which adaptive co-management rests (Olsson et al., 2004; Armitage, et al. 2007; Folke et al., 2002). Adaptive management takes into account the dynamic nature of these processes and encourages operations to be flexible and acceptable to learning (Berkes, 2009; Plummer and FitzGibbon, 2004), accepting that centralized governments cannot adequately respond to rapid change (Gunderson and Holling, 2002). Co-management represents the sharing of power and responsibility between the government and local resource users (Berkes, 2009). Adaptive co-management, then, typically involves flexible community-based environmental management systems, allowing for ongoing learning tailored to specific places and situations that operate across multi-levels and with a range of local and non-local actors (Folke et. al, 2005; Armitage et al., 2007). Diversity of actors and functions across organizational and institutional levels is believed to enhance performance (Peterson, 2007; Olsson et. al, 2006). A key component to

managing for resilient systems is creating diversity and redundancy within institutions; therefore, overlapping functions across organizational levels may play a central role in absorbing and in spreading risks (Folke et al., 2005). Thus, having a diversity of actors involved in decision-making is instrumental to creating dynamic systems that can respond to flux (Armitage et al., 2007; Olsson et al., 2004; Pinkerton, 2003). It is important to keep in mind that this does not guarantee that results will be environmentally or socially desirable. Contrarily, this could result in an undesirable yet highly resilient system.

Sharing of management rights and responsibilities among actors should reflect the goals of governance (democracy, transparency, accountability) (McCay and Jentoft, 1996). This includes user participation and problem solving at the lowest possible level of organization (Armitage et al., 2007). Hence, adaptive co-management promotes the collaboration of a diverse set of multi-level stakeholders from local users to all levels of government with the goal of achieving good governance and resilience (Folke et al. 2005; Armitage, 2005).

Also central to the role of actors in adaptive co-management is the gradual building of trust. "Trust makes social life predictable, it creates a sense of community, and it makes it easier for people to work together. It can be said to be the basis of all social institutions and is also integral to the idea of social influence" (Folke, et al., 2005, p. 451). Also, the mobilization of social memory is an important part of adaptive co-management. "Social memory is the arena in which captured experience with change and successful adaptations, embedded in a deeper level of values is actualized though community debate and decision-making processes into appropriate strategies for dealing with ongoing change" (Folke et al., 2005, p. 453). Hence, social learning is a key element to social memory (Pahl-Wostl and Hare, 2004).

The adaptive management component of adaptive co-management allows for testing of different management policies, monitoring and evaluating, and constantly adjusting rules that shape behaviours to match the dynamics and uncertainty inherent in the system (Resilience Alliance, 2011; Allan and Curtis, 2003; Berkes, 2009; Folke et al., 2010). Policies are approached as hypotheses in adaptive co-management arrangements with experimentation essential to the learning process (Lee 1993, Folke et al., 2002; Armitage, 2007). Building knowledge is a dynamic process that depends on participatory research that creates social capital and power sharing (Berkes, 2009). Managers adapt their management policies while constantly evaluating and monitoring the system to enrich their understanding of the system's dynamics (Olsson et al., 2006; Peterson, 2007). Decisions change as

knowledge advances (Folke et al., 2002, Gunderson et al., 1998). It is important for individuals to learn by doing and benefit from their mistakes in order to maintain flexibility with new situations (Pahl-Wostl and Hare, 2004). Learning for ecosystem management is often considered to be a social process referred to as "social learning" or "institutional learning" (Folke et al. 2005). The combination of institutional learning and cross-linkage learning is the key (Olsson et al., 2004). Yet adaptation and collaborative learning is difficult to achieve "especially where livelihood outcomes are closely connected to common pool resources under intense access and harvest pressure" (Armitage, 2005, p. 66-67). Armitage (2005) argues that institutional design principles should focus on the reorganization or evolution of vertically and horizontally linked communities, organizations and institutions (whether ecological or social in nature). The literature also says that knowledge should be shared and integrated along with power sharing across levels of community and government (Olsson et al., 2004). Essentially, different people contribute different information. Therefore "scale-specific comparative advantage" whereby local users contribute information from the local level and the state contributes a broader outlook with accompanying tools and techniques is important for success (Berkes, 2009).[26]

Furthermore, Armitage et al. (2007) discuss the difference between single loop and double loop learning whereby single loop includes modifying behaviour and practices without challenging the assumptions upon which the strategies are based. Double-loop learning is accepting different epistemologies and knowledge sources to change the underlying values and norms that shape behaviour. Double loop is linked to social capital or social norms, networks of reciprocity and exchange, and relationships of trust that enable people to act collectively. Participatory learning expands over time, resulting in the diameter of the loops to enlarge as trust and ability to tackle increasingly difficult problems increases (Berkes, 2009).

Bridging organizations assist with the self-organization process to identify problems and opportunities (Armitage et al., 2007; Kearney and Berkes, 2007; Olsson et al., 2008). This ultimately leads to planning for solutions (Berkes, 2009). Success in addressing one issue leads to tackling the next, leading to an arrangement that matures in terms of internal structure and external linkages

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[26] Berkes (2009, p. 1694) states: "Local institutions are best informed about the local level (e.g., state of the local forests; livelihood needs of villagers), whereas the state has a regional and national vantage point and a repertoire of tools and techniques (e.g., scientific databases; remote sensing) not normally available to local institutions". He provides the example of the Arctic Borderlands Ecological Knowledge Co-op that combines local knowledge with government monitoring. See: http://taiga.net/coop/ for more information.

(Berkes, 2009). This process is not easy as personalities and potential conflict creates turbulence (Lee, 1999). Finally, monitoring and evaluation is a key part of the learning process for adaptive co-management (Walker and Salt, 2006; Holling, 2001) but both co-management and adaptive co-management lack consistent methodological approaches and very few studies appear to have had success with outcome measures or metrics (Berkes, 2009).

Social networks that span multiple levels of organizations are essential for mobilizing and integrating dispersed information from various sources (Berkes, 2009). They are an important part of knowledge sharing as they provide space for bringing science and local knowledge together (Berkes, 2009; Olsson et al., 2004; Peterson, 2007). These bridging organizations also provide an arena for knowledge co-production, trust building, sense making, learning, horizontal and vertical collaboration, information access, creating common vision and goals, networking, conflict resolution, and act as facilitators between levels of governments and across organizations (Berkes, 2009). Linking various levels of organizations and knowledge systems requires networks involving many coordinators and facilitators (for instance, NGOs) (Berkes, 2009; Olsson et al., 2004; Kearney and Berkes, 2007). Bridging organizations also provide space for self-organized learning (Olsson, et. al, 2006).

An essential factor in successful adaptive co-management is leadership. "Lack of leaders can lead to inertia in social-ecological systems. [Leaders] navigate the larger environment of social, economic, and ecological drivers to reduce vulnerability and thereby enhance their ability to cope with change as resource development continues along desired trajectories" (Folke, et al., 2005, p. 451). Visionary leaders are essential to inventing a way forward through new partnerships and alliances across levels and scales (Folke, et. al, 2005) and can change opinions and values of masses of people towards epidemic movement (Olsson et al., 2004). This is called "tipping point leadership" (Folke, et al., 2005) (note that this language is similar to the resilience language). How this (an individual's capacity for changing the opinions and values of masses of people) reconciles with participative governance approaches is unclear.

A policy entrepreneur connects political momentum to problem perception and ultimately to a policy proposal (Folke et al., 2005). Creating policy space is when key individuals assess and identify a range of opportunities for change (Folke et al., 2005). Overall, key stewards are required to actively develop strategies for uncertainty and surprise and to bridge actors across levels and scales (Kearney, J. and Berkes, 2007; Olsson et al., 2006; Olsson et al., 2004; Armitage et al., 2007; Burton

et al., 2007). Building on the essential trust and social capital that are integral to the process, there is a need for assessments of the current situation for policy makers (Armitage et al., 2007). Pomeroy et al. (2001), basing their findings on results from the first five-year phase of a large fisheries co-management research project, maintain that governments must establish supportive legislation, policies, rights, and authority structures to define jurisdiction, legitimate property rights, clarify responsibility and authority, support local enforcement and accountability and provide groups with legal rights that pertain to their needs. However, there needs to be a fundamental shift in the attitude and behaviour of government to support co-management laws and policies (Hauck and Sowman, 2003). This includes the importance of incorporating an effective conflict management strategy (Pomeroy et al., 2009).

In this thesis, insight from the management literature suggests that the following five questions are important for investigation: How are plans implemented? How transparent is the process? Who participates? Who is accountable for implementation and outcomes? What is the role of Biosphere Reserve status? These are treated in detail in Chapters 4 and 5.

Ultimately, this review reveals that there are different forms of management approaches. While none are advocated as being perfect by any means, this review shows that there are alternatives to the way land is planned and managed in rural-urban fringe areas. Perhaps, for instance, an adaptive co-management form may be best suited for "better for all" outcomes in rural-urban fringe areas. This review also shows that some solutions are not found in traditional planning textbooks and manuals. We may need to turn to other disciplines (for example, fisheries and/or forestry management) to learn approaches that can be applied in urban and/or rural-urban fringe areas. While planners primarily focus on the built environment, the area of interest can be viewed as a marine biologist would view a fishery resource: as a system that needs to be managed in the best way so that environmental systems can be sustained, and that the individuals who rely on the resource are not negatively impacted.

As mentioned above, planning, governance and management literatures discuss the problems that power dynamics pose but they do not adequately explain why and how power arrangements occur as they do. This is important because a planner may "get the governance and management system 'right'" but the outcome may be unfair to those affected by the decision and/or not conducive to environmental integrity. Indeed, governance and management fall under the umbrella of problem-solving theories because those who work in governance and management fields work within the given system and try to improve it. Critical theories rigorously examine the system itself. For this reason, I

now turn to a review of two critical theories (political economy and resilience/complex systems), beginning with political economy.

2.7 Political Economy

There are many different models, theories and approaches of political economy (Brown, 1995; Staniland, 1985; Nurmi, 2006; Stilwell, 2011). All centre their analysis on the relationship between politics and economics. All are concerned with the way resources are allocated in a society. All create frameworks for understanding this relationship with a general distinction between the role of the individual in society (more liberal/individual or more social/collective) and on the capacity to affect change (agency) in relation to the broader structures of society (Weingast and Wittman, 2006; McCann, 2004; Caporaso and Levine, 1992). Classical liberal political economy therefore sees a clear dichotomy between politics and economics and places its emphasis on individual freedoms and capacities. Structure where it exists is regarded as the architecture of institutions, policies and laws created by individuals coming together in a pluralist array of interests and influences. Things can 'get better' in a linear fashion as rational actors seek their own interests in light of new knowledge in an open arena of democratic politics.[27]

In contrast, classical socialist political economy regards the relationship between politics and economics as intrinsic and ineluctable (Cox, 1987; Caporaso and Levine, 1992). In this case, politics is the outward and visible expression of the structure of social forces whose organization is dependent upon social and economic capacity and power. Things do not necessarily 'get better' because people are rational. To the contrary, agency is limited by these structures and change is often fraught with conflict, long terms of stasis, and abrupt and often cataclysmic events, such as those on-going in the seemingly never ending 'Arab Spring'. Whereas classical Marxist political economy placed its emphasis on the social relations of production, more recent innovations in neo-Marxist or neo-structuralist political economy draw on the insights of post-modernism, feminism, and constructivism to highlight how we are trapped in a wide array of 'structures': class, race, ethnicity, gender,

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[27]   This, of course, is a generalisation. Barratt Brown, for example, describes a wide variety of "liberal" approaches to political economy involving more state involvement, less state involvement, and so on (see Brown, 1995).

language, to name several (Caporaso and Levine, 1992; Palan, 2013).[28] Each of these acts to limit the capacity of an individual or a collective to act in their own articulated interests.

Those who fall on the socialist side of political economy generally regard themselves as 'critical political economists' in contrast to the liberal political economists whom they label 'orthodox'. The 'orthodoxy' to which critical political economists refer is that liberal political economists accept the world that they see as corresponding to the reality they analyse. In other words, there are no hidden structures, only interests. Thus, 'critical' means critical of those who fail to understand that society is ordered structurally. Cox (2010) distinguishes between problem-solving and critical theory:

> Problem solving takes the world as it is and focuses on correcting certain dysfunctions, certain specific problems. Critical theory is concerned with how the world, that is all the conditions that problem-solving theory takes as the given framework, may be changing. Because problem-solving theory has to take the basic existing power relationships as given, it will be biased towards perpetuating those relationships, thus tending to make the existing order hegemonic…What critical theory does, is question these very structural conditions that are tacit assumptions for problem-solving theory, to ask whom and which purposes such theory serves. It looks at the facts that problem-solving theory presents from the inside, that is, as they are experienced by actors in a context which also consists of power relations. Critical theory thus historicizes world orders by uncovering the purposes problem-solving theories within such an order serve to uphold. By uncovering the contingency of an existing world order, one can then proceed to think about different world orders. It is more marginal than problem-solving theory since it does not comfortably provide policy recommendations to those in power" (Cox, 2010).

As Rousseau said, 'man is born free, and everywhere he is in chains' (Mac Lean, 2013). For the critical theorists, the goal is to expose these hidden structures so that they may be disassembled and refashioned in a way that is less exploitative of people and resource (Cox, 2010; Palan, 2013; Caporaso and Levine, 1992; Phelen et al., 2012). The dynamic element of the system is conflictual and oppositional, with change emerging from this dialectical force.

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[28]   Cox (1987, p. 12) describes the social relations of production as the dialectical relationship between "accumulated social power that determines the nature of production, the structure of authority as molded by the internal dynamics of the production process, and the distributive consequences".

The analytical framework used in this thesis incorporates both problem-solving and critical theories. As will be shown below, there are important contributions to both theory and practice at the rural-urban fringe to be derived from each perspective. While fundamentally different these approaches are not mutually exclusive; rather, they co-relate in a sort of dynamic tension (Death, 2013), wherein the insights from one approach inform and (re)shape the other approach.

Irrespective of the type of political economy preferred, in terms of ideological position, political economic analysis highlights the tensions between the individual and the collective and between agency and structure, which the other approaches to decision-making (resilience, governance, management, planning) tend to ignore or take as given (in one direction or the other, i.e. more agency or more structure).[29] This is important because, as Filion and Hammond (2002) describe them, societal changes over time can affect neighbourhood morphology. If we understand the social forces, we can gain better understanding into how particular land patterns emerge (Filion and Hammond, 2002).

My preference is for a critical political economy approach, particularly that put forward by Robert Cox (1987). Cox (1981, p. 97) lists the basic premises for critical political economy:

1. An awareness that action is never absolutely free but takes place within a framework for action which constitutes its problematic. Critical theory would start with this framework, which means starting with historical enquiry or an appreciation of the human experience that gives rise to the need for theory.

2. A realization that not only actions but also theory is shaped by the problematic. Critical theory is conscious of its own relativity but through this consciousness can achieve a broader time-perspective and become less relative than problem-solving theory. It knows that the task of theorizing can never be finished in an enclosed system but must continually be begun anew.

3. The framework for action changes over time and a principle goal of critical theory is to understand these changes.

4. This framework has the form of a historical structure, a particular combination of thought patterns, material conditions, and human institutions which has a certain coherence among its elements. These structures do not determine people's actions in

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[29]   This is not to suggest that all planning, management and governance approaches are "orthodox" or "problem-solving" in perspective. As shown below, there is a critical theoretical strand running through these literatures (see Buscher, 2012).

any mechanical sense but constitute the context of habits, pressures, expectations, and constraints within which action takes place.

5. The framework or structure within which action takes place is to be viewed, not from the top in terms of the requisites for its equilibrium or reproduction (which would quickly lead back to problem-solving), but rather form the bottom or from outside in terms of the conflicts which arise within it and open the possibility of its transformation.

Cox's (1987) critical political economy approach allows us to map out what he calls the 'constellation of social forces' in a society, to see where power lies, in what forms, when and why. These 'constellations of social forces' change over time, and are situated in the prevailing ideas of a particular period in time, such as neoliberalism. Cox drew from Gramsci's state theory where he referred to historic blocs – dominant connections between ideologies, material capabilities, and institutions – as critical to understanding the emergence of particular state forms (Moolakkattu, 2009). "States, the homogeneous entities that form the point of departure for thinking about international politics, are in fact made up of combinations of ethnic/religious and social forces, which more often than not have conflicting interests and aspirations" (Cox, 2010).

2.7.1 Power: ideas, material capabilities, institutions

Figure 2 illustrates the relationship between the three categories of forces (which Cox also refers to as potentials) that interact within a structure. Put more simply, we can regard each as the basis and locus of power. The relationship between these three interacting forces is reciprocal and dynamic, changing through both time and space (Cox, 1981). Cox states that this is heuristic – "not categories with a predetermined hierarchy of relationships" (Cox, 1981, p. 100).
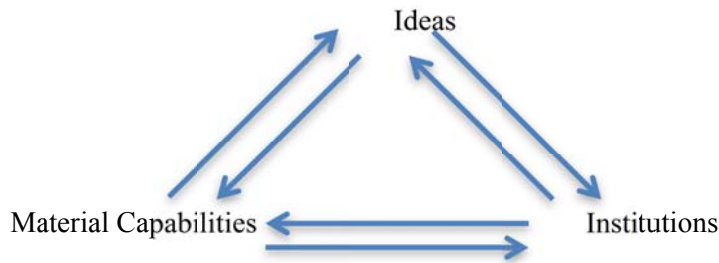
Figure 2: Framework for action: historical structures (Cox, 1981, p. 97)

Table 1 provides an explanation of each of the three categories of structures.

Category	Description	Example
Ideas	There are two types: Intersubjective are shared notions of the nature of social relations, which tend to perpetuate habits and expectations of behaviour. Collective images of social order held by different groups of people.	"Anti-communism" in the west. "Black peril" as linked to communism in South Africa.
Material Capabilities	Technological and organizational capabilities, natural resources which technology can transform, stocks of equipment, and wealth that directs these.	Gold and diamond revenues in highly taxed structure facilitate Apartheid state action.
Institutions	A means of stabilizing and perpetuating a particular order. They reflect the power relations prevailing at point of origin and encourage collective images consistent with these power relations.	National Security Management System (NSMS) in South Africa. Apartheid laws, etc.

Table 1: Historical structures (Cox, 1981, p. 98)

What is important to note here are two things: (1) power has many bases and forms; and (2) given the dynamic relationship among the three elements, changes in one "potential" will impact the others and can, in certain circumstance, completely alter the constellation of social forces. It is for this

reason that understanding the contemporary setting in relation to its broader historical context is so important for understanding why things are the way they are and what are the "potentials" for transformation.

As shown in Table 1, for example, the Cold War period (1945-90) gave rise to anti-communism in the West and led to a bipolar World Order. The Apartheid government in South Africa was able to link anti-communism to the "black peril" effectively tying its Apartheid policies to ideas of "freedom" in the West and among Western allies. The Apartheid state's material power derived in part from taxes on raw materials (gold and diamonds) which facilitated the construction of the National Security Management System (NSMS), thereby tying "security" to Apartheid legislation (Gundy, 1986).

When the Cold War ended, this link between anti-communism and Apartheid was no longer tenable given festering economic constraints (sanctions, the high cost of oil), the whole institutional basis for Apartheid came to a grinding halt, leading ultimately to black majority rule in South Africa (see Chapter 6 below), the crumbling of the "historic bloc" and a period of reorganization among the constellation of social forces, as new ideas, material capabilities, and institutional structures emerged.

2.7.1 Order: forms of state, social forces, world order

Power plays out in relation to three "dominant and emergent rival structures" (Cox, 1981, p. 100): "(1) organization of production, more particularly with regard to the *social forces* engendered by the production process; (2) *forms of state* as derived from a study of state/society complexes; and (3) *world orders*, that is the particular configuration of forces which successively define the problematic of war or peace for the ensemble of states" (see Figure 3) (Cox, 1981, p. 100; see Cox 1987 for details).

Social Forces

Forms of State   World Orders
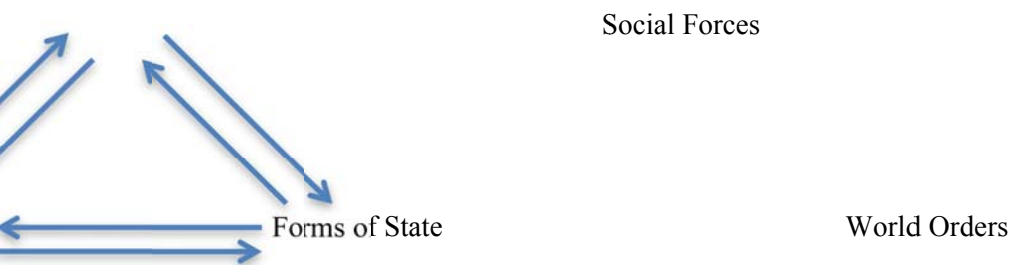
Figure 3: Dominant structures (Cox, 1981, p, 101)

Fully articulating the complexity of the inter-relationships among dominant structures, particularly as actors utilise their ideas, material capabilities and institutional bases of power through temporal and physical space is beyond the scope of this thesis.[30] At the same time, there are important general insights to be made en route to creating a robust analytical framework for decision-making at the rural-urban fringe.

First, history matters – both locally and globally. While particular world orders based on dominant ideas (such as neoliberalism), social relations of production (e.g. industrial capitalism), and state form (welfare-nationalist, neoliberal) may dominate any one era in most places around the world, there are always residual elements carried over (e.g. the centrality of the state despite "governance") from one era to the next.

Second, Cox identifies a number of typical state forms, i.e. configurations of social forces leading to a dominant approach to the exercise of authoritative power. In the case of this thesis the case studies straddle one dramatic shift in world order: from the Cold War to the post-Cold War "era". This shift has been organised by changing ideas about the "proper" social relations of production, wherein private capital has seen a dramatic rise in influence nationally and globally. Cox describes this as a shift from the welfare-nationalist state form to the neoliberal (Cox, 1987).

Third, this shift in state form has impacted social forces in dramatic ways: deindustrialisation across the Global North; a shift to socioeconomies; the rise of unemployment; self-employment and ideas regarding "reskilling"; a general assault on unions; the rise of the Global South as a manufacturing centre and so on (Drache and Gertler, 1991).

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[30]   See Cox (1987) for details.

Fourth, these changes in world order, forms of state, and social forces play out in unique ways across the study areas, leading new actors to emerge, rearranging power relations, and creating new conflicts as each press for the precedence of their ideas.

It is this dynamic undercurrent of historical process and change that critical political economy helps to expose, so adding complexity and nuance to the analytical framework. While these elements are dealt with in detail in Chapters 6 and 7, suffice it to make two points here. First, the post-World War II 'welfare-nationalist' state form resulted in dramatically different outcomes in the two study areas, most notably inclusive and responsive forms of decision-making in Canada versus exclusive and increasingly authoritarian forms of decision-making in South Africa. Second, by the early 1990s, neoliberalism had made significant headway as the dominant world order discourse, so helping to reshape the constellation of social forces both in Canada and South Africa. In particular, private capital – always an important actor at the national and global levels – came to the centre of decision-making power. In the study areas, this has meant less state-directed and more market-driven development. When combined with 'residual' elements of the previous state form, this results in persistent forms of maldevelopment in South Africa, particularly around 'race and space' (see Chapter 6), and in a persistent struggle between 'environment and development' in Canada (see Chapter 7).

In this thesis, insight from the critical political economy literature suggests that the following two questions are important for investigation: What is the historical context? What is the configuration of social forces? These are treated in detail in Chapters 6 and 7.

The next critical theory that I examine is complex systems/resilience thinking. This literature also complements the above-mentioned literatures (governance, management, critical political economy and resilience) because the principles that lie within it encourage one to contemplate the area of interest as dynamic, multi-faceted, changing, and operating across scale and time.

2.8 Complex systems and resilience

A primary contribution that complex systems and resilience thinking makes is that it encourages one to look at the multiple layers that influence change within a system in light of surprise (Walker and Salt, 2012; Davidson et al., 2013). In this section I explain exactly what resilience thinking is, before then going in to how and why it is either desirable, or undesirable, depending on the change that one seeks. The case studies in this study contain multiple systems, both positive and negative, depending

on one's perspective. There are highly problematic systems, especially the dominant urban/suburban/rural-urban fringe development system; and attractive but vulnerable ones, such as the natural protected areas within the two Biosphere Reserves; and various other intertwined systems that have both undesirable and desirable characteristics and effects. For example, protecting green space near a major metropolitan area may have environmental benefits (which is desirable) while concurrently containing negative consequences for those wishing to create economically equal social structures (which is undesirable).

The resilient term itself has gained considerable attention in the last number of years, with conferences named "Resilient Cities", such as that at the University College of London in November 2012. It is important to note; however, that "resilience" does not automatically imply a "desirable" system (depending on your perspective). The system driving urban sprawl, for instance, is very resilient but what we really need to do is interrupt the resilience of that system and create a different kind of resilience in cities that is more conducive to environmental integrity and social justice.

According to resilience thinking, change is mediated by a wide variety of interconnected components and it is the combinations and interactions of these components that result in activity that may not be recognizable when viewing only an individual part (Taylor, 2004). Resilience concepts emerged from C.S. Holling (2001), who based his findings on ecological studies and claimed that complexity of living systems does not form randomly but from a large number of interacting self-organized factors (also, Gunderson and Holling, 2002). In his 1973 article, *Resilience and Stability of Ecological Systems,* Holling pointed out that up until then, ecological theoretical models failed to incorporate "realistic behaviour of processes [that] involved, randomness, spatial heterogeneity, and an inadequate number of dimensions of state variables" (1973, p. 6). Holling proposed that the behaviour of ecological systems could be defined by two distinct properties: resilience and stability. He wrote: "resilience determines the persistence of relationships within a system and is a measure of the ability of a system to return to an equilibrium state after a temporary disturbance. The more rapidly it returns, and with the least fluctuation, the more stable it is…stability is the property of the system and the degree of fluctuation around specific states that result" (1973, p. 17).

At the same time, the process is unpredictable because dramatic shifts can occur before returning to stable states (for instance, a global economic shift can occur suddenly, leaving many unprepared for the ramifications). This poses management problems for technically driven scientists and managers, yet viewing systems in steady states has historically dictated management processes

(Taylor, 2004; Gunderson et. al., 1998). Complex systems thinking challenges decision makers to change from viewing problems linearly and instead focus on the dynamic, non-linear relationships that demonstrate diversity and flexibility (Gunderson et al., 1998). Doing so in the rural-urban fringe would encourage decision-makers to take into account the multiple factors that can influence a particular planning query.

Resilience thinking classifies cities as dynamic, complex organisms (Pickett et al., 2004). Cities are models of dynamic activity wherein change is inevitable and they are highly impacted by external processes (for instance, the world economic crisis, natural disasters, political movements such as that witnessed throughout the Middle East and Northern Africa). In other words, local realities are shaped in large part by factors that cross a city's boundary.

Resilience advocates criticize linear decision-making processes for missing the reality of interactions among the ecological, environmental, political, sociological and economic factors that shape outcomes (Pickett, 2004). As Folke et al. (2002) claim we should appreciate not only the dynamism within a particular system but also the active relationships between and among systems. They argue for synergy among economic development, technological change, and the capacity of natural resources to support social and economic development.

As mentioned above, rational planning has historically dominated (and continues to dominate) practice (Grant, 2008). Resilience has potential to challenge this conventional practice because it encourages us to look beyond the short-term decisions. It would mean that the rural-urban fringe would be viewed as part of a larger system (which is also a system within a system), with multiple interacting dynamics taking place (both seen and unseen) across time and scale. Specifically, factors that impact land use cannot be regarded as just a planning problem or just a market problem (Blais, 2010). The multiple decisions that impact land are not always "directly about the land". Arguably, even the most powerful factors that impact urban expansion can be challenged by other, seemingly weaker or unrecognized factors within the system. For example, factors that can impact a sustainable development project may occur far from the area due to the globalized, neo-liberal reality of the global economy (Richardson, 1996). Therefore, if long-term sustainability is the goal of an urban planner, it is important to consider the multitude of factors that impact outcomes within the system.

For instance, in looking at the case of Dhaka, Bangladesh, Masum (2009) found that rural-urban fringe areas involve more than a simple transition of land from one user to another. Decisions

within the rural-urban fringe involve a complex process with many outcomes that have rippling effects across time and scale.

The framework for resilience thinking is based on a metaphor of adaptive cycles and the likelihood of a system crossing a threshold and moving into a different regime (Walker and Salt, 2006). The adaptive cycle (see Figure 1) is "a heuristic model for change, a fundamental unit that contributes to understanding the dynamics of complex systems from cells, to ecosystems, to societies, to cultures" (Holling, 2001, p. 393). Adaptive cycles consist of a development loop (also called the fore loop, front loop or forward loop) which is "characterized by the accumulation of capital, stability and conservation" and a release and reorganization loop (also called the "back" loop) which is "characterized by uncertainty, novelty, experimentation and the time of greatest potential for the initiation of either destructive or creative change in the system" (Walker and Salt, 2006, p. 82; Holling, 2001; Holling, 1973).

To explain the details of the adaptive cycle, I turn to Holling (2001, p. 394) to explain his model:

> The trajectory alternates between long periods of slow accumulation and transformation of resources (from exploitation to conservation, or r to K) [whereby connectedness, stability and potential increase], with shorter periods that create opportunities for innovation (from release to reorganization, or Ω to α) [whereby connectedness and potential decrease before potential increases again]. Potential includes accumulated ecological, economic, social, and cultural capital as well as unexpressed chance mutations and inventions (see Figure 4).
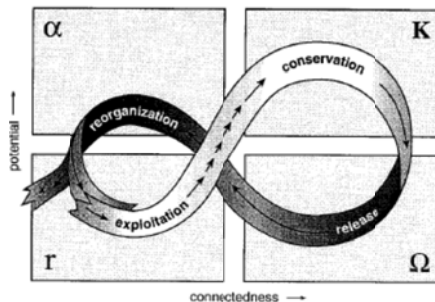
Figure 4: The adaptive cycle (Holling, 2001)

A system becomes increasingly connected during the fore loop until it becomes too rigid in its control, ultimately leading to its collapse and sets the system off into the reorganization phase (Holling, 1973). The fore loop of the cycle is marked by predictable incremental growth whereby resources are used in an increasingly efficient manner and immediate results are optimized (Walker and Salt, 2006). For instance, this would be the slow gradual expansion of urban areas into rural/natural land. This conservation phase eventually ends as its efficiency and pending rigidity decrease its resilience. Using the same example, this would involve all rural/natural land becoming developed and, for instance, hydrological cycles and vital ecosystems becoming disrupted. The longer that a system is in the conservation phase, the smaller the shock is needed to end it and initiate a release phase in which linkages are broken and natural, social, and economic capital are leaked out of the system (Walker and Salt, 2006, p. 95). For instance, perhaps an economic shift occurs that causes homeowners in the newly developed rural-urban fringe to lose their homes and what once was natural land is now unoccupied urban sprawl. Then the phase from Ω to α is a period of rapid reorganization during which novel recombination's can unexpectedly seed experiments that lead to innovations in the next cycle" (Holling, 2001, p. 395). The back loop is unpredictable and highly uncertain but has the greatest capacity for creativity during rebuilding.

Holling (2001) claims that economic and social systems work in a similar way because potential is generated from interacting human networks that come together in the back loop and are developed incrementally from r to K. Potential may be developed and used in one setting but adapted and applied in (new) transformed systems (Holling, 2001).

The study of resilience "shifts the focus of land management from a 'command and control' approach – maintaining a system within strictly controlled bounds – to an approach that attempts to enhance the system so that it is less likely to rapidly change into some undesirable configuration" (Taylor, 2004, p. 81). This is a beneficial contribution of resilience thinking to the decision-making framework that I put forth because it encourages one examining a particular area to recognize and contemplate both the resilient factors that one wishes to maintain while avoiding the resilient conditions that would result in unwanted consequences (such as urban sprawl).

For Taylor (2004, p. 82) the system does not have to return to the same state after a disturbance as he describes it as "the amount of disturbance a system can absorb before *it is shifted into another state that has different controlling processes and key variables*". In the case of this study, it would mean questioning, for instance, how much development pressure could a rural-urban

fringe area endure before it is shifted into a patchwork of low-density enclaves or a completely urban environment? Resilience thinking, furthermore, encourages one to consider where humans fit within the biosphere, as opposed to the anthropocentric question that is dominated by the economics of property development, being 'how can we dominate the environment?'

Holling (2001, p. 395) describes resilience as the third dimension in the two dimensional model depicted in Figure 4. "Resilience shrinks as the cycle moves towards K, where the system becomes more brittle. It expands as the cycle shifts rapidly into a back loop to reorganize accumulated resources for a new initiation of the cycle". Thus, ecological resilience expands and contracts throughout the adaptive cycle – it is not a static process. According to Folke et al. (2002, p.7) resilience for social-ecological systems is related to: "a) the magnitude of shock that the system can absorb and remain within a given state, (b) the degree to which the system is capable of self-organization and (c) the degree to which the system can build capacity for learning and adaptation".

Scale is also central to understanding resilience. Decision-making processes (such as the rational comprehensive planning model) have often focused only on the scale that was of interest at the time; however, the scale in which we are interested is connected to and affected by what's happening at the scales above and below, both in time and space (Walker and Salt, 2006). This is an important contribution of resilience thinking to decision-making at the rural-urban fringe.

Furthermore, decision-making processes are inevitably anthropocentric given that whatever is decided upon is in relation to human interests. The social-ecological systems perspective alters this slightly to encourage questions such as where do humans fit within the biosphere, thereby leading toward considerations of such things as limits to growth over greater temporal and spatial scales.

Part of understanding the complexity of development (or conservation patterns) at the rural-urban fringe is that each system has a scale that progresses through its own adaptive cycle (Walker and Salt, 2006). At the same time, there are linkages across multiple scales that impact how other systems at other (linked) scales behave. Therefore, all systems are composed of a hierarchy of linked adaptive cycles operating at different scales across time and space. What happens at one scale or level can influence what happens at another. The most common cause of natural resource management failure is ignoring the effects of phenomena at one scale on another (Folke et al., 2005, Walker and Salt, 2006). Immediate gratification (such as economic gains reflective of capitalist property development and/or decisions made simply for political gain) or the need to solve problems quickly may result in short-term solutions that may have negative rippling effects in the future, or on another

system. From an economic point of view, a company may concentrate only on the scale at which they are operating but fail to recognize occurrences at other scales (such as national economic policies and/or global economic change). Overlooking various scales may negatively impact a company's ability to respond to unexpected change. Applied to the rural-urban fringe question, concentrating only on short term economic gains resulting from inefficient urban/suburban expansion may cause larger ecological social and economic consequences that may be more costly in the long run.

Holling (2001, p. 402) describes panarchy as "how a healthy social-ecological system can invent and experiment, benefitting from inventions that create opportunity while it is kept safe from those that destabilize the system due to their nature of excessive exuberance...protected from above by slower, larger levels but invigorated from below by faster, smaller cycles of innovation. The whole panarchy is therefore both creative and conserving. The interactions between cycles in a panarchy combine learning with continuity". Folke et al. (2005) describe panarchy as the inter-organizational collaboration that bridges local actors and communities with other scales of organizations. These bridging organizations can "serve as a filter for external drivers and also provide opportunities by bringing in resources, knowledge, and other incentives for ecosystem management" (Folke et al., 2005, p. 461). Interactions across spatial and temporal scales must be scrutinized in order to reorganize in the face of change (Folke et al., 2005). "It will require new forms of human behaviour with a shift in perspective from the aspiration to control change in systems, assumed to be stable, to sustain and generate desirable pathways for societal development in the face of increased frequency of abrupt change" (Folke et al., 2005, p. 443).

Therefore, diversity across scales is essential to building resilient systems. According to Folke et al. (2002, p. 8), the goal is to create

> more resilient social ecological systems [that] are able to absorb larger shocks without changing in fundamental ways. When massive transformation is inevitable, resilient systems contain the components needed for renewal and reorganization. It is unclear how such massive transformation can be defined. In other words, they can cope, adapt, or reorganize without sacrificing the provision of ecosystem services. Resilience is often associated with diversity – of species, of human opportunity, and of economic options – that maintains and encourages both adaptation and learning.

Sustainable development involves "fostering adaptive capabilities while simultaneously creating opportunity" (Holling, 2001, p. 399). The goal of sustainable development is to create and

maintain prosperous social, economic, and ecological systems that are intimately linked: "humanity depends on services of ecosystems for its wealth and security [and] humans can transform ecosystems into more or less desirable conditions" (Folke et al., 2002). This demonstrates that humans have a choice to foster the (resilient) conditions that promote sustainability or to foster the (resilient) conditions that lead to environmental destruction and social inequity.

The outcome (meaning whether a rural-urban fringe obtains social and ecological sustainability or unsustainability) is influenced by governance and management styles. The scholarly literature in this area says outdated management and governance styles that acted to control and inhibit change only decreased resilience and increased potential for collapse (Folke et al., 2002; Walker and Salt, 2006).[31] This viewpoint counters mainstream management styles that are influenced by business agendas and promote optimal material efficiency and effectiveness measured in economic terms as the ultimate goal (Anderson, 1999). In the case of the rural-urban fringe, the question of how to manage and adapt to change may actually require more control because what may actually be required to prevent urban sprawl is stricter planning policies (such as a firm urban edge). Balancing how much control one maintains while still being flexible in the light of change seems to be a critical skill that planners and other decision-makers must possess.

Therefore, resilience thinkers promote managing whatever system one is responsible for by developing a type of resilience that supports sustainable development and socio-ecological goals while averting undesirable outcomes[32] (in the case of this thesis it would mean supporting economic and development patterns in the rural-urban fringe that support social and ecological sustainability goals while averting those that threaten it).

While Taylor (2004) acknowledges that it is safe to predict that a highly connected (K-phase) system *will* collapse, the set of conditions and timing will be unknown. He states "[p]erhaps it can never be known. The aims of resilience management are to manage the system so that it is better able to withstand external shocks and disturbances and to ensure that the system contains the elements that will allow it to re-organize itself following some large change" (Taylor, 2004, p. 83). He calls for a new paradigm of a management style that focuses on systems in time and space. Clearly management of the system can either destroy or build resilience, depending on how the social-ecological system

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[31] The point is to establish biosystem integrity markers for development processes. Examples of some of these assorted "markers" are "ecological footprint", "100 mile diet", and "environmental flow" (in rivers).

[32] Recognizing, too, that this tends more toward anthropocentric rather than ecocentric thinking, but can include "nature" as a "stakeholder" (see government/management literature above).

organizes itself in response to management actions (Folke et. al, 2002). According to Holling (2001), one of the principal aims for management is to define where in the respective adaptive cycle each of the subsystems resides because times of greatest threat offer the greatest opportunity.

Developing institutional structures that match ecological and social processes operating at different spatial and temporal scales (and the linkages between these scales) pose the greatest challenge, as Folke et al. (2002) observe. Therefore they promote interaction between local organizations and other groups at different vertical and horizontal levels (Folke et al., 2002). The adjustment that is essential to "multi-level governance" is accomplished through innovation and experimentation (Folke et al, 2002; Walker and Salt, 2006; Armitage et al., 2011, Armitage and Marschke, 2013). According to Folke et al. (2002), respecting the conditions necessary for resilience-building, requires a management approach that is "flexible, attends to slowly-changing, fundamental variables that create memory, legacy, diversity, and the capacity to innovate, and it conserves and nurtures the diverse elements that are necessary to reorganize and adapt to novel, unexpected, and transformative circumstances". They claim that increasing the range of surprises that a system can cope with enhances resilience. Planning practice involves examining the multiple factors that impact a development, and resilience encourages one to examine the multiple dimensions of a particular system and uses the adaptive cycle heuristic to estimate where it sits in relation to reorganization, conservation, exploitation, or release (the four components of the adaptive cycle). Furthermore, it reminds us that surprise events can rapidly shift a system from one state to another.

Folke et al. (2002, p. 9) advocate for local knowledge because it is needed to enhance connection between humans and nature. Interestingly, they say that one must understand the complex connections between people and nature because complex systems-thinking "creates opportunity for technological innovations and economic policies aimed at building resilience". This statement does not clarify the social and ecological qualities and effects of resilient system that one wishes to develop, nor does it address the broader economic and political factors that determine the trajectory of a system.

According to Walker and Salt (2006), experimentation is a key to management. "It requires, and facilitates, a social context with flexible and open institutions and multi-level governance systems that allow for learning and increase adaptive capacity without foreclosing future development options" (Folke et al., 2002, p. 9). The overall goal is to think long-term as opposed to short-term solutions (Young et al., 2006; Armitage, 2007). Monitoring, clarifying, and redirecting the underlying

key variables is essential to managing for resilience (Folke et al., 2002). This; however, presupposes settled social settings.

Alberti et al. (2003) define urban resilience as "the degree to which cities are able to tolerate alteration before reorganizing around a new set of structures and processes...[Urban resilience] can be measured by how well a city can simultaneously balance ecosystem and human functions." According to Allen (2006, no pg. online source), "Sprawl affects the resilience of complex social-ecological systems in a myriad of ways", but at the same time, sprawl is also the product of complex social-ecological systems. The dynamics at the rural-urban fringe are not self-contained; they are the expression or symptom of wider system dynamics. Therefore planning at that scale, even if sensitive to all factors, cannot succeed without wider system change.

The question becomes how to create resilient systems that enhance prospects for lasting environmental, social, and economic vitality while diminishing resilient systems that counter these goals. Historically, planning language has used terminology that implies division. For instance, terms such as "Urban Growth Boundary", "Limits to Growth" and "City Limits" all indicate separation between what may be implied as the "right" and "proper" divisions or categories of human activity. Systems theory encourages us to extend our thinking to involve integration in terms of scale and processes. For instance, rather than using terms like "boundaries", resilience thinking looks at the entire system in light of, for instance, human activities and impacts on ecological processes. Furthermore, resilience thinking also provides insight into only some of the criteria needed to distinguish between either "right" or "improper" categories of human behavior and objectives. It is for this reason that strictly examining decision-making processes within the rural-urban fringe via a resilience perspective is inadequate. It provides important insights, perspectives and approaches for understanding, but it does not address all issues.

The rural-urban fringe is in itself a system with multiple dynamics occurring as influential factors and/or actors enter and leave the rural-urban fringe "zone". The same can be said for the city that it borders, and the rural land that it borders on the opposite side. There may be another system on the opposite side of the rural land with its own rural-urban fringe and urban area containing another set of variables that impacts the individual components and the overall system. And all are made up of countless sub-systems, involve overlapping systems (e.g. transportation networks and watersheds). Then, all of this may be enclosed within its own scale and yet again this is all contained within larger systems (at the regional, national, global level) that have variables entering and exiting all of the other

systems (for example, national or federal fiscal and regulatory regimes, regional and global climate, the internet, infectious disease movements, etc.). This occurs at every level. For instance, global climate change policy would impact on what occurs at the scale of the rural land between the two rural/urban fringe systems. An alteration within the rural land (if, for instance, it was converted to urban land), would have wider implications on scale 2 (for instance, diminished ecological systems, disrupted natural hydrological system, increased pollution, etc.) (see Blais, 2010). Furthermore, the variables may fluctuate/occur across time. For instance, currently land is being developed in the Greater Golden Horseshoe that some current planning decision-makers would prefer to remain intact but the decision to allow for development happened years ago so the only options for planners is to ensure that all future developments agree with new planning legislation and associated rules such as under the Places to Grow Act.[33] Finally, there may also be various types of systems. For example, there are natural systems (centered, for instance, on a watershed) and there are administrative systems (involving, for instance, provincial and municipal boundaries) that all contain their own systems while being encompassed by other systems.

Therefore, the adaptive cycle must be considered at multiple scales so that tipping points can be predicted, avoided or reinvented into something else before undesirable outcomes occur (in this case, haphazard, unsustainable development that disregards ecological and social benefits in pursuit of short-term, economic gain). Planning solutions continue to be primarily rational and linear, with the application of technical solutions to critical issues. While Blais (2010) points out issues of pricing and mis-incentives, and Smart Growth and New Urbanism suggest urban design solutions, it is essential to understand decision-making processes. It is for these reasons that governance literature complements the planning and resilience areas of study. To paraphrase Blais (2010): If planners, engineers and decision makers recognize that unsustainable urban expansion and sprawl is a problem, then why is there such a mismatch between discussions, policy and implementation? A prevailing question, based on Blais' (2010) analysis is whether or not multi-stakeholder engagement would make a difference, since many of the proposed solutions to unsustainable urban expansion are design oriented and/or involve altering pricing, policy, incentives and regulation.

This review of complex systems and resilience is important for this study because it shows that one must consider the multiple dimensions that impact a planning issue. Thinking strictly of

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[33] From personal communication with Provincial planners at the International Greenbelts Conference, March 2011.

economic gains (which is characteristic of capitalist property development) fails to consider other factors that may ultimately impact the broadly defined sustainability goals a project should serve. Furthermore, the heuristic for change, the adaptive cycle, tells us that a particular system will reach a tipping point before it spins into a reorganizational phase. It is important for decision-makers to define where on the adaptive cycle they sit, and what other systems are occurring above, below, in front of, and behind it, that may impact its trajectory in light of surprise occurrences.

In this thesis, insight from the resilience literature suggests that the following two questions are important for investigation: What are the environmental issues? What are the social and economic drivers? At what scale and over what time period do these systems operate? These are treated in detail in Chapters 6 and 7.

2.8.1 Key elements from the literature

The foregoing review reveals both complementarities and sharp contrasts within and across literatures (see Appendix B for a summary of the key characteristics behind problem-solving, critical, and resilience theories and approaches). For the purpose of devising the analytical framework, the key insights derived from each literature are highlighted in Table 2 below. I use governance, management, critical political economy and resilience in the analytical framework. I highlight the key points of planning theory because this is a planning dissertation and therefore reviewing planning theory is obviously important. However, planning theory is not a part of the analytical framework as its own category because it is encapsulated within the governance and management steps of the framework.

General Literature	Key Insight	Remarks
Planning	Rational Comprehensive Model persists.	
	Communicative planning emphasizes participation, stakeholder engagement, and 'co-learning'.	Complementary to governance and co-management.
Governance	Government (the state) replaced with governance (the state plus multiple actors)	State should steer (provide oversight); private sector/civil society should row (carry out outcomes, take decisions)
	Participation involving key stakeholders is key	Complementary to both communicative planning and

	• In creating governance framework • In ensuring feedback loops	co-management
	Good governance requires: • Transparency • Accountability • Effective means of conflict resolution	
Management	Devolve power to lowest appropriate authority	At the level of the resource (e.g. subsidiarity principle).
	Participation/stakeholders	Complementary to governance and planning
	Flexible and adaptable to changing circumstances	
	Monitoring and evaluation important	
	Knowledge co-creation	Expert and "lived" or indigenous knowledge (IK)
	Leadership	
	Co-management	Builds trust, social capital
Resilience	"Systems" focus	Attention given to time (short, medium, long-term) and scale (local to global)
	Complexity	Social-ecological factors inter-related; social not outside ecological
	Adaptive cycle	Locate where on cycle
	Tipping points	Requires new type of knowledge, information gathering
Critical theory	Historical context	Local and global Change and continuity
	Constellation of social forces	Within state form
	Multiple bases of power	Ideas, material capabilities, institutions
	Opportunity for transformation	Clinical political action not cynical status quo seeking
	Struggle/dialectic	Not just incremental Decision-making and interest group behaviour

Table 2: Complementarities and contrasts across literatures

2.9 Analytical Framework

The rural-urban fringe is a space where various land uses – along with varying opinions on how land should be used – intersect. What happens at the rural-urban fringe ultimately determines the urbanization process: whether cities expand outwards or within existing boundaries. What we have, then, is an active space (this rural-urban fringe area) influenced by multiple factors that operate across time and space. These multiple factors that intersect at the rural-urban fringe increase its potential to be subjected to known and unknown events. The rural-urban fringe is highly vulnerable to change that is characterized by status quo urban development.

A review of the problem-solving theories (governance and management) and the critical theories (critical political economy and resilience) reveals that each literature provides knowledge that, when combined, contributes significant insight into planning decision-making in rural-urban fringe areas.[34] Governance and management literatures demonstrate the ways that various institutional structures can be organized (and the benefits and limitations to these structures). Critical political economy is helpful for rigorously understanding why historical experiences and structures alter power arrangements that ultimately affect a specific governance and/or management structure. Resilience thinking situates the planning process into multiple interacting layers of social-ecological-systems. Resilience thinkers see humans in the environment and cities occupying a space within the greater ecosystem/biosphere, suggesting an additional perspective to help us understand and perhaps deal effectively with sprawl. In light of the key insights from the literature review, the analytical framework is as follows:[35]

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[34]   At this point it should be reiterated that the division of theories into problem-solving and critical categories is an analytical tool and that these theories are not necessarily mutually exclusive. Indeed there are an increasing number of studies that draw insights from one perspective (either critical or problem solving) while mainly locating their theoretical framework within the other (see Death, 2013; Krieger and Kodate, 2012).

[35]   While I am presenting this multi-stage framework as a series of steps, I must state that I picture it, too, operating within a complex system of various factors operating across time and scale. Therefore, even though I begin from step 1 (governance) and then move to step 2 (management), it is completely logical that one may move back and forth between the steps as one phase in the analysis may give important insight into a previously visited stage. A visual of this multi-stage framework for decision-making at the rural-urban fringe that I put forth is represented in Figure 5.
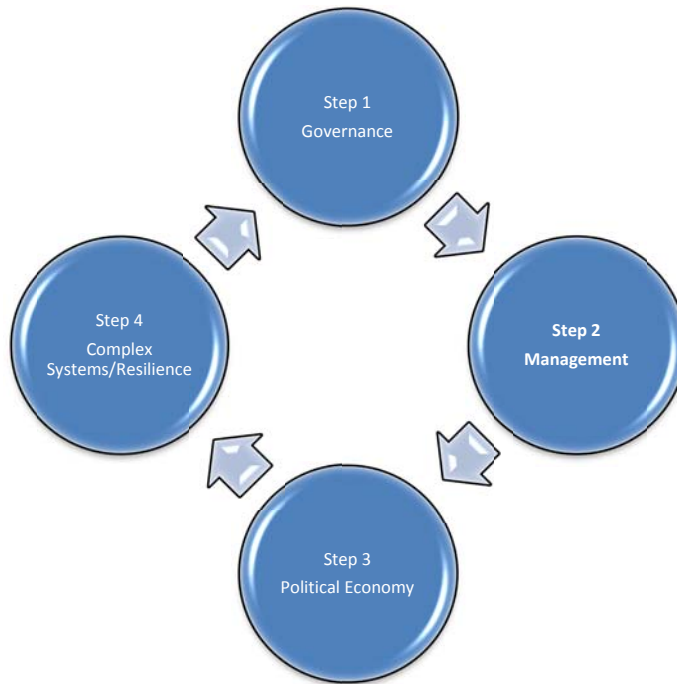
Figure 5: Analytical framework

Entry: Problem identification or Research Question.

The point of entry begins with problem identification or the research question. Next, one progresses through the analytical framework, assessing the case against the steps identified. Questions that guide the researcher are listed in Section 2.8.1 below.

2.9.1 Steps 1 and 2: Problem-solving theories

Step 1: Governance

- What is the governance framework?

- What laws, policies and procedures are in place?

- Is the process participatory?

- Is the process transparent?

- Are actors accountable?

- When conflict arises is there an effective dispute resolution mechanism?

Step 2: Management

- What are the land-use plans in place?

- How is the situation managed?

- Are the goals of the plan realized in practice?

- What are the stakeholders' perspectives about the situation?

- How is the situation being handled (monitoring, evaluation, knowledge gathering, etc.)?

2.9.2 Steps 3 and 4: Critical Theories

Step 3: Critical Political Economy

- What is the historical context?

- What insights can be gained from examining (local/global) historical trends?

- What is the constellation of social forces in the state form?

- How is power exercised?

Step 4: Resilience

- How is the particular system embedded in other systems and how do they affect one another?

- What systems seem resilient and why?

- Can any tipping points be determined?

- In the given situation: where in the adaptive cycle is the system?

- What information is lacking?

2.10 Conclusion

Urbanization of rural and natural land is a major problem currently facing the world. The consequences of this expansion range from ecological system degradation to increased air pollution due to automobile use to loss of precious farmland. The rural-urban fringe marks the area where rural and natural land is most vulnerable to urbanization. It is here where multiple actors emerge with sometimes vastly differing perspectives on how land should (or should not) be used. There are various forms of governance but this thesis addresses those that are promoted in the resilience literature as best suited for creating socially and environmentally resilient systems. Specifically, the types of governance discussed in this literature review refer to decision-making processes that are participatory and collaborative, involving multiple actors from all sectors (public agencies, private sector and civil society – which may include NGOs or individual non-state stakeholders). The resilience literature claims that these types of arrangements ensure more equitable outcomes, as opposed to linear downstream processes that serve only those with economic or political power. Furthermore, the resilience literature says that systems that are diverse and can respond to unexpected change are most likely to be resilient. If the goal is to have socially and environmentally robust systems, then there should be a wide range of actors with various interests involved in governance processes. Indeed, a diversity of actors involved increases the diversity of responses in light of surprise and change.

This chapter also focused on adaptive co-management and related approaches that the resilience literature promotes as being best suited for robust social-ecological systems. Each of the literatures contributes insights toward a more comprehensive and nuanced analytical framework for understanding decision-making processes at the rural-urban fringe.

The urbanization patterns that we see are highly resilient (although it may not be the "type" of resilience that we desire for sustainable outcomes) as demonstrated by sprawling cities throughout North America and Africa, for example. Resilience provides us with a way of analyzing the multiple actors and interests that emerge at the rural-urban fringe. We can use the adaptive cycle to situate the vulnerability of a specific system, and to identify both risk and opportunity for expected and unexpected change. Resilience thinking also reminds us to situate the system we are examining in a specific time frame, while keeping alert of other systems that may interact with that which interests us. In this way, resilience thinking complements the critical theory approach put forth by Cox (1987)

who says that problems must be situated within a historical context. As Cox notes, "*critical* theory is more reflective on the processes of change of historical structures, upon the transformation or challenges arising within the complex of forces constituting the existing historical structure, the existing 'common sense' of reality. Critical thinking then contemplates the possibility of an alternative" (Cox, 2010). In this way, resilience thinking meshes with critical theory in that both encourage one to situate that which is being examined within a broader context and to recognize the dynamic complexities of that context. However, resilience does not provide a social theory as to why certain factors have particularly important effects on a system, in this case a governance system centered on spatial planning.

Critical political economy, in contrast, delivers a theoretical perspective that helps explain development dynamics at the rural-urban fringe. A critical political economy approach allows us to identify the tensions between the individual and the collective, between agency and structure, that the other literatures (planning, resilience, management, governance) ignore or often take as a given. Political economy helps us see where, when and why power exists. Governance and management are largely what Cox (1987) would refer to as problem-solving forms of theory, in which the existing structure is taken as it is without serious questioning, and the focus is on how to improve that structure and/or its operation. In the context of planning for/in the rural-urban fringe, for instance, problem-solving theories do not question the system and seek transformation; rather, they identify problems within the system and seek to resolve them, perhaps by reforming the system: hence, better governance, better institutions, better laws, and better concepts and approaches such as 'new urbanism' and 'smart growth'. Yet, as the literature review suggests, rare are the cases where good governance – defined as equitable, sustainable, and efficient resource use – is realized in practice. More often than not, outcomes are suboptimal, often giving rise to social movements and renewed social struggle (Griffin, 2013).

The analytical framework that I presented combines both problem-solving (governance and management) and critical theories (critical political economy and resilience). This analytical framework can be used to guide the analysis of decision-making in rural-urban fringe areas. Each provides insight that alone they do not deliver. Using this analytical framework, in Chapters 4 and 5, I examine both case studies as part of the problem-solving portions of the framework. In Chapters 5 and 6, I scrutinize both case studies via a critical theory lens. Prior to this, in Chapter 3, I present the methodology that guided this study.

Chapter 3

Methodology

3.1 Introduction

In order to create an accurate study, I incorporated two different elements into the methods. The first step was motivated by the initial research question: What factors influence planning decision-making processes and outcomes in the rural-urban fringe? The second step was motivated by a corollary to the initial question: What, if any, generalizations can we draw from these two comparative cases, such that better land-use planning decisions may be made in the future, within the contexts of (i) each specific case study; (ii) at the rural-urban fringe in general; and (iii) in biosphere reserve areas? The first step involved data gathering through a grounded-theory approach, whereby I respected the specifics of both cases and the voices of the study informants in a way that minimized the influence of pre-conceptions. It also involved classic triangulation methods typical of qualitative studies.

The second step involved the filtering of this information through an analytical framework (see Figure 5) whose design was derived from key elements in the literatures described in chapter two. This became the basic analytical framework structuring and undertaking the analysis of the case studies within the broader ambit of planning for sustainability at the rural-urban fringe. The goal was to use the framework components as a non-exclusive set of interrogative questions under each disciplinary area, while being as open as possible to other factors that emerged from the case evidence. What follows is an overview of the type of research that I have conducted (qualitative research) and then a section on comparative case studies, including benefits and limitations of this type of study. In section 3.3, I explain the data collection process (this is the first element that I refer to above, in which I analyzed the data influenced by grounded theory). Then, in section 3.4, I explain why biosphere reserve sites were chosen for the study. Finally in section 3.5, I conclude this chapter.

3.2 Research methodology

3.2.1 Qualitative research

Qualitative research involves exploring and understanding a particular issue, from the specific to general, in order to develop a much deeper, comprehensive understanding of social and human issues

than would be allowed through numerical data (Creswell, 2009). The researcher develops research questions and procedures that they will follow, based on best practice as outlined in the literature. Lincoln and Guba (2000) explain that in order to understand phenomena adequately, the subjects of investigation must be studied in their natural setting. Qualitative research allows a researcher to answer "how" and "why" decisions get made, in addition to what, where and when they get made. The characteristics of qualitative research are outlined in Table 3.

Characteristic	Description
Natural setting	Research is conducted at site where participant experiences the issue that is problematic. Talking to people and watching them interact and behave in own setting are crucial.
Researcher as key instrument	Researchers may use a tool, such as an interview guide, in the research process, but they gather all of the information on their own as opposed to relying on instruments developed by others.
Multiple sources of data are used	For instance, interviews, photographs, field observations, pertinent documents, are all reviewed, analyzed and organized into key themes.
Inductive data analysis	Patterns, categories and themes are developed from the bottom upwards, whereby data are organized into increasingly more abstract units of information. The researchers work "back and forth between the themes" until they have "established a comprehensive set of themes" (Creswell, 2009, p. 175). Study participants are involved throughout the process and have the opportunity to shape the themes as they emerge.
Participant's meanings	The researchers must continuously ensure that, throughout the research process, they are not imposing their own views (or those from other scholars) on the problem, but rather focusing on that which the participant sees.
Emergent data	"The initial plan for research cannot be tightly prescribed, all phases of the process may change or shift after the researcher enters the field and begins to collect data" (Creswell, 2009, p. 176). Hence, there may be changes in design including: questions, participants, research locations.
Theoretical lens	Researcher typically views the problem through a particular lens, e.g. gender, history, cultural,

	social, political, etc.
Interpretive	Researchers interpret what they see, hear, understand and these can't be separated from their own views. Hence, multiple perspectives shape the issue.
Holistic account	Researchers try to show the complexity of an issue, by drawing upon many perspectives, etc., using as many tools as they deem necessary during the research phase.

Table 3: Characteristics of qualitative research (Creswell, 2009)

Although the characteristics of qualitative research include an inductive theoretical lens, the frameworks that I explore in the literature mix inductive cases with deductive hypothesis (for instance tipping points, transparency in governance, power is knowledge, etc.). Essentially there is an interrelationship between induction and deduction in that my case analysis is trying to be inductive but it revealed some deductive generalizations that are typical of political economic analysis.

3.2.2 Comparative case study

My case study approach is based on the constructivist paradigm, which purports that truth is relative, meaning it is based on the perspective of the observer; however, there may be an element of objectivity within it (Creswell, 2009). Starting from the belief that reality is socially constructed; the researcher tries to understand the participants' notion of reality by interacting with them in their own setting. In doing so, the researcher appreciates that views are complex, developed through an individual's history, culture, and interactions within society. Therefore, as the study participants' idea of reality is shaped through interaction with the world, so is the researcher's because the researcher interprets meaning through his or her own social, historical and cultural lenses. Since "knowledge" is therefore subjective, specific to a time and place, "truths" are obtained inductively, with open-ended questions best positioned to obtain the most information. While I recognize the value of generalizations and broad insights that theory offers, I also recognize that full objectivity is unlikely if not impossible, that subjective perspective is typically applied, and that for practical purposes, certainly for this dissertation, the specifics of case and context matter. This results in a hybrid approach recognizing generality, complexity/uncertainty, and context.

Case studies, then, facilitate this exploration of socially constructed realities by providing a rounded, detailed description of the issue being studied. Yin (1993, p. 59) describes a case study as "an empirical inquiry that investigates a contemporary phenomenon within its real-life context and addresses a situation in which the boundaries between phenomenon and context are not clearly evident".

The researcher uses multiple sources and forms of data (Creswell, 2009), moving from the specific to wider implications. Baxter and Jack (2008) explain that comparative case studies deliver more robust and reliable results, allowing the researcher to "analyze within each setting and across settings", as similarities and/or differences arise. Yin (2003, p. 47) explains that "multiple case studies can be used to either (a) predict similar results (a linear replication) or (b) predicts contrasting results but for predictable reasons (a theoretical replication)". Conducting research on a case that is still in progress allows the researcher to witness events as they take place (Peters, 1998). While I adopt a comparative case study approach, I am aware that there are limitations to such approaches. For instance, I recognize, and concur, with points made by Azarian and Petrusenko (2011) about the limitations of comparative case studies. Here I will draw upon Azarian and Petrusenko (2011) to point out some of the key limitations that are most applicable to the case studies that I've chosen for this dissertation.

One of these points made by Azarian and Petrusenko (2011) is that results will vary depending on the selection of the units or objects of comparison. For instance, choosing two cases from South Africa would likely offer a much different result from choosing one case from South Africa and one case from Canada. Choosing one case from Canada and another case from, say, Egypt, would involve different factors again, due to the ongoing instability within Egypt. Secondly, there must be an adequate number of "independent, self-contained cases…in order to identify causal patterns". If there are not enough cases like this, "the researcher is often left with a substitute, namely that of narrating a story instead" (Azarian and Petrusenko, 2011, p. 42). Thirdly, a small number of cases is "a serious limitation and constitutes an inherent bias in the structure of comparison, with far reaching implications for the validity of the outcomes of these studies especially with regards to their generality" (Azarian and Petrusenko, 2011, p. 43). In order to combat these limitations, I used multiple methods of checking the results, which I elaborate on below (including cross-referencing, presenting results in public forums). Comparative case studies begin with specific assumptions, for if not they would not be selected in the first place. However, it is important not to assume that two cases

are comparable when, in fact, they may not be (Azarian and Petrusenko, 2011). A limited number of cases and limitations of comparability result in an inability to truly be comprehensive (Azarian and Petrusenko, 2011). Ultimately, "asymmetric comparative studies frequently tend to investigate one case carefully while limiting themselves to a mere sketch of the other cases, which serve as comparative reference points" (Azarian and Petrusenko, 2011, p. 43). Lastly, Azarian and Petrusenko (2011) points to the difficulty for researchers to accurately and thoroughly identify "likeness" or "sameness" across cases. Due to this,

> It is very doubtful if one can confidently endorse the use of comparative approach to discover general causal theoretical constructions… Rather than seeking general causal explanations, comparative analysis seem to be capable of offering no more than illustrations demonstrating fruitfulness and shortcomings of theories and models developed otherwise, to show the boundaries of their applicability. As such, comparative method can be used confidently only…as a rough check on our theories and models, preventing us from going astray and simultaneously stimulating our theoretical imagination, which nonetheless is much needed for the elaboration of these theories and models (Azarian and Petrusenko, 2011, p. 45).

Ultimately, then, it is critical to reflect and consider carefully what each case reveals. Cognizant of the limitations of comparative case studies and how much can be claimed by using only two cases, I am not declaring that the findings I have identified are applicable to all other cases that I am not studying. Instead I wish to bring forth insights of sameness and difference between the two cases, in order to shed light into the decision-making factors that impact outcomes at the rural-urban fringe. In particular, insights from both cases can shed light into how the type of development that occurs at the rural-urban fringe (specifically areas that are highly desirable due to natural esthetics and proximity to major metropolitans) is influenced by a political economy of rural-urban fringe spatiality.

3.3 Data collection process

The idea for my PhD research emerged out of my Master's research, which focused on the planning process as it pertains to outcomes within the Dwars River Valley, Stellenbosch Municipality, South Africa. There was a large-scale development, Boschendal, being negotiated at the time that led to a heated debate among various actors within the community about low density and urban-type development, especially gated communities within rural areas (outside of the urban edge).

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Furthermore, the area had just become a UNESCO Biosphere Reserve. So, how to reconcile sustainability goals with pressure from developers and some individuals to urbanize became a contentious issue. The results of this research (see Cash and Swatuk, 2010; and Cash and Swatuk, 2014) led me to the question of what influences development patterns, namely urban expansion, especially in areas that are identified as special or unique (as is the case with UNESCO Biosphere Reserve areas).

3.3.1 Review of grey literature: plans, policies, brochures, etc.

I began the case research process by reading and summarizing relevant documents such as government documents (including plans, policies, key legislation, etc.), newspapers, promotional material, blogs, and applicable websites (such as that for government, UNESCO, etc.). I focused on Canada and South Africa, as well as general information that were not geographically specific. This information was summarized and analyzed for content (including similarities and differences between areas) in addition to being used to identify key stakeholders to speak with during pilot interviews. Stakeholders was broadly defined as "those with an understanding of or are impacted by the decision-making factors that impact outcomes within rural-urban fringe areas within the CWBR or the NEBR". I received ethics clearance from the University of Waterloo's Office of Research Ethics on November 11, 2011.

3.3.2 Interview process and validation of findings

I presented the study's proposed theoretical approaches, topics discussed in the literature review, and preliminary proposal concepts at the Canadian Association for the Study of International Development in May 2011. I also discussed the same topics as a participant at the PhD Jamboree at the University of British Columbia in Vancouver, BC in June 2011. This helped shape the focus of the research proposal.

The next step involved drafting a first set of interview questions to be used during exploratory/pilot interviews. In July 2011, I went to Cape Town and interviewed 15 individuals, including planners from the private and public sectors, academics, researchers, consultants, individuals from NGOs and other government decision makers (from Municipal, District and Provincial levels). I also presented the theoretical approach and my proposed research proposal at the African Center for Cities, University of Cape Town to an audience of approximately 30-35 people

and attended a Regional Biosphere Committee meeting with Provincial level Planners in July 2011 in the Western Cape.

Upon return to Canada in August 2011, I used the preliminary search to identify key Canadian stakeholders, along with contacts from one of my committee members and fellow PhD Candidates who had conducted research and worked in the geographical location of my research. As in the South African case, I conducted interviews with approximately 20 Canadian stakeholders in order to develop an understanding of the key issues, and where best to focus research efforts. In both cases, I attempted to obtain a precise geographical area within each Biosphere Reserve to study, and began the snowball sampling technique, a process in which individuals were asked to identify other individuals with whom it would be suitable for me to speak. Potential interviewees were also identified because they were mentioned during interview processes. This technique continued throughout the duration of field study. I also reviewed documents and maps at the Niagara Escarpment Commission library in Ontario.

The interview guide was developed and finalized for the official interview stage. It contained in-depth, open-ended questions and was semi-structured so that it could be adapted according to the participants' roles and experience (Charmaz, 2006). Probing questions were used to obtain more detail about the subject matter. Canadian interviews were complete by November 2011. I also attended relevant meetings, including the monthly meeting of the Niagara Escarpment Commissioners where they evaluated planning applications.

I gave a guest lecture to the Global Cities in Global Development class for third year students at the University of Waterloo, on the research concepts and some preliminary findings in October 2011.

I returned to South Africa in November 2011 for three months to complete the interview process, whereby another 15-20 people were interviewed. In South Africa I also presented the Canadian findings and initial South Africa findings to a group of 75 Professional Development Planners from the City of Cape Town, as I was invited to give a keynote talk for their quarterly meeting. I also attended a meeting of the Board of Directors for the Cape Winelands Biosphere Reserse, presented the intent of my study to them, and obtained feedback. In January 2012, I delivered a talk that focused on preliminary research findings to a working group of GIS researchers and scholars from the University of Stellenbosch who focus on rural-urban fringe issues (and some who focused on the chosen case study area).

All interviews, including the pilots, meetings, and presentations were audio-recorded. Between February 2012 and June 2012, I transcribed all interviews and analyzed the data from South Africa. I presented the preliminary findings at the Canadian Association for the Study of International Development that was held at the University of Waterloo in June 2012.

I then returned to Cape Town in July 2012 and presented my final research findings. I gave the first talk for the Department of Sociology term speaker series (approximately 35 attendees), gave a guest lecture to a second year geography class at the University of Stellenbosch (60 students), presented the research findings to approximately 60 Graduate Students at the University of Stellenbosch's Sustainability Centre, and presented the research findings to a group of approximately 20-25 people at the African Centre for Cities at the University of Cape Town. I also obtained GIS maps from the University of Stellenbosch's GIS laboratory and took additional photos at this time. The question and discussion segment of all talks were audio-recorded.

Upon returning to Canada in August 2012, I transcribed and analyzed the audio recordings of the South African presentations so that captured comments could be integrated into the findings. I then completed the drafting of the South Africa case study and analyzed the Canadian data. I also discussed the Canadian results with various colleagues within the Faculty of Environment at the University of Waterloo. Unfortunately my attempts to present the Canadian research findings to study participants were unsuccessful. I wrote the Canadian case study by mid-October 2012. However, I shared the study results with stakeholders in the NE area and obtained feedback.

Approximately 40 interviews were conducted in total and each lasted 1-2.5 hours. Field notes and observations were recorded in a research journal. Video recordings and photographs were also used to identify various land uses. I may also attend relevant public meetings and review literature obtained from study participants (marketing material, maps, proposals, etc.).

I promised some of the study participants in both case study areas that I would respect their desire for anonymity and abstain from making public their personal identification. Therefore, unless otherwise indicated, the names of all study participants are protected, with codes being used to refer to pertinent statements made by individuals.

I then went to Birmingham City University in Birmingham, United Kingdom for a week at the end of October 2012 and met with numerous researchers, students and professors whose research focuses on, or is related to, the rural-urban fringe. I also presented my research findings to a group of about 10 people and obtained very valuable feedback from all of these interactions. I spent the next

week at the University College of London where I was a panelist at the First International Conference on Urban Sustainability and Resilience. I presented a paper that discussed my research findings, with a focus on the political economy of resilience.

I presented both case studies to a third year Global Cities in Global Development class at the University of Waterloo in November 2012. This was a valuable opportunity to obtain feedback on the results and current thinking.

I also wrote two papers: one that focuses on the Niagara Escarpment Biosphere Reserve and the other centres on the Cape Winelands Biosphere Reserve. I distributed both of these papers to various individuals within each area, asking for feedback from stakeholders. I have since published a portion of the South African case in a peer-reviewed journal (Cash, 2013).

3.3.3 Other research methods and analysis of findings

Site visits and both photographs and videos were taken of the site areas. Audio-recorded interviews were transcribed verbatim before being coded for main themes and then validated using multiple sources through triangulation. "Triangulation is typically a strategy (test) for improving the validity and reliability of research or evaluation of findings" by applying at least three different approaches to the same issues (Golafshani, 2003, p. 603). Results were compared and contrasted with pertinent documents. The key themes that emerged from both cases were applied to the analytical framework that I created by integrating the literature themes.

3.3.1 Development and application of analytical framework

Initially the analytical framework that I applied to the case studies consisted of governance, management, and resilience/complex systems thinking literatures. The result of this process was that I did not have enough insight to understand decision-making processes in rural-urban fringe areas. I realized at that point that in order to understand decision-making processes, I also needed insights from critical political economy. At that point I went back to the literature, added political economy, revised the analytical framework and applied it to both cases. At this point, I was guided to articulate the questions that should be asked in each section. I designed these questions, applied them to the case study chapters, and revised all chapters once again. Therefore, the development and application of the analytical framework was a process.

3.4 Rationale for selecting Biosphere Reserve areas for the case studies

> Rather than forming islands in a world increasingly affected by
> severe human impacts, biosphere reserves can become theatres for
> reconciling people and nature; they can bring knowledge of the past
> to the needs of the future; and they can demonstrate how to
> overcome the problems of the sectoral nature of our institutions. In
> short, biosphere reserves are much more than just protected areas
> (The Seville Strategy on Biosphere Reserves, n.d.).

In 1970, the United Nations Educational, Scientific and Cultural Organization (UNESCO) launched the Man and Biosphere programme to improve the relationship between people and their environment through interdisciplinary research and capacity building; targeting ecological, social and economic dimensions of biodiversity loss (Dogsé, 2004; UNESCO, 2013 and Francis, 2004). Man and Biosphere programmes's goals and objectives are implemented through the World Network of Biosphere Reserves, a method of sharing knowledge, research, education, monitoring and training among the 621 Biosphere Reserves in 117 countries, including 12 transboundary sites.[36]

Biosphere Reserves are meant to implement conservation with sustainable best practice within a given geographical area; "outpacing traditional confined conservation zones ... combining core protected areas with zones where sustainable development is fostered by local dwellers and enterprises" (UNESCO, 2011b). Serving three functions (see Figure 6), Biosphere Reserves are under national jurisdiction. The overall objective is for each area to share experiences and ideas nationally, regionally, and to promote international cooperation (UNESCO, 2013).

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1. Conservation function - contribute to the conservation of landscapes, ecosystems, species, and genetic variation
2. Development function - foster economic and human development that is socio-culturally and ecologically sustainable.
3. Logistic function - provide support for research, monitoring, education, information exchange related to local, national, and global issues of conservation and development.

Figure 6: Three functions of Biosphere Reserves (UNESCO, 2013)

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[36] This is the number as of September 10, 2013. See UNESCO (2013) for the most up-to-date numbers: http://www.unesco.org/new/en/natural-sciences/environment/ecological-sciences/biosphere-reserves/

Biosphere Reserve areas were chosen as the location for this study for the following reasons:

1. Areas where key participants in governance wish for an area to be designated as UNESCO Biosphere Reserves initiate and complete the application process themselves. Therefore, the applicants must identify with the principles of the Man and Biosphere programme and essentially make a commitment to achieving its objectives of sustainability.

2. Both the Cape Winelands Biosphere Reserve and the Niagara Escarpment Biosphere Reserve are close to major international cities (Toronto and Cape Town), and both are under pressure as the cities and their associated metropolitan areas expand. The logic follows that, compared to a conservation area that is far from urbanization and other development pressures. The areas would be more susceptible to unsustainable development practices. This creates an interesting tension with the first point (self-identification as an area wishing to implement goals of sustainability).

3. Both the Cape Winelands Biosphere Reserve and the Niagara Escarpment Biosphere Reserve are internationally known as beautiful, highly desirable areas. This, combined with their proximity to major international cites, positions both areas as being highly desirable to wealthy homebuyers. This would create potential pressure for urban sprawl.

4. Both areas have similar land use patterns with agriculture and wine production (and associated tourism spin offs from this industry) contributing to their economies.

5. Given time lines, these two case studies were reasonable in their scope (meaning not too big or too small).

6. Biosphere designated areas were also chosen because it seemed reasonable that given Biosphere Reserve status, I would find people cognizant of all theoretical frameworks (some focused on resilience, some focused on good governance, etc.).

7. While I looked at the Niagara Escarpment Biosphere Reserve from a general, overall perspective, I selected a specific area for the South African case, simply because the exploratory interviews led in this direction. At the same time, given the socio-economic dynamics of Southern Ontario, the Niagara Escarpment Biosphere Reserve case came to focus predominantly across the so-called Greater Golden Horseshoe.

8. The advantage of selecting cases within Biosphere Reserves is that in such places, if anywhere, the planning decisions should reflect an inclination and capacity to favour

sustainability-serving ends. This is a conservative bias in the sample that makes your findings more powerful.

3.5 Conclusion

This thesis utilizes a qualitative approach in order to understand the factors that influence planning decision-making processes and outcomes in the rural-urban fringe. It derives its empirical evidence from two case studies, the Niagara Escarpment Biosphere Reserve in Canada and the Cape Winelands Biosphere Reserve in South Africa. I also incorporated classic triangulation methods typical of qualitative studies. Next I filtered this information through an analytical framework (see Figure 5) whose design was derived from key elements in the literatures described in chapter two. The next four chapters are the result of the application of the analytical framework to the two case studies. In each of the next two chapters (Chapters 4 and 5), I present the case studies, addressing the question regarding decision-making dynamics at the rural-urban fringe. These two chapters apply the problem-solving component of the analytical framework (Steps 1 and 2: governance and management). Following this, Chapters 6 and 7 apply the critical theory component of the analytical framework (Steps 3 and 4: critical political economy and resilience thinking) to each of the case studies. Chapter 8 discusses the results and Chapter 9 concludes the thesis.

Chapter 4

Governance and management of the rural-urban fringe: Cape Winelands Biosphere Reserve, with special attention to Stellenbosch Municipality and Jamestown.

4.1 Introduction

The aim of this chapter is to address the primary research question regarding decision-making dynamics at the rural-urban fringe. Specifically, the chapter reviews the problem-solving component of the analytical framework by beginning with an overview of governance structures before discussing the management portion of problem-solving theory. First, I repeat the guiding questions articulated in Section 2.9. The questions for step 1 (the Governance component of the analytical framework) include: (i) what is the governance framework; (ii) what laws, policies and procedures are in place; (iii) is the process participatory; (iv) is the process transparent; (v) are actors accountable; and (vi) when conflict arises is there an effective dispute resolution mechanism? The questions for step 2 (Management) include: (i) what are the land-use plans in place; (ii) how is the situation managed; (iii) are the goals of the plan realized in practice; (iv) what are the stakeholders perspectives about the situation; (v) how is the situation being handled (monitoring, evaluation, knowledge gathering, etc.)?

To begin, an overview of the Cape Winelands study area is provided.

4.2 Step 1: Governance: The Cape Winelands study area

4.2.1 The Cape Winelands Biosphere Reserve

The Cape Winelands Biosphere Reserve is located in the Cape Winelands District and the Overberg District Municipalities of the Western Cape Province (see Figure 7). In Figure 7, the Cape Winelands Biosphere Reserve area is coloured in red at the bottom right hand corner of the image.

Figure 7: Location of the Cape Winelands Biosphere Reserve (Cape Winelands District Municipality, 2009)

The majority of the Biosphere Reserve is located in the Cape Winelands District Municipality. Furthermore, the study focuses on the Jamestown area, which is located in Stellenbosch Municipality, which is within the Cape Winelands District Municipality. For this reason, the thesis does not discuss the specifics of the Overberg District Municipality but focuses on the Cape Winelands District Municipality area.

The population of the Cape Winelands District has increased from 629,871 in 2001 to 685,786 in 2011 (Cape Winelands District, 2012). The area has a Mediterranean climate with average summer temperatures of about 18.4°C and average winter temperatures at 6.9°C (Stellenbosch Municipality, 2010). The most rain occurs during the winter months, between May and August and amounts to approximately 418mm in total, with the bulk falling in July at 118mm (Stellenbosch

Municipality, 2010). It is expected that climate change will cause an increase in summer temperatures and a reduction of rainfall (Stellenbosch Municipality, 2010).

Poverty levels have decreased from 30.9 per cent in 2001 to 26.1 per cent in 2011. Afrikaans is the first language spoken by 96.5 per cent of the people who live there, with English being the first language of 2.7 per cent. The Cape Winelands has a high Gini coefficient at 0.59, indicating extreme income inequality, and the Municipality of Stellenbosch, is also at 0.59 (Cape Winelands District, 2012).[37] Only 42 per cent of the population has been identified as economically active (Cape Winelands District, 2012). Housing for low-income individuals has been identified as the greatest challenge for the District at 10 to 13 per cent (or 40,000 units) of the Provincial Housing backlog (Cape Winelands District, 2012). There are also 117 informal settlements, housing approximately 36,363 units averaging 71 units per hectare (Cape Winelands District, 2012). The availability and location of land, bulk services, and legal processes and "concrete strategies to deal with evictions and capacity constraints" are significant issues impacting housing provision (Cape Winelands District, 2012, p. 39).

4.2.2 Stellenbosch Municipality

Stellenbosch Municipality is the third largest municipality in the Cape Winelands District; its population grew 3.54 per cent faster than other municipalities (at 2.8 per cent) between 1995 and 2004 (Stellenbosch Municipality, 2007). See Figure 8 for an indication of the exact area of Stellenbosch Municipality.

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[37] This is on a scale from 0 to 1 where 0 represents perfect equality and 1 indicates perfect inequality.
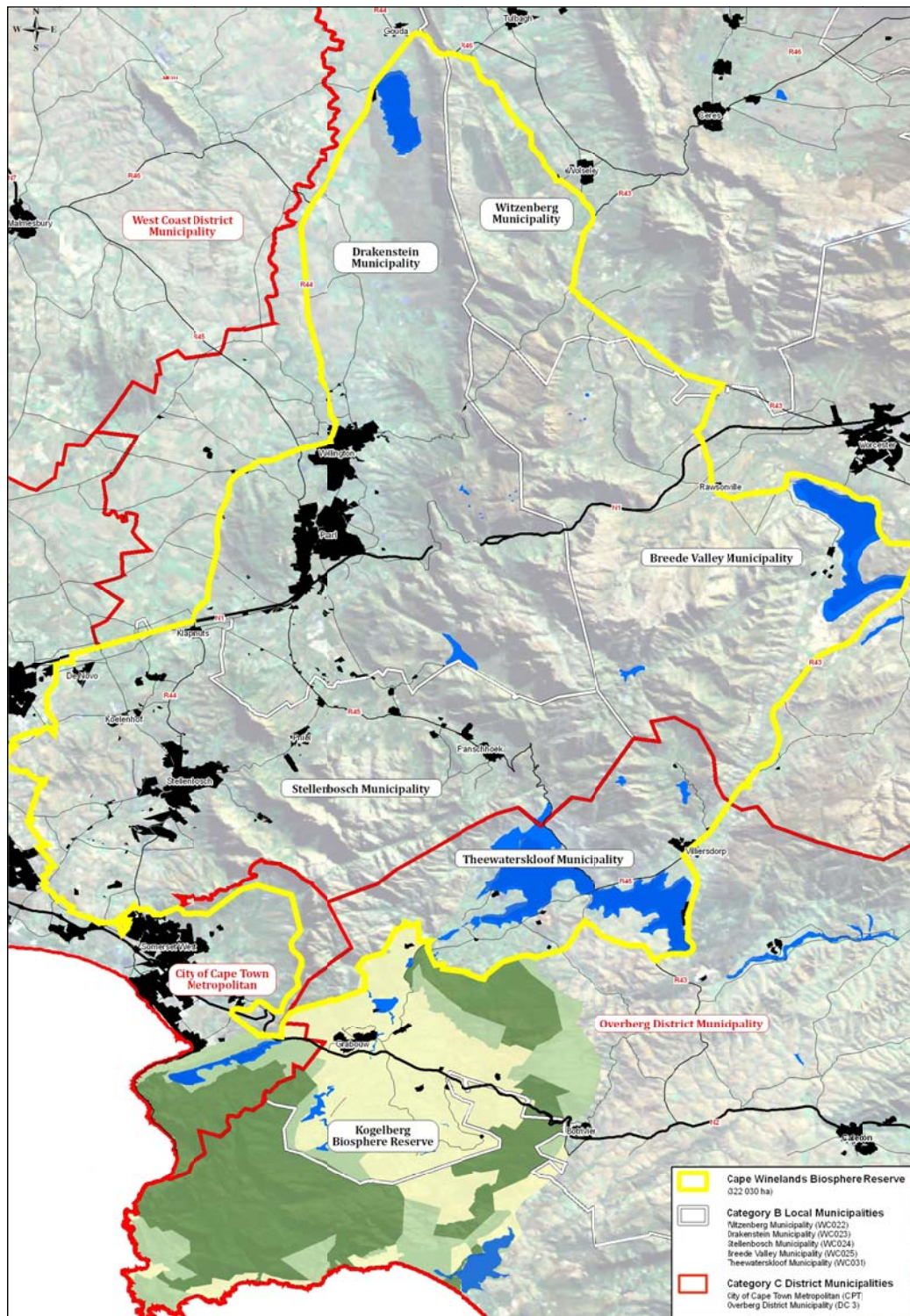
Figure 8: Location of Stellenbosch Municipality within the Cape Winelands Biosphere Reserve

Two-thirds of all South Africa billionaires live in Stellenbosch Municipality and the corporate headquarters of many large companies such as British American Tobacco Company and Distell, and municipal offices and facilities are located there (Study Participant #8). This draws people who are looking for work to the area, especially low and unskilled labour (Study Participant #8). The influx of people ultimately leads to more land invasions, and informal settlements are appearing throughout the area (Study Participant #8). Stellenbosch's university is expected to double in size in the next 10 years and this has a considerable impact on affordable housing (Study Participant #8).

Manufacturing, trade, finance and communication services are other main contributors to the economy (Cape Winelands District, 2012). Stellenbosch Municipality contains a large part of the critically endangered and endangered systems that comprises the Cape Floristic Region (the fynbos biome). Using the guidelines of the National Spatial Biodiversity Assessment (2004), nearly a quarter of the Municipality is classified as "Endangered Ecosystems", meaning it has lost significant amounts of the original habitat (Polity, 2013).

4.2.3 Jamestown

Jamestown is located at geographical coordinates 33.979°S 18.848°E, along Regional Road 44 (or R44), between Stellenbosch and Somerset West within the Cape Winelands District Municipality, South Africa (and it is also located within the Cape Winelands Biosphere Reserve). See Figure 9 for the location of Jamestown.
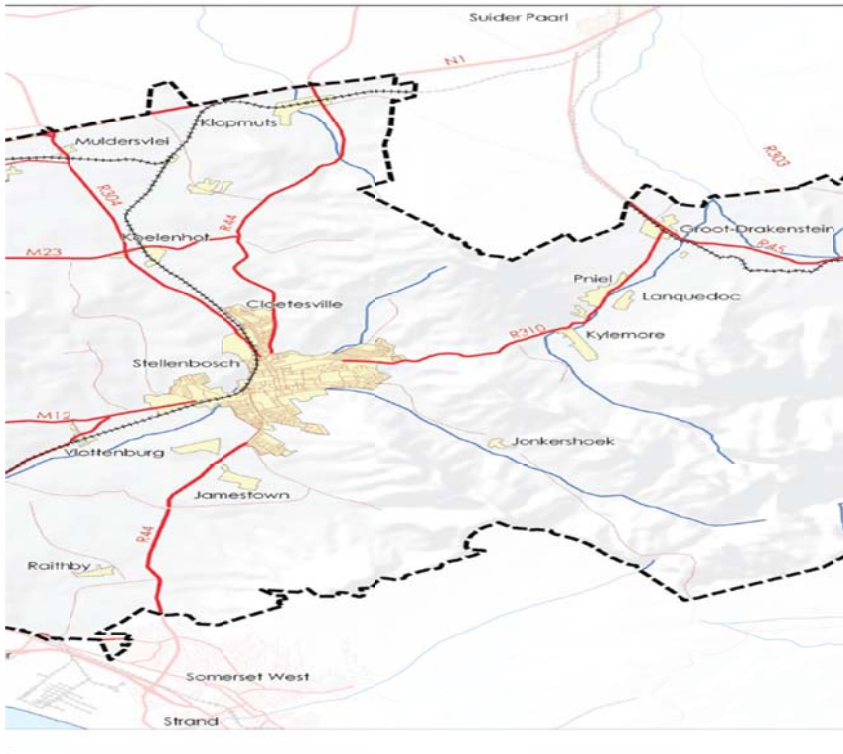
Figure 9: Position of Jamestown within Stellenbosch Municipality (Stellenbosch Municipality, 2009)

The Rhenish Missionary Church established Jamestown[38] before the land was divided into 25 large agricultural watereven plots along the Blouklip River and the property was leased to members of the Rhenish church. Those who leased the property eventually acquired ownership that was ultimately transferred to their families. Livelihoods consisted primarily of subsistence and commercial agriculture (strawberries were grown at a large scale). Responding to pressure for development, the first formal development plan was established in 1975 and the first structure plan in 1989. Stellenbosch Municipality's Spatial Development Framework identified Jamestown as an area with medium development potential (Stellenbosch Municipality 2012).

Jamestown became a part of Stellenbosch Municipality in 1944 and was classified as a Group Area (it was regarded as a coloured community) in the more middle to higher income bracket.

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[38] I could not confirm the date of when Jamestown was established.

Changes in the surrounding area have caused it to become more of a multi-racial community. There is a small informal settlement located at the entrance of the community (see Figure 15) and a number of homeowners have built shacks onto their property for rental (the shacks are rented on the informal market). There is also a community agricultural program in place (Figure 10).

The land north of Valley (School) road is all privately owned (except for roads and open space), while Stellenbosch Municipality owns the land south of Valley Rd.

The Municipality is currently pursuing strategies to develop this land into a low-income housing settlement. There continues to be agricultural activity in the area, and there are two schools (primary and high school), clinics, parks, light industrial activities and a small number of house shops.

Figure 10: Jamestown community agriculture

Before the entrance to the community, on the corner of Webers Valley Road and the R44, there is a large BMW dealership and a shopping centre (see Figure 11) located behind it that has provided some employment for the people of Jamestown.

Figure 11: Jamestown shopping centre

North of the shopping centre is a retirement village called Le Clemence (population 400 people) and on the western side of the R44 is De Zalze Winelands Golf Estate (population 1000) which covers 300 hectares and consists of dams, a wetland, a working farm, of which 120 hectares are vineyards, citrus orchards and olive groves. There is also a residential component to De Zalze, along with an 18-hole championship golf course, an award-winning winery, three restaurants, a lodge and a golf lodge/club house. Many of the homes in DeZalze are larger than 80m² (CNdV, 2010).

There are technology parks north and east of De Zalze with business from a variety of industries and a hotel. South of De Zalze is a small airstrip, with a flight school (see Stellenbosch Flying Club, 2013).

Within the Cape Winelands Biosphere Reserve, the Jamestown area is labeled "Critically Endangered Ecosystems" because it has lost so much of its original habitat that ecosystems' functioning has "largely broken down and a significant proportion of species associated with that ecosystem is likely to have been lost" (CNdV, 2010).

The specifics of the Jamestown case invoked very strong reactions, especially from public sector planners when I asked them about the Jamestown area. The history of how the Jamestown area became developed continues to shape current perceptions on proposed developments both within the Jamestown rural-urban fringe area, and in other areas throughout the Municipality.

Land use in Jamestown has changed dramatically since Apartheid ended in 1993 (see Figure 12 and Figure 13) from primarily agricultural land to recreational and lifestyle gated communities.
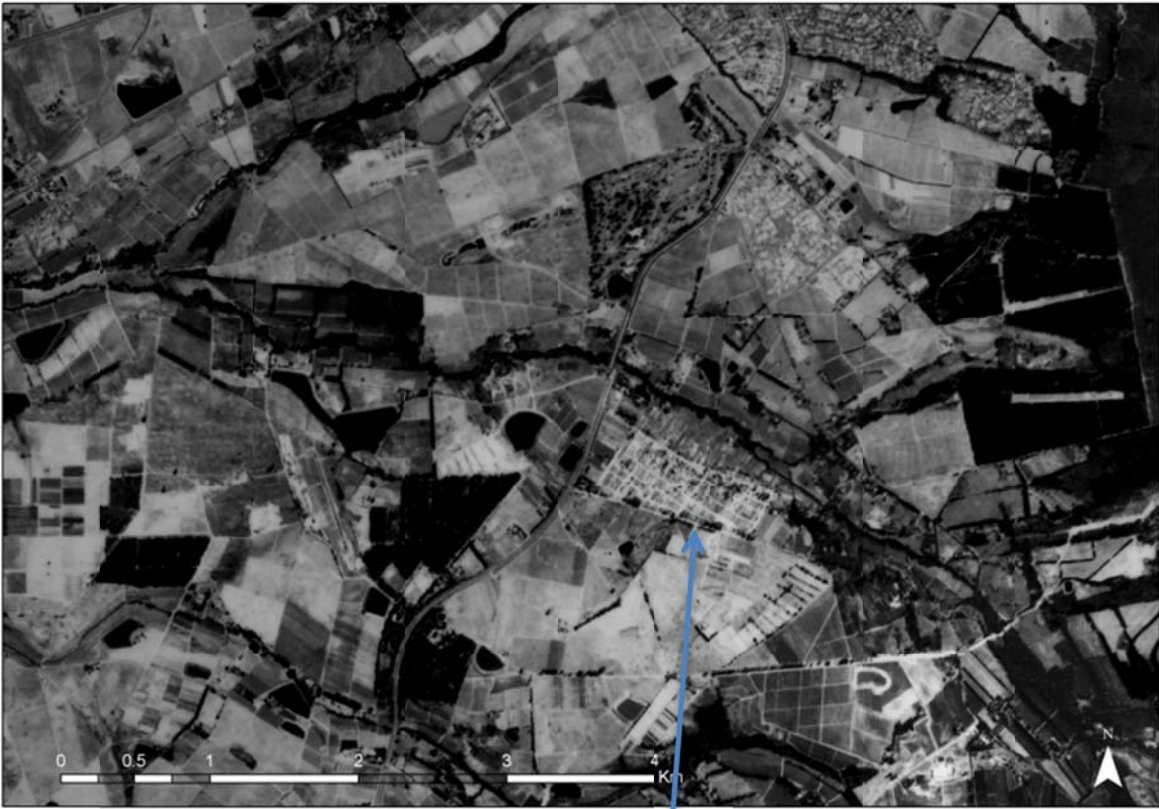
Figure 12: Jamestown 1993

Jamestown

Figure 13: Jamestown 2010

4.3 Governance

4.3.1 Legal and institutional framework

A number of laws and plans address land use in Stellenbosch Municipality. The main substance, objectives, authorities and processes are outlined below.

South Africa's legal framework for planning has been evolving since its first democratically held election in 1994. The country completely overhauled all governmental systems, structures, and bodies. The many policies and laws in South Africa that direct planning practice are outlined in Appendix C. Here I will highlight those that are of particular importance in the Jamestown case (also see Appendix D for the specifics of the Jamestown/De Zalze Spatial Development Plan).

When an individual wishes to make a land use change, they must first discuss the proposed application with a Planning Official (Stellenbosch Municipality, 2014). This is important for people who are not aware of the planning process (Stellenbosch Municipality, 2014). All complex proposals

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must first be discussed with a Planning Official so that Council can advise on the type and extent of advertising (this includes whether or not Council or the individual will advertise; as well as any fees involved, the process, and approximate time frames involved) (Stellenbosch Municipality, 2014).

Development applications for large-scale projects are first reviewed by a committee of specialists from various departments within the Municipality of Stellenbosch (including transportation, engineering, planning, etc.). This committee works with the applicant to ensure that all aspects of the application are completed accurately. When the committee is satisfied, the applicant officially submits the development proposal to the planning department. The planners review the application before it is made public via newspapers, online, and other public notices.

The applicant's file is kept at the Municipal building so that members of the general public can review all details (Stellenbosch Municipality, 2014). The end date for public comments is also indicated in the file. Individuals who are impacted or who wish to make a comment about the application must do so before the closing date indicated in the file (Stellenbosch Municipality, 2014). People who cannot read or write can ask for their comments to be transcribed by an individual at the Municipality (Stellenbosch Municipality, 2014). Citizens who wish to comment must do so within a minimum of 30 days (Stellenbosch Municipality, 2014). This can be extended if the Planning Director feels it is appropriate (Stellenbosch Municipality, 2014).

After receiving the comments, the applicant must respond to the citizen concerns and comments within 60 days or an extended time if indicated by Council (Stellenbosch Municipality, 2014). This process continues and exchanges related to concerns and responses can go back and forth between the public and the developer until all matters are settled, or until the developer simply gives up and withdraws the application. All development applications must adhere to the various planning laws at all scales of government. Development proposals are often written to address and show compatibility with the various laws, which are discussed below.

After receiving all of the feedback, Council makes a decision on the application (Stellenbosch Municipality, 2014). If the applicant does not respond to citizen's comments, Council will make a decision without the applicant's feedback (Stellenbosch Municipality, 2014).

All development applications must conform to Stellenbosch Municipality's Integrated Development Plan and Spatial Development Framework. Development applications must also conform to all Provincial and National planning policies (there are many and they are described in detail in Appendix C).

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4.3.2   Municipality of Stellenbosch Spatial Development Framework

The Municipality of Stellenbosch's Spatial Development Framework indicates and outlines strategies and policies to achieve a specified desired form (Stellenbosch Municipality, 2012). The November 2012 Spatial Development Framework advocates moving away from "unplanned informal settlements and low-density suburbs located far from transport nodes" because they place unnecessary pressure on the ecosystem and cause social and economic consequences associated with an auto-dependent spatial layout (Stellenbosch Municipality, 2012, p. 5). Rather, "it is suggested that higher density developments be allowed within town limits, and that a strict urban edge be defined and enforced to put an end to low density urban sprawl" (Stellenbosch Municipality, 2012, p. 5). The plan promotes mixed housing options located firstly along commuter rail lines and secondly at road intersections. Jamestown and De Zalze have been identified as a development node in the current Spatial Development Framework.

4.3.3   Municipality of Stellenbosch Integrated Development Plan

The Municipality's Integrated Development Plan (IDP) is the main implementation agent of the National Reconstruction and Development Programme. The Integrated Development Plan is renewed every five years and is developed via a participatory process where municipal officials and politicians consult citizens in its drafting. It also informs planning and the Municipal budget (see Cash and Swatuk, 2010 for a discussion of the strengths and weaknesses of Integrated Development Planning within the Municipality of Stellenbosch).

Development applications within the Cape Winelands District Municipality and Stellenbosch Municipality must also adhere to the Provincial Spatial Development Framework (the details of this are also outlined in Appendix C).

4.3.4   Cape Winelands Biosphere Reserve Spatial Development Plan

Development applications made within Stellenbosch Municipality do not have to comply with the Cape Winelands Biosphere Reserve Spatial Development Plan.

In late the 2000s, the Cape Winelands District Municipality appointed Dennis Moss Partnerships (DMP) to draft the Spatial Development Plan for the Cape Winelands Biosphere Reserve. The detailed purpose of the Cape Winelands Biosphere Reserve Spatial Development Plan is outlined in Appendix E, but ultimately

The Spatial Development Plan includes plans, guidelines and strategies giving effect to the three functions of the Biosphere Reserve namely, *development*, *conservation* and *logistical support*…. the Spatial Development Plan indicates **which** type of land use should be undertaken in the Biosphere Reserve, **where** it should take place, and **how** such land use should be undertaken in order to be sustainable (Cape Winelands, 2009, p. 4).

It furthermore complies with the various plans at all levels of government (from National to the Local levels) (See Figure 14). The Province of the Western Cape is currently preparing a Provincial Act on Biosphere Reserves, as well as a Provincial Man and Biosphere Committee to facilitate and manage all provincial Biosphere Reserves.
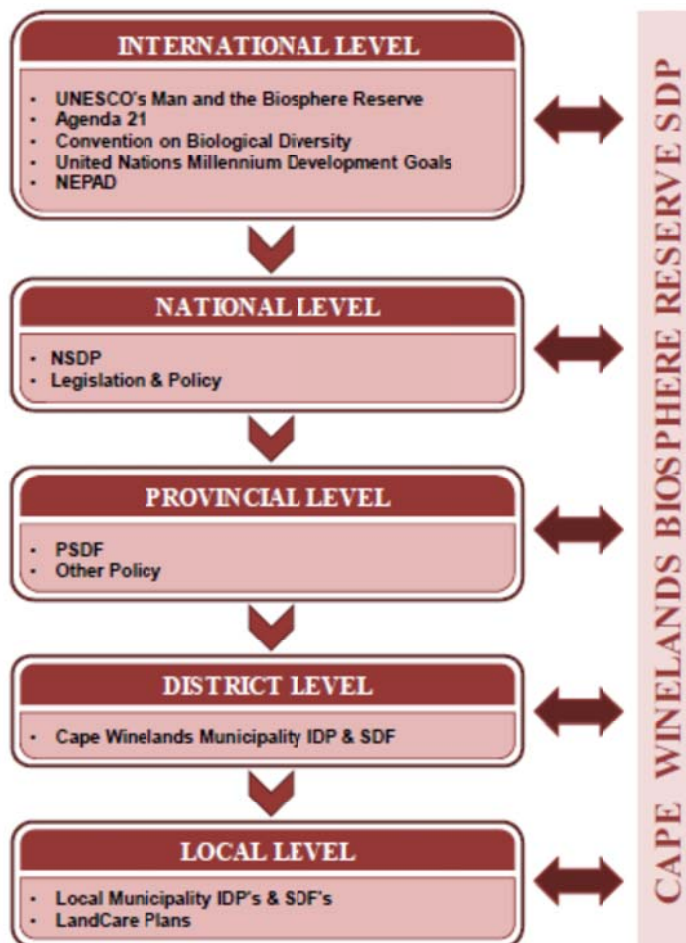
Figure 14: Cape Winelands Biosphere Reserve planning context (Cape Winelands, 2009, p. 24).

The Cape Winelands Biosphere Reserve Spatial Development Plan (2009) stresses the environmental and quality of life consequences of development pressure that the Cape Winelands must deal with. It also discusses the importance of economic growth (and specifically refers to the South African Constitution Act 108 of 1996) to be "developmentally oriented". Therefore, the Cape Winelands Spatial and Development Plan proposes the need for both economic and environmental development, stating:

> The Biosphere Reserve builds on the premise that development can serve as a primary economic driver that unlocks funds to support, in a meaningful and sustainable manner, economic growth, social development and environmental rehabilitation. The Biosphere Reserve will furthermore provide a coherent framework for the sustainable use of natural resources in order to enhance the key economic sectors of the District and, consequently, contribute to the eradication of poverty and inequality as a core obstacle to a stable and prosperous future in the region (Cape Winelands, 2009, p. 8).

This is an important characteristic of the Cape Winelands Biosphere Reserve Spatial Development Plan because it promotes development as a method of fulfilling broader economic and social goals. Also, it is based on a principle of bioregional planning, which refers to the "'matching' of human settlement and land-use patterns with the parameters of ecological systems, and the planning, design and development of the human-made environment within these parameters in a manner that ensures environmental sustainability" (Cape Winelands, 2009, p. 59).[39] A key aspect of the Cape Winelands Biosphere Reserve Spatial Development Plan (2009) is that it stresses the need for government and stakeholders to cooperate and coordinate their activities.

The municipalities within the Cape Winelands Biosphere Reserve area must first approve the Biosphere Reserve Spatial Development Plan. This involves an endorsement by Council, and then the Provincial Government must approve it. If both of these steps occur, then Council must apply the conditions of the Cape Winelands Spatial Development Plan. Municipal Councils can also approve documents as policy, but then it is not a regulation; it is simply a Council policy or an internal policy, meaning that it can be deviated from if required (Study Participant #6).

At the time this research was conducted, planners at Stellenbosch Municipality were adamant that they had their own Spatial Development Framework[40] that would dictate land use within the

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[39]   See Appendix E for characteristics of bioregional planning.
[40]   Stellenbosch Council approved their Spatial Development Framework in November 2012.

Municipality and they would not apply the requirements laid out in the Cape Winelands Spatial Development Framework. The Province of the Western Cape and the Municipality of Stellenbosch did not approve the Cape Winelands Biosphere Reserve Spatial Development Plan but the Cape Winelands District Municipality has approved it.[41]

South Africa's Supreme Court recently determined that even an unapproved draft document has status if it followed a participatory process, according to the Constitution.

4.3.5   Dispute resolution

Citizens have the opportunity to appeal an undesirable planning decision on a particular plan. They appeal directly to the Municipality, and the applicant has an opportunity to respond at this point. If unsatisfied with the Council decision, individuals can appeal to the provincial government. Ultimately, the Minister can make a final decision on an appeal.

4.4 Step 2: Management

4.4.1 Implementation: planning in practice

In this section I present the current situation as it pertains to decision-making around development in Jamestown as told to me by the study participants (including councillors, planners from the private and public sectors, and community leaders).

Multiple planners who work for the Municipality (Study Participants #2, 3, 5) told me that what happens in the overall municipality, region, province, etc. all affect what happens at the rural-urban fringe (of Jamestown).[42] In other words, one cannot consider Jamestown without considering the broader area. This is why I begin this section describing land dynamics within Stellenbosch's urban edge.

4.4.1.1 Changing land market dynamics within Stellenbosch

Influential factors within the urban edge of Stellenbosch (e.g. growing population, student accommodation needs and land market behavior) affect expansion into the rural-urban fringe.

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[41]   Cape Winelands District Planners have recommended that Stellenbosch Municipality consider it when assessing applications (District Municipality Planner, 2012).

[42]   In fact, as soon as I sat down in one interviewee's office, he said to me "Before you can consider anything about Jamestown, you need to understand what is happening within Stellenbosch and the broader region".

*We need to think about the impact that new developments have on
the broader Municipality of Stellenbosch (Study Participant #4).*

An important factor that affects housing prices is the student market.[43] Some parents purchase homes for their children to live in while in university, increasing overall prices in Stellenbosch town. This, combined with already high housing prices due to the wealth in Stellenbosch, makes it very unaffordable for many people (including professionals) to live within the built boundary.[44] For this reason, 75 per cent of Stellenbosch workers commute from Cape Town and nearby towns such as Kuils River.

The current density within the urban edge is 6-7 units/hectare on average, with 3-7 units/hectare in affluent areas and 50 units/hectare in low-income areas. The Provincial Spatial Development Framework calls for 25 units/hectare as an overall target, including flats, and a planning firm identified locations for 17,000 units within the current envelope. This indicates that there is plenty of space for densification within the current boundaries. However, planners are competing with the market because the Municipality has its own vision of where they want to geographically grow while the influential players in the market are trying to dictate direction and push growth in a different direction.

4.4.1.2 Demographic dynamics

There is an increase in informal settlements that generally emerge beside existing townships (where black or Coloured people were forced to live during Apartheid) such as Kayamandi and Jamestown (see Figure 15). The land for government-supplied housing is located on municipal land, which is often located at the rural-urban fringe, yet outside the urban edge (in areas such as Jamestown). This, in turn, contributes to urban expansion in these areas.

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[43]   For instance, 8sq. meter flats rents for R1500/month.
[44]   In fact, I was told by an assistant professor who was once a planning professional that she wanted to rent a small townhouse close to the university where she works. However, there were no units for rental and the prices to purchase one were astronomical. Therefore, she was forced to buy a home that is too big for her needs.

Figure 15: Informal settlement on the edge of Jamestown

4.4.1.3 Employment and land use change

Study Participants (#1, 7, 8 9, 15) said that many people believe construction is a primary economic stimulant. This, combined with foreign investment and land valued for its development potential rather than its agricultural potential affect decision-making whether land becomes developed or protected. This is one of the ways in which capitalist property development influences land-use planning. Developers tell people that development outside of the urban edge is required to stimulate employment in the area (the jobs promised are typically in the form of construction labour, and then as maids and gardeners in the homes of those who eventually purchase the homes).

Prior to the most recent economic recession that resulted in a collapse of the housing market, property development was viewed as the solution to social and economic problems. Since such developments were sold or marketed as stimulating economic growth, politicians supported plans that could have been considered as contradicting planning legislation (or they amended plans). Over the past 7-8 years, a great amount of land within the Municipality of Stellenbosch was rezoned from industrial to residential use.[45] However, study participants indicated that many people who are concerned with property development in the region are no longer linking economic growth to the

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[45] One of the planners that I interviewed feels that utilizing what was industrial land for residential purposes is a major mistake for the Municipality to make. I could not obtain a precise amount of land that has been developed for industrial use.

construction and property development industries; rather people increasingly believe that it is better to strengthen agriculture and tourism industries.

> *The construction and property development industries are not good employment and economic drivers. You'd have to keep doing it over and over…there is a trend towards centralizing everything under the ownership of a few…it is better to strengthen agriculture and tourism. There is a need to look at existing resources and make them last longer so that issues such as the urban edge become irrelevant (Study Participant #5).*

Greenfield development continues to thrive outside the urban edge, despite municipal goals of increasing development within the edge. Gated/lifestyle communities dominate Greenfield development with owners beginning with the planting of vines, and then building a wine tasting area. The building of a restaurant follows, next a hotel, and a golf course. Homes on wine estates are purchased as vacation homes, making the market highly vulnerable to global economic conditions. This leads to difficulty for planners who must create plans that are inclusive of all, when there is such a large gap in income levels:

> *The Gini coefficient [of income inequality] in the Municipality is one of the highest in the world, there is very rich and very poor – no middle class (Study Participant #11).*

> *You have to plan for both groups of people (Study Participant #13).*

Planning for the rich and the poor is extremely challenging for planners, as is creating integrated communities where both groups can live and work.

4.4.1.4 "Sprawl" or "Development"

Land is valued by its residential potential rather than agricultural worth, meaning that land value is linked to the profit that would be realized should the property become developed. Farms located on the urban edge are often converted to residential and urban development when there is sufficient infrastructure and market demand.

> *People only see land value in the context of it being converted to lifestyle and gated community estates. Land is viewed as valuable in the context of what they could get for it if they sold it to a developer…production is compared to real estate production rather*

than being compared to agricultural production (Study Participant #11).

Land may be worth R2 million in terms of land value for agriculture, but then developers will offer R8 million for them to develop it for residential use. What are they [landowners] going to do?(Study Participant #3).

In contrast, some view it as fair that people economically benefit through the sale of their land to a developer. This is especially the case in situations where the landowner is from a group that was disempowered during Apartheid, as Study Participant #7 noted:

How can you, after a man being harassed under Apartheid, thrown out [from] where he was, having struggled for 15-20 years to keep his head above the water because they were always there checking him out and so on. Now you also want to deny him the potential of capitalizing on the growth of his property, just because you believe that no residential development should take place there, because it's urban sprawl? At the same time I fully share the need for us to not allow urban sprawl to run away...What I am also sort of saying with that, is there is a kind of fairness permeating throughout the new South African situation.

Study participants overwhelmingly support a permanent urban edge as a primary method of managing growth, and feel it is necessary if there is real commitment for compact growth.

Having an urban edge is a very effective policy tool because it brings a lot of clarity to the process even if that clarity is resented by some people (Study Participant #4).

However, an urban edge has historically been nearly impossible to get legislated in Stellenbosch Municipality because of tremendous political backlash. How often the edge should be reviewed is also an issue that was identified during interviews. Should it be reviewed on an annual basis, every five years, or should it be a permanent line? The answer to this varies from individual to individual.

I have been working here since '92 and the first structure plan proposal was started in '87. We've never had a structure plan approved by the Municipality. There is always this infighting; we could never get a consensus decision…and because of the political system and the votes, the Councillors find it impossible to make

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difficult decisions; even if it is DA, ANC, whatever! (Study
Participant #5).

Creating an urban edge takes a whole lot of criteria and approval by
Council, supported by various levels of government. In the absence
of this, you take the existing open edge and use it as the interim
urban edge. This is the line that they use and it gives a lot of
flexibility, while also giving a lot of opportunities within the City
(Study Participant #8).

A private planner described the urban edge as the most ideal speculative commodity because as soon as it is established, developers purchase land that surrounds it and then begin to lobby the government for the line to be extended. Simply put, plans can be changed and that change can happen quickly and in favour of the developer.

Developers wait until the municipality changes zoning restrictions or the urban edge before selling the now divided subdivision lots to individuals. Because of the record of urban edge expansion, drawing an urban edge significantly increases the price of land that surrounds the line. It also negatively impacts the economic benefits of using the land for agricultural purposes.

It was felt by some study participants that there are circumstances where developing outside of the urban edge should be allowed. For example the Minister may move the urban edge (if it is an actual legislated urban edge) if a developer promises to donate a portion of land to the Municipality that would normally be unaffordable.

4.4.1.5 Politics and power

Study participants unanimously feel that politics and power play a dramatic role in planning processes. There is a strong perception that politicians are guided by political gains rather than plan goals and objectives in that they favour politically advantageous developments, even if they counter long-term development goals. This is especially influenced by whether or not the developer of a proposed project promises some type of Trust (where money would be placed to benefit the local community) and/or promises of potential employment to the surrounding area. Certainly a politician promising money or low-income houses to a community will increase his or her popularity with the electorate. This indicates how capitalist property development impacts plans because politicians will support changing a plan or approving a development despite what the plan called for. Such proposals are also often drafted to fit with the theme of the plan (for instance, indicating that it will contribute to social goals of the Municipality).

Public Sector Planners feel that they have little control over the process, even when supported by their Directors, and are at times pressured by politicians and developers to change the rules or bend the law so that developments that do not adhere to long-term planning goals are approved.

> *Politicians do not care about the plan. They don't care about achieving the goals of the plan. They care about political control and positioning (Study Participant #23).*

There are short-term consequences of doing this, such as impeding the goal of intensifying within the urban edge, and long-term consequences, such as uncontained sprawl. At the same time, private sector planners may also have limited leverage in promoting alternative development options within the urban edge because they simply represent their client. They can recommend environmentally sustainable design and social responsibility initiatives for local communities but at the end of the day, they represent their clients, and the clients decide where and how money gets spent (or does not get spent). Environmentally sustainable design within the urban edge is regarded as best practice for sustainable outcomes because it decreases development of untouched natural land that could potentially be used for agricultural use.[46]

Another point that study participants discussed with me was that certain political decisions may reflect the political ideology of a certain party at a particular point in time. What I mean by this is that the ANC (compared to, for instance, the Democratic Alliance) may be more likely to double rates on the rich and they may also *"support radical restructuring because they don't feel as strongly about preserving old suburbs or Central Business Districts (CBD)"* (Study Participant #7).

Opportunities for developers to submit a proposal are plentiful: a developer can even resubmit a rejected development application to the Municipality after ruling political parties change. A newly elected party may approve the same development application that was rejected by a former party, even if it continues to counter both the Municipality's long-term vision and the expert recommendations of Municipal planners. The frequency of this may be perpetuated by the chronic political turbulence that has been commonplace within Stellenbosch. Up until recently, parties have been replaced every 18 months to two years, making it difficult for Planning Officials (who are the constant amidst the turmoil) to implement long-term plans. Each time a new party gains power, new

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[46]   Recall from Chapter 2 that advocates of Smart Growth and New Urbanism stress the need for environmentally sustainable planning approaches that promote mixed use and mixed income developments (with people living close to their workplaces) within the urban edge of cities.

Directors are posted and processes are reinitiated. The Planning Department develops a plan, there is a shift in political power, the plan *"sits on the shelf"* (Study Participant #8) until the party that was defeated gets back in to power, and Planners then *"dust off the plan that was sitting on the shelf and hands it back to them"* (Study Participant #8). The plan is reduced to being only a requirement to obtain funding because every municipality must develop a plan to obtain funds from higher levels of government. The plan does not get implemented because developers have their own ideas (that tend to counter the plan) about where growth should occur (Study Participant #13).

Due to the time and money involved in land development, significant resources are spent ensuring that political barriers are removed. There are "expert lobbyists who can win approval regardless of which political party is in power by outright bribery to simply being liked" (Study Participant #15).

When I asked a public sector planner "What impacts urban expansion more than anything?" he simply responded "Money" (Study Participant #8).

The consequence of this is that process legitimacy and transparency may be doubted, thereby potentially abating public faith in the system. *"People may stop bothering to participate"* if the plan that was developed through a democratic process can simply be overturned by political will (Study Participant #17). Planners could not identify a single development that has occurred outside of Stellenbosch's urban edge that complies with the Municipality's vision for growth management as outlined as in their Spatial Development Framework. Figure 16 indicates the change in land use, from rural to urban use in Stellenbosch Municipality from 1993 to 2010.
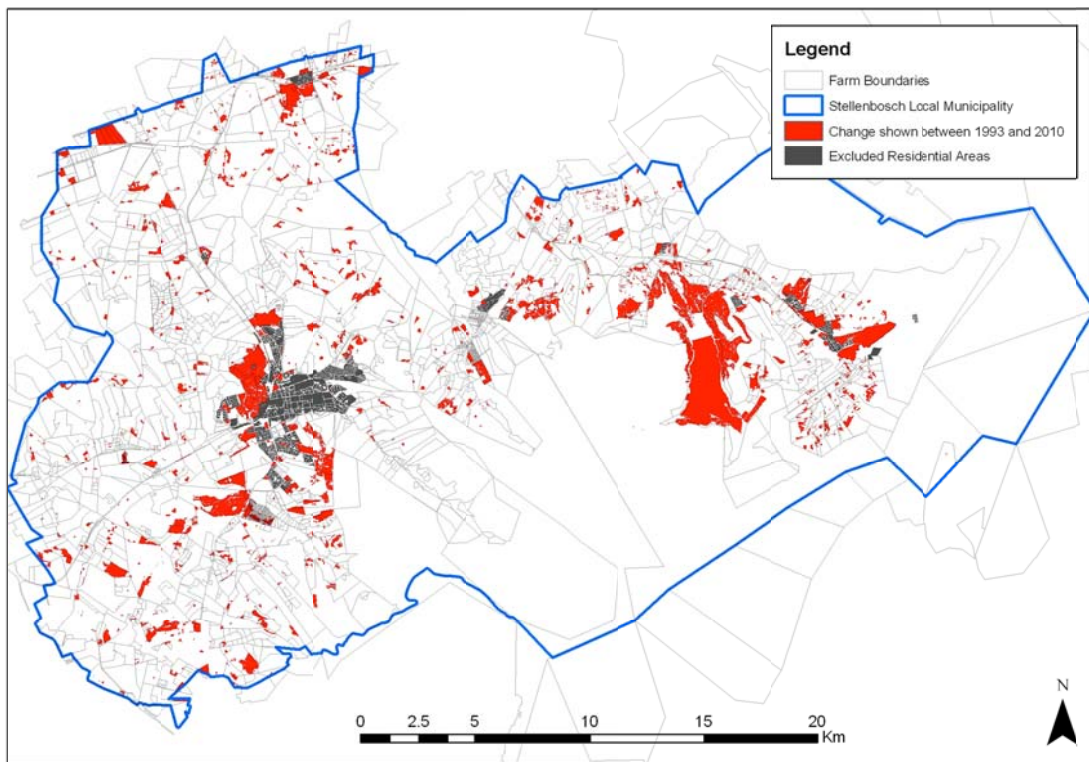
Figure 16: Change in land use within Stellenbosch Municipality from 1993-2010

Essentially, the resort-style gated communities, in the opinion of the Planners, do not comply because they occur outside of what they consider to be the urban edge and they tend to be low-density settlements. Based on the Municipal Spatial Development Framework, developments outside of the urban edge should be automatically disqualified, since the vision reveals a clear edge with development occurring within it. It would also include developments that occur within the area identified by planners as areas for growth (even though their plans have not been legislated).[47]

Ultimately, both Public Sector and Private Sector Planners agree that real change and commitment to a strong urban edge requires political will and courage.

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[47]   As discussed in the literature review, compact, high-density growth is globally considered best practice because it is the most efficient way of using resources (it also uses existing infrastructure, etc.), thereby contributing to more environmentally sustainable planning patterns.

4.4.1.1 Not In My (Low Density) Backyard

A related issue involves Stellenbosch town ratepayer's desire to keep the town the way it is: i.e. resembling a 17th century Dutch settlement.

> *Ward Councillors, who are at the forefront of the NIMBYs[48], must be told in caucus: 'This is the way that we are taking the city, these are the arguments you give your constituents when they start moaning about something that's going to change in the area, then stop giving officials a hard time (Study Participant #8).*

The NIMBY opponents tend to be middle to upper class individuals. They are particularly concerned with low-income developments or any development that will impact the value of their land. They also may contribute to political parties and certainly hold economic power in the Province.

Obtaining buy-in amongst those with influence is extremely difficult. Yet there are highly organized, politically connected groups that greatly influence development outcomes (such as the rate-payers group). Groups that have economic and political influence can fight and potentially stop development – those without these resources cannot. Politicians are highly sensitive to their discord, especially since such powerful interest groups are the biggest contributors to political parties (Study Participant #4).

4.5 Transparency

In the early 2000's, the Municipality of Stellenbosch was working on a retail strategy in which the planners wanted to create an open shopping centre in Stellenbosch's Central Business District (CBD). At the same time, the owner of four Stellenbosch car dealerships (BMW, Volvo, Land Rover, and Ford) needed to expand so the owner purchased land in the Jamestown area (a portion was zoned agricultural land and another was zoned to allow for 40 units of residential use). During and after the purchase of this land, the owner positioned himself as having great interest in the community of Jamestown. At that time, Municipal Officials were concerned that allowing for the car dealership development to occur would have a negative impact on Stellenbosch's CBD retail strategy. At the same time, an application emerged for the building of a shopping centre in the same area. Throughout this process, one of the public sector planners explained, none of the planners who worked for the

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[48]   NIMBY stands for "Not in my Backyard". It refers to individuals who are only interested in environmental or planning issues if it is of personal interest to them (for instance, if it occurs close to their home, causing unwanted impacts. For instance, increased traffic, greater pollution, etc.). In this case the term NIMBY refers to those who oppose densification within the urban boundary.

Municipality or the District thought that either development would manifest. This same planner explained how they had witnessed the impact that placing shopping centres on the urban edge had in other areas, such as the neighbouring city, Somerset West.

The development was approved by the Municipal council, despite the lack of support from municipal officials. According to a Senior Planning Official, the New National Party (NNP) was in power at the time. Half of the NNP, consisting of coloured individuals, supported the proposed shopping centre while the other half, consisting of white individuals, opposed it.[49] The main force behind the development was its alignment with the hopes for jobs and economic opportunity of the poor local community. A public sector planner remarked that it was promoted as a panacea to all of Jamestown's economic ailments, so much so that it was to be called "Jamestown Square". However, Stellenbosch Municipality hired a retail consultant to evaluate the propriety of the development and they concluded that the application should be rejected.

It was explained that the coloured portion of the NNP coalition[50] threatened to split from the party if the development was not approved. Therefore the party compromised and agreed to the development in order to prevent the party from splitting. The development was subsequently recommended for approval to the Minister and the Premier. The application went to the Province because the Province made planning decisions on resorts at that time. The Premier referred the application to his planning advisory board and they concluded that it should not be approved. Nevertheless, the development was finally approved. Ironically, the NNP lasted only 3-4 months before splitting anyway. Another planner said that there was a strong perception among some that some type of bribery[51] existed as part of the deal:

> *There was money on the table with this one...at municipal and*
> *provincial levels. Once the shopping center was built, it turned its*
> *back on Jamestown (Study Participant #15).*

The shopping centre was called, and still remains, "Stellenbosch Square". A senior planner for the Municipality of Stellenbosch stated that the promised job opportunities were not delivered. Although others have indicated that some residents of Jamestown have benefited economically in the

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[49]   During interviews, study participants explained that mentioning the race of the members of the party was important for understanding why and what transpired. Put simply, the coloured councillors supported what they saw as economic opportunity for their poor constituents; white councillors opposed both sprawl and the possible negative impact on retail stores within the urban edge.
[50]   Held together at the time only by a "fear of the ANC in power" in the Western Cape.
[51]   This is what I was told although I have no evidence of this occurring.

form of employment. Furthermore, the senior planner perceives that Stellenbosch city core has been deeply impacted (only one person mentioned this during interviews so it cannot be stated that this is a general consensus). He claims it *"ripped the heart out of Stellenbosch"*, shifting focus to the urban edge as Jamestown continued to develop, while proclaiming that it *"changed the urban structure of Stellenbosch completely"*. Large suburban developments have indeed sprung up throughout much of the area and the entire Western Cape is now scattered with gated communities. It is generally felt that living within gated communities is safer than living in single housing units with their own security. There is also a draw towards the perfectly manicured grounds and tranquility of the designed community. Essentially, while the planner interviewed feels that the Jamestown development is the root cause of changes to Stellenbosch's urban core, it is difficult to prove that this was the case. Given the occurrence of similar developments elsewhere, it is likely that these patterns would have developed anyway. Most similar developments began to emerge across Stellenbosch at the same time. As for the changing nature of Stellenbosch's core, it is true that the shopping mall in the city centre caters to more of a mixture of clientele (primarily low to middle class) while elite shoppers tend towards the gated, higher-end malls such as Stellenbosch Shopping Centre. Despite the fact that the shopping centre is positioned in Jamestown, study participants feel that it services only the higher end clientele such as those at De Zalze.

One of the planners that I interviewed discussed how one of the developers fabricated a story to the mayor that he, along with his director, objected to the development because they wanted to build their own shopping centre. When asked why someone would make up a story such as this, the planner exclaimed, "What other reason could there be to oppose the development, surely not a planning common sense reason!" There were ultimate risks for the Planners who objected to the development at the time, as one public sector planner stated, *"We opposed Jamestown at risk of losing our jobs"*.

An issue that has recently obtained escalating attention is the matter of a Trust that was promised to the community of Jamestown in order to obtain approval for the developments. This Trust was to consist of funds from the shopping centre and the car dealership that would assist the local people and community of Jamestown. At the time of this research, the local Councillor for Jamestown, Franklin Adams, (who sits as an Independent on Council), was actively investigating what happened with the Trust, as no money had materialized to date. Stellenbosch Municipal planners also mentioned that money was promised to the community of Jamestown and the Councillor was

investigating it. It is perceived by many of those that I interviewed that developers use promises of community Trusts to obtain support for their development.

There is a strong perception that the shopping centre and the car dealership have had a negative impact on the dynamics within the community.

> *The shopping center and health clinic don't really integrate in to the community...Jamestown is a very old, established community that has had a lot of infighting. Although they may not appear to be polarized, they are (Study Participant #7).*

A Public Sector Planner described Le Clemence, a retirement village, and Health Clinic (located within the gated community) as *"very up market, very white"*. Despite this, it does not seem as if the retirement village and health clinic stir quite the same consternations as does the shopping centre or the De Zalze development. Noteworthy is the fact that the developers of the retirement village, when the development was approved, had also promised to establish a Trust for the community. Money had also not been transferred to the community but Franklin Adams (the community's Municipal Councillor) recently managed to obtain a cheque from the retirement village owner for accumulated funds that were owed to the community.

Study participants feel that these new developments have resulted in a change in dynamics in the Jamestown area from a small agricultural village where residents had their own, albeit small-scale, agricultural holdings and worked on nearby farms to what is currently considered a major suburb of Stellenbosch, sitting on the rural-urban fringe.

Regarding the Municipality's proposal to build low-income housing bordering the Jamestown community, there is considerable opposition to the housing scheme, with the primary issue being NIMBYism involving both white and coloured residents of Jamestown. One private sector planner pointed out that low-income housing is always placed next to what has been traditionally a coloured community, as opposed to being located next door to historically white communities. He stated:

> *It's unfair of the Municipality to think that it's ok for coloured people to be satisfied with having Reconstruction and Development Programme [low-income] housing on their doorstep. Putting Reconstruction and Development Programme housing in a white neighbourhood would result in court cases in the constitutional court for the next 20 years, but coloured people must accept it if it is in their neighbourhood? (Study Participant #11).*

As they did with the shopping centre, Municipal officials commented negatively on De Zalze's initial development application because they felt it contradicted their vision for compact growth within the urban edge. The Regional Services Council[52] also recommended that it be rejected because they viewed it as a "typical sprawl thing" (Public Sector Planner). A small planning firm initially filed the application for development before another firm, Dennis Moss Partnerships (DMP) was appointed to the project because (according to study participants) the owner, Dennis Moss, *"had influence" (Study Participant #17)* with the Province (where the application resided at that time). A Study Participant stated,

> *There were all sorts of allegations, investigations and all of that.*
> *They couldn't pinpoint exactly what happened but it's well known.*
> *The application was refused from the Municipality side, from the*
> *District side but the final decision still remained with Province. It*
> *went to Province with negative recommendation and then they called*
> *in Dennis because he's a fixer…(Study Participant #8).*

A Municipal official stated that while also representing De Zalze, Dennis Moss Planning acted as a consultant for both the Regional Council and the Local Municipality. The public sector planners interviewed believe that the development was approved because Mr. Moss misrepresented the Regional Municipality.

> *He [Dennis Moss] told the Chief of Planning [for the Province] that*
> *he was there on behalf of the two Municipalities, and they (the*
> *Municipalities) actually wanted De Zalze approved, and the*
> *Province approved it (Study Participant #5).*

Of the group of developers that built De Zalze, study participants explained that Spier Holdings (well-known for its corporate social responsibility initiatives in South Africa) bought in to the De Zalze development with original intentions of incorporating sustainability principles into it and making it mixed use (Study Participant #14). Spier agreed to execute the development but then the property owners formed a Home Owners Association and took over management of the property (this was part of the initial agreement; they ran the Home Owner Association until the final transfer of land occurred). Spier also owned the golf club before it was eventually sold, along with the remaining land. The Home Owner Association currently runs the entire operation, with Spier having no role in the business at all.

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[52] The Regional Services Council no longer exists, but it has been somewhat converted into Stellenbosch District Municipality.

A public sector planner offered a critique of the transition:

> *You had a Home Owner's Association [take over from Spier] with a completely different agenda, with a completely different view on the world and a completely different view of how they will live on the property. And they don't give a damn about anyone else besides having as high walls as possible, keeping all the riffraff out (Study Participant #5).*

> *You have this transition from a developer driven project to a group of elitist people moving in, to buying the properties, to building houses and the developers completing all the infrastructure, and then the developer's role was finished. The owners took their profits and the Home Owner Association dictated the development. So you have the owners with a set of views and then developers dictate the transition and position it in a way that attracts a certain crowd. That crowd comes in and they determine life…how it lives with the rest of the world. That's been the trajectory (Study Participant #13).*

Others feel that there were individuals who wrongly *"worked the market to obtain profit on the homes prior to and after the sale of the houses" (Study Participant #13).* Many of the study participants are highly critical of the De Zalze development because it was approved without the support of Municipal planners. One public sector planner stated,

> *It occurred on our doorstep, against our wishes, against local authority dealing with that…I use it extensively as an example of how one should not tackle development. I hate it. I think it's terrible…on a couple of levels I don't like it at all (Study Participant #15).*

Study participants dislike De Zalze because they feel that it contradicts the goals of post Apartheid integration. This shows the frustration that public sector planners feel when the interests of capitalist property developers appear to trump planning policies. Furthermore, it is perceived to contribute to division when integration is the goal of the plan.

> *The whole gated thing, it's a white enclaves...its white buildings as well as the inhabitants of the buildings. It somehow excludes people (Study Participant #21).*

Mr. Moss claims that gates are a necessary step towards creating integration.

> *You need to create a new development on the fringe of the disadvantaged community in order to break the stigma of living close to these communities. White people would not live next to coloured*

*people or black people...You need an intervention, and that
intervention is to increase property values but on the boundary of
those places [that are stigmatized]...there are instances of where
land has increased in value in previously disadvantaged
communities and this sets it up for successful future developments in
the area...The only way to put a higher end development next to a
"Group Area" is if the village is gated and you need to put the
community next to it because this is the only way that the land values
will increase in these areas. Some day the gates will come down.
Integration is a process that will take time and energy. People need
to integrate; they see one another [at schools and stores] and get to
know one another – this is the only way to change spatial division.*

The reality of the situation remains that people are concerned with security issues.

> *The market will pay 30 per cent more for a dwelling inside a gated
> community (Municipal Director).*

It is also disliked because it is located outside of Stellenbosch town and subsequently has contributed to a traffic problem on the R44.

As far as integration into the community, it was mentioned that the golf course has engaged in corporate social responsibility initiatives, namely they developed an academy for young golfers.

> *In my mind it is tokenistic and arbitrary but for them [the
> management of the golf course] it was big stuff and they were very
> proud of it (Study Participant #13).*

A study participant associated with the golf club mentioned that they are also planning on collaborating on other projects with the Jamestown community, but there no social initiatives presently occurring. During the research phase, I spent a day walking the golf course with a group of golfers and their caddies. Using the opportunity to speak with the caddies, I questioned them about their work experience at the club. They all answered positively and seemed pleased with their working experience. Since I was there as a guest, it may be unlikely that they would have shared negative experiences. They mentioned that they attended De Zalze's Professional Golf School and had the opportunity to be coached by professional golfers. They said that they are allowed to play golf during the winter months.

De Zalze was approved and zoned as a resort with conditions that included the establishment of a Trust. One of the Senior Planners for the Municipality says he cannot find the original conditions, claiming that there is a file missing. The Trust and the money accumulated within it have created

distrust towards the developers and between individuals. For instance, one public sector planner stated

> *Last year, one of the Councilors [Franklin Adams] started digging in*
> *to it...they've said that there's about 700 to 800,000 rand in the trust*
> *...unless there's a lot of money, but they're spending the money*
> *on...on things that they're not supposed to spend it on because they*
> *are supposed to invest in the environmental and agricultural*
> *problems...I doubt they do that. I think they buy and plant little*
> *flowers (Study Participant #4).*

I confirmed with a Senior Manager from Spier Holdings that one percent of the sale of each property goes into the Trust.

> *That's definitely the case (Senior Manager, Spier Holdings).*

However, I learned that the money from the Trust is used on the actual De Zalze property in projects such as cleaning up the river, planting and maintaining trees, and funding security (upgrading, etc.). There was supposed to be Municipal representation on the Trust's Board of Directors; however, one of Stellenbosch's Municipal planners (Study Participant #8) mentioned that this only happened once, in 2004, and there has not been representation since that time. At least one study participant claims that the Municipality actually chose to not have anyone on the board; that the Municipality was at fault. Despite this, there is still a perception by people in Jamestown that there is money owed to their community. Whether there is or there isn't does not seem as relevant as the perception that they are owed something and this escalates the animosity that Jamestown residents have towards De Zalze residents and the Home Owner Association. It is perceived that developers make promises to the local community (in particular the low-income communities) in order to obtain approval and support of their development proposal.

In the end, a mix and variety of shareholders involved with the development during different phases appear to have created a disjuncture between aspirations of incorporating corporate social responsibility initiatives and status quo unsustainable development. A former Spier employee explained that this occurred between the multiple partners involved in the property development itself and it also transpired within the company:

> *There are shareholders who have different views. So...the pendulum*
> *swing dictates who runs the Spier business (Study Participant #17).*

This individual explained that the state of the overall economy and ideology of those running the company at a period in time determine the environmental and social initiatives that the company ensues. For example, one CEO and management team may create multiple corporate social responsibility programs, but economic instability may require a new CEO and management team to navigate the company through financial difficulty, which may ultimately reduce corporate social responsibility investment.

The De Zalze development is a very prosperous development due to the political climate in South Africa. It was explained that people looking to purchase property in the Western Cape from other provinces and from overseas are attracted to De Zalze because of the Winelands lifestyle benefits and security.

Public Sector Planners perceive the Jamestown rural-urban fringe case as symbolic of the overall planning atmosphere throughout the Municipality. Essentially, they feel that they have a vision of where and how they want the Municipality to grow but developers and politicians actually determine outcomes.

> *We've got our plan…the way Stellenbosch will develop…all of a*
> *sudden outsiders think that it's a new sort of development node and*
> *that changes everything we have done over the past. So now you*
> *have to adjust your plans again (Public Sector Planner).*

Some of those interviewed feel that despite planners' attempts, it is inevitable that development will occur all along the R44, connecting Stellenbosch with Somerset West. There is a perception that Municipal planners should just give in to market demands, and prepare plans in this direction, since it is going to happen anyway. One planner admitted that perhaps he is not strictly against it because he does not live in the area. However, those planners who are from the Stellenbosch area and have personal as well as professional stake in the Municipality strongly oppose this approach for reasons stemming from environmental consequences to altering the small town dynamic of Stellenbosch. Some wish to preserve Stellenbosch's strong history while others equate this history to racism and Apartheid (Study Participants #15, 23, 1).

> *Ultimately, in 30 years, Stellenbosch will be woven into the City [of*
> *Cape Town]…my view would be to plan for it, structure along*
> *certain public transport routes and manage it rather than fight it and*
> *have the ad hoc breakouts which is what will happen, and you will*
> *have an ad hoc town (Study Participant #11).*

When asked about challenges to public sector planning in general, one public sector planner offered, without prompting, the Jamestown development as an example of a flawed system:

> *The shopping center was developed for the rich people in a poor community. The result is that the rich people are buying and have bought most of the property off the poor people. They've moved the poor people out, they get some bucks, they go to Cape Town, wherever. Rich people – and when I say 'rich' people I mean 'white' people – white people have taken over the land from the poor and coloured people. The town just leapfrogged in that direction…the town probably doubled in size and it will keep on doubling in size because of that approval. So where someone made a few quick bucks out of it, the impact of that…and I have absolutely no control over it. We fought with Council Chamber so much so that the mayor said they'll investigate myself and the Director at that stage…So, yes, there is a lot of things that you cannot control (Study Participant #15).*

Furthermore, there is a strong perception among study participants that development in the Jamestown rural-urban fringe has detrimentally impacted the cultural dynamics within the community of Jamestown. Specifically, the original residential properties have increased significantly in value and many of the original residents have sold their homes and their land. Middle-class white people have moved in to the area and other people have purchased property strictly as investments, and later sold for profit. This influx of white people is perpetuated because of the lack of affordable housing within Stellenbosch's urban edge

A private sector planner stated that after Apartheid ended, white people were reluctant to live in Jamestown because there was a stigma associated with living in a coloured community. However, this has changed since De Zalze was built and now white people live in Jamestown, and property prices have increased significantly. The majority of those interviewed perceive this as gentrification and detrimental to the social and cultural fiber of the Jamestown community. However, Mr. Moss perceives it as an obvious case of success because in the past people of different races would never live beside one another. This also adds to the question of how to actually create integration. The overall goal of the country is to create racially integrated communities yet the question is how to do this while also maintaining cultural cohesion. It is also argued that the Jamestown case simply replaces racial Apartheid with economic and class Apartheid.

Spier Holdings is currently in the process of trying to obtain approval for a second development, called De Zalze Phase 2. They initiated the process in 2006, by applying to the Province

for resort status. They initially wanted to extend De Zalze 1 but the Home Owner Association opposed it because they felt that the estate is currently big enough, and they did not want 5-10 more years of construction, along with the security issues associated with that. Spier withdrew this proposal because there was reason to believe that the Home Owner Association would pursue legal action if Spier continued with the development.

Spier then converted the application into a completely separate application; and relocated the development on the Somerset West side of the first De Zalze development, on the rural side of the urban edge. Spier believes that the current edge is an 'interim urban edge', and are suggesting that a new permanent urban edge be created outside of their proposed development.

A Spier Manager explained that some of the proposed plots are adjacent to the airstrip (see Stellenbosch Flying Club, 2013), consisting of about 50-55 hectares of *"terrible land, not suitable for farming" (Spier Manager)*. It is, nevertheless, positioned at the rural-urban fringe, outside of what the Municipal planners consider to be the current urban edge.

Spier feels that De Zalze 2 should be considered because their development consists of environmental and social initiatives that will enhance the local community, and alleviate other problems for the Municipality. For instance, they wish to protect 300 hectares of land that will be converted to its natural state, currently being replanted with indigenous floral, namely fynbos. They are also open to assisting the Municipality with improving the low-cost housing that is propounded across highway R44, on the border of Jamestown. Additionally they are offering to work with officials on other pressing municipal issues such as problems with the nearby airfield, upgrading road infrastructure and assisting with a very serious sewage problem by building a sewage plant that recycles all of the water for both De Zalze 1 and De Zalze 2. Dennis Moss, Spier's planning consultant on the project, stated,

> *What we propose at Spier is that we put up an independent sewage plant, and then take the pressure off of Stellenbosch Municipality, because the reason why they can't, among others, build low-cost housing in Jamestown is because they don't have the bulk infrastructure.*

He went on to explain that they will improve the construction of the proposed Municipal housing project by providing additional funds, and added that Spier is also committing R30 million into an established Trust. Spier's Financial Director stated that they wish to be much more involved than they were with the De Zalze 1 Trust and are highly motivated to ensure that the money gets

properly employed in social or environmental projects within Jamestown and the broader Municipal area.

> *It won't be something that we will walk away from again. It will be part and parcel of this estate and we will play a big role on the Homeowners Association...the development itself is very much focused on climate neutrality – in the form of looking at energy, water...it's going to be a totally different development with rules that will determine what is allowed on the estate from a climate point of view...We stated in our application, 'Let's work together because they've got serious problems as well (Spier Manager).*

Even though the application went to the Province, Stellenbosch Municipality has significant influence on whether or not it gets approved. Officials from the Province told Spier that the current urban edge is not permanent and Stellenbosch Municipality needs to revisit it because it is the same edge that the Province delineated for their Provincial Spatial Development Framework, which municipalities were to change after a year. After this time, all municipalities are meant to have a legislated Spatial Development Plan. However, the Municipality maintains that they consider the existing urban edge as permanent, but they simply have not been able to get it approved and legislated because of political volatility and a lack of will.

> *There have been multiple Municipal Officers that sit in these positions because of the political volatility...some have been fired...people are scared...they don't want to make any decisions and they don't want to change things (Study Participant #17).*

When asked why Spier was not interested in building within the built boundary, to assist with the intensification goals of the Municipality, the Financial Director explained

> *We are not really developers, but at the moment we see an opportunity...we're not going to buy a piece of land that's within the existing urban edge because that's not our focus. Our focus is leisure, wine, and we've got very strong feelings about social and environmental issues...development can be a driver for us to achieve certain things which will fit in with the bigger plan of local government.*

The development also includes a model developed by their planning firm, Dennis Moss Partnerships that involves employing what they have defined as four forms of capital: environmental, social, financial and infrastructural capital.

You shouldn't be doing development unless you consider how you would also promote the other forms of capital, and how strategically you would lock those four forms of capital together so that you can deliver at the highest potential level on sustainability. If you do not improve social capital in the process, you are failing. And that's what I am saying – urban edges are a powerful instrument to force utilization of the employment of the other forms of capital for the benefit of sustainability (Dennis Moss).

Mr. Moss positions the development, and thereby extending the urban edge, as being a necessary instrument to achieving sustainability and climate neutrality.

However, the Municipal officials and key stakeholders within the community of Jamestown have little faith that the private planning firms, and the developers, will actually deliver on their promises of Trusts, jobs, and social development because they have experienced, first hand, the reality of empty promises.

4.6 Participation

Participatory processes occur as planning legislation requires. In fact, the participatory process is quite extensive in that there are many opportunities for citizens to engage from the time that the application is first submitted to the Municipality until after a decision is made (in that individuals can appeal approvals). While the participatory process encourages the participation from multiple individuals, study participants also described it as taking *"years and years and millions and millions [of Rands]"* (Study Participant #15). By the time a development gets approved or rejected, a developer has spent a tremendous amount of time and money on the process. In fact, the process often becomes the key focus of the project because *"that is where people [consultants, primarily] make their money and spend their time"* (Study Participants #8, 20, 11).

The process is more important than the product in planning…once the process is delivered, it doesn't matter (Private Sector Planner).

Some elements of the [planning] framework are non-negotiable and other elements require a lot of public participation…There are non-negotiable deadlines, let the public know what they are, [allow them to] express their opinion, but after a certain date you don't allow the public participation process to hold the process to ransom (Private Sector Planner).

Both public and private sector planners noted that developers have no choice but to keep fighting [meaning appealing a rejection of their application, if required] because if not, they could go bankrupt. Developers believe that they have nothing to lose. This can be extremely frustrating for developers who believe that their application contributes to the economic prosperity of South Africa.

The appeal process was also described to me by Study Participant #3 as favouring those with some form of financial or political power. Those without resources or political clout have a significant disadvantage in bargaining and/or appeal processes, and most often do not partake in appealing undesirable developments for this reason. Citizens falling in the low-income bracket often do not participate due to a lack of time, means, and capacity, and perhaps they are illiterate. According to a Public Sector Planner, wealthy people sometimes speak for the poor *"thinking they can't speak for themselves"* (Study Participant #8). This is a way that the planning process favours those with economic power – in particular property developers can influence a change in the plan or get their development application approved because those who may reject it cannot participate effectively in the process.

4.7 Accountability

There are capacity shortages that undermine the imperatives of achieving the goals of integrated planning that are set out in legislature. These shortages include flawed operational structures and unskilled, untrained employees. A Municipal Planning Manager commented that *"real professional planning advice"* is a monumental inadequacy within the planning profession as a whole. He specifically noted that there is a lack of scientific and analytically based planning input, research into human activity, and assessment into market dynamics. He claimed that there is a lack of *"hard research"*, with professionals *"relying on gut instinct on the dominant trends in society" (Public Sector Planner).* Monitoring and evaluation is also a significant problem as sometimes individuals simply do what they want, knowing that there is not a process for ensuring that individuals adhere to the conditions of the application approval. Furthermore, evaluating whether or not the goals of the Integrated Development Plan or the Spatial Development Framework are met is a difficult task because of human capacity shortages within government.

4.8 Biosphere Reserve Status

On 18 September 2007, UNESCO formally registered the Cape Winelands as part of the World Network of Biosphere Reserves (UNESCO, 2013). The area has been described as an area with "special people, an abundance of animals and plants, water reserves of great importance and a unique natural and cultural environment that need to be protected for generations to come "(Cape Winelands Biosphere Reserve, 2013). The ecosystem is as diverse as the landscape and the activities that make up local livelihoods. Key portions of the registered Cape Floral Region Protected Areas World Heritage Site exist within the Cape Winelands (Cape Winelands Biosphere Reserve, 2013). The Cape Floral Kingdom "has been called the world's 'hottest hot-spot' for plant diversity and endemism and has been designated as one of the World Centres of Plant Diversity. It has some 44% of the subcontinental flora of 20,367 species (vascular plant species), including endemic and subendemic families and threatened species" (UNESCO, 2013). Unfortunately, the ecosystem is threatened due to human use; however, at the same time the environment is required for the region's economic growth with agriculture (contributing 13.8 per cent to the GDP) being essential to the economy (including spin offs such as tourism from this industry) (Cape Winelands District, 2012).

In 1985 Dennis Moss initially put the concept of establishing UNESCO Biosphere Reserves in South Africa into motion, after the 1984 Minsk Conference on Biosphere Reserves. But the Biosphere Reserve could not actually be established until after Apartheid ended in 1991.

> *We saw the adoption of the principle of Biosphere Reserve planning*
> *which was initiated by the Department of Nature Conservation of*
> *provincial government as an important and constructive instrument*
> *to promote sustainable development and to get South Africa back*
> *into the fold of international strategies (Dennis Moss).*

In 1989, utilizing Provincial documents, Mr. Moss and other South Africans began drafting a vision for the Biosphere Reserve, and it was eventually published in 1991, as a formal vision for the Province of the Western Cape. Organizations were designed and put in to place with the Biosphere Reserve principles in mind so that when Apartheid ended, the knowledge base of the UNESCO Biosphere Reserve initiative was built in to them (Dennis Moss). In fact the original De Zalze application mentioned how the development encapsulated the Biosphere Reserve principles, well before the process to obtain Biosphere Reserve status officially began in the Cape Winelands.

The District Municipality of the Cape Winelands officially started the process of establishing the Cape Winelands as a Biosphere Reserve. They completed the plans, application, and submitted it to UNESCO for approval. They also consulted all of the landowners who live in what was to become the buffer zone[53], in which individuals could indicate whether they were for or against the Biosphere Reserve. They did not consult those who reside in the transition zone because human activity there would not be affected, whereas activities within the buffer zone could ultimately be protected or developed. Therefore District planners focused on what can be conserved. Figure 17 illustrates the various zones within the Cape Winelands Biosphere Reserve. Dark green indicates the core area, light green shows the buffer area and yellow signifies the transition area.

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[53]   UNESCO Biosphere Reserves are primarily characterized by three zones: (1) core area – reserved for conservation and activity must be limited to research and monitoring of the biome; (2) buffer zone – surrounds or is contiguous to the core area (activities are organized so they do not hinder the conservation objectives of the core area, but rather help to protect it; appropriate activities include education, tourism, and recreation facilities; human use is less intensive than what might be found in the transition zone); (3) transition zone – the outer edge of the Biosphere Reserve where people live and work, using natural resources in a sustainable manner and serving to support the Biosphere Reserve as a whole (Cape Winelands Biosphere Reserve, 2013).
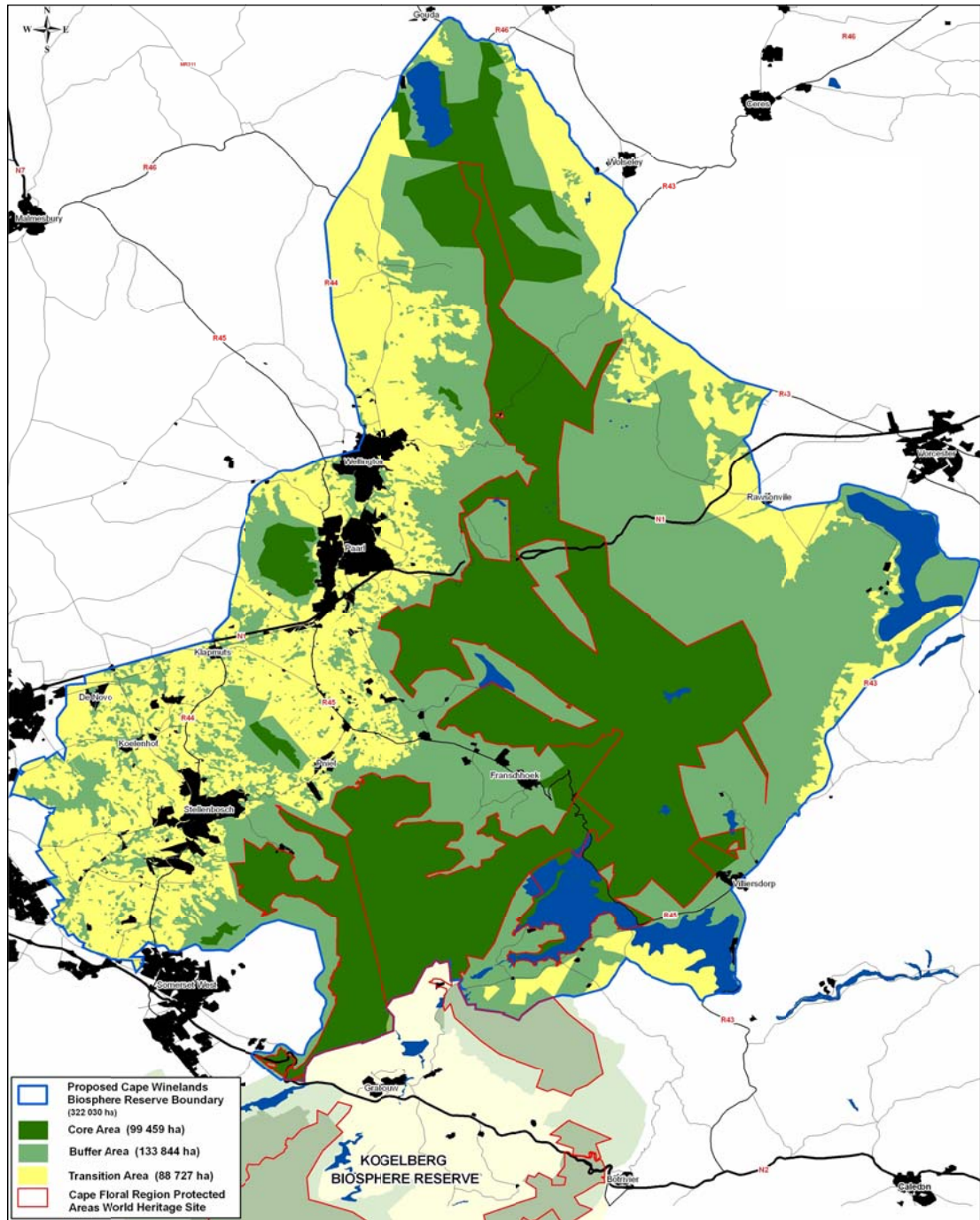
Figure 17: Cape Winelands Biosphere Reserve

There were five meetings in total, and the process of preparing the nomination, and getting community support for it occurred over a 2 to 3 year process. Public participation meetings had a

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dismal turnout (no one showed up at one meeting and only one person, a Councillor, showed up at another meeting). The broader public was not notified of the meetings, only landowners, because it was assumed that the majority of citizens would not understand the principles, and there was not time to conduct proper education (Study participant #8). They did a second round of meetings following the drafting of the Spatial Development Framework for the Biosphere Reserve, but the focus was really on steering committee meetings with relevant government departments (e.g. agriculture and environment) and Cape Nature (which basically runs the core area). Eventually sixty-five percent of those contacted supported the creation of a Biosphere Reserve.

The District Municipality funded, managed, and facilitated the entire process, and established a management entity that would take over from the District. The District has been fulfilling the secretarial role for the Biosphere Reserve Section 21 Company from its onset, which has been registered and is an independent entity. The District Municipality facilitated the establishment of a Biosphere Interim Steering Committee by going "out to the buffer zone and [trying] to influence people to sit on the interim Committee, [with the intent that] the interim Committee would then evolve into a Board of Directors, following the Governance Structure of Biosphere Reserves" (District Planner). The Board of Directors was established and is currently defining their role, deliberating on how they can assist South African Biosphere Reserves with funding, and have appointed a Coordinator. All funding has been supplied by the District Municipality to date, giving the Board of Directors R300,000 to establish an office and hire a coordinator. Now the Board must begin fundraising, and having a well-known businessman sitting as its Chair will help in this feat. The plan for the Biosphere Reserve Board of Directors is to create funds that different groups can harness to improve the quality of the Biosphere Reserve, such as clearing alien species and planting indigenous fynbos (District Planner). The Board of Directors intends to partner with local businesses to assist various groups through sponsorship programs. These businesses will obtain recognition for their support (for instance, the Biosphere Reserve group will use the logo of the business in advertising or will engage in Public Relations for them).

Biosphere Reserves will be evaluated via their Management Plan that will define their goals, focus areas, and a long-term 20-year plan that the Board of Directors must draft.

The biggest challenge in implementing the framework plan, according to a District Municipality planner, is the size of the area. He believes that it is too big, with different land characteristics, uses, and varying personalities of those who live on the land. It cuts across 5 different

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municipalities and holds two major municipalities. There are many people who do not know that they live in the Biosphere Reserve, despite advertising efforts. The District Municipality itself is 22,000 square kilometres while the Biosphere Reserve is about 2,000 square kilometres; all of the Municipality of Stellenbosch is encompassed in the Biosphere Reserve area (see Figure 8: Location of Stellenbosch Municipality within the Cape Winelands Biosphere Reserve).

The Province of Western Cape has a new Act called the Cape Biosphere Reserve Act that says each Biosphere Reserve[54] must complete a Spatial Development Framework Plan that focuses specifically on land use designation, guidelines and planning function of the Biosphere Reserve. The District Municipality also states in their Spatial Development Framework that a Biosphere Reserve must be established for cooperative governance and to protect the fynbos.

The Spatial Development Framework for the Biosphere Reserve was completed in December 2010 by Dennis Moss Partnerships and approved in March 2011, but the District Municipality changed the approval date to February 2011. The Spatial Development Framework defined areas that are suitable for urbanization, protection, etc. The purpose, according to the District Planner in charge of the project, is to extend the core and buffer areas. It is aligned with Provincial legislation, not taking away or adding rights, but aims to continue protecting the core area. The Cape Winelands Biosphere Reserve also features a designation called a "Special Management Area". A Special Management area is a "cadastral geographical unit, which is formally recognised and managed as an area where environmental sustainability is promoted in practice and in accordance with international standards for environmental sustainability" (Cape Winelands District Municipality, 2011, p. 106). Special Management Areas can be a condition of a development approval (in other words, the owner of the land agrees to the conditions of Special Management Areas, including sustainable agriculture, environmental and resource management, with an Environmental Management Plan. A Special Management Area designation requires that the landowner establishes a trust fund which will "ensure that the necessary financial resources are available for effective long-term management [of the area]" (Cape Winelands District Municipality, 2011, p. 106).

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[54]   In addition to the Cape Winelands Biosphere Reserve, there are several Biosphere Reserves in South Africa: Waterberg, Kruger to Canyons, Cape West Coast, Kogelberg, and Vhembe.

The Spatial Development Framework followed a public participation process in which the main queries were from farmers.

> *The agricultural sector is suffering and they need something to substitute, or assess the agricultural activities, and most of them are [trying to transition] to agro-tourism, but they are struggling with the Environmental Impact Assessments, etc.* (Study Participant #14).

The District planner emphasized that the essence of the plan is in the strategies that delineate the type of activities allowed on land. It involves the current reality on the ground, and does not propose anything other than what is already in existence. Rather, the document identifies conservation and development strategies that landowners can use. For example, it says that in exchange for development approval, a landowner could donate a couple of hectares of land to Cape Nature, that would be conservation land for anywhere from 30-100 years.

The District Municipality sent the document to the Provincial Minister, hoping that it would get approved as a legislated spatial plan, which would give it rights but the Province did not approve the document because *"the planners from the provincial department report to the Minister and they had a lot of complaints about the strategies in the document" (Public Sector Planner)*. For instance, the Biosphere Reserve plan uses current urban lines as the transition zone, but outside the urban edge, the Biosphere Reserve plan says that development *can occur if it goes along with the agricultural industry*. The District Municipality planner explained how there may be a wine farm and then one may be able to then build guest accommodation with a restaurant, etc. When questioned about the gated communities such as De Zalze, he explained that there is a strategy called the "Sustainable Development Initiative" whereby one can develop an agricultural unit, and then depending on the size of the farm, you can build a certain number of houses. But then a community bank must be established and a portion of the funds from each house sold goes in to the community bank in perpetuity. The funds that go in to the bank can be used for economic development or other identified programs. "So, it's like a Trust that's established and based on certain principles" (District Planner). This is one of the programs that the Provincial planners wanted the District to take out of the document. Leaving it in means that Reconstruction and Development Plan housing would not be allowed under this scheme but gated communities would be, if they agree to put a portion of the funds in to a Trust fund for local communities.

The District Municipality had the plan approved under the Municipal Systems Act. However, because it was just approved through the Municipal Systems Act, it is just a policy guideline, does not have legal status and not all municipalities have accepted it. In particular, the Province has a problem with the "Special Management Area", because landowners can create a trust fund that would benefit either the environment or the community in order to create a tourism hub, or other type of development to create jobs. There are also provisions for "agricultural units" where you may have 10 farms on 100 hectares of land. The current Land Ordinance Act says that one can build five houses on a farm but for each house there must be 10 hectares. But, the Biosphere Reserve Spatial Development Framework says that the landowners can consolidate the farms to create a little hub. Provincial Officials perceive it as following:

> *The consultants came up with this to create jobs for themselves*
> *(Public Sector Planner).*

The Minister would have to approve the Spatial Plan under section 4.6 of the Land Use Planning Ordinance. Currently it is a framework – the municipalities do not have to legally use it, rather they are encouraged to adhere to it. Municipalities are supposed to use it when they evaluate applications but legally they do not have to enforce its principles.

The Biosphere Reserve Board of Directors can also use the Spatial Plan to comment on applications for initiatives that would occur within the Biosphere Reserve. The main issue for the Province is that the strategies encompassed within the Framework are designed in a way as to create work for developers, planners and architects. The District Planning representative interviewed stated

> *We can't go out and tell people that to become a part of the*
> *Biosphere Reserve that they cannot do development whatsoever...I*
> *think that each application has its own merits but you mustn't be too*
> *stringent about development with our economic realities (Study*
> *Participant #16).*

Activities that are encouraged within the Biosphere Reserve include developments where there is a "give and take", unlike "De Zalze where you'd say that rich people want to come in…an isolated island in a sea of poverty…it doesn't benefit the people who work on the land and who grew up there" (Public Sector Planner). The Board of Directors for the Biosphere Reserve was described as both pro-conservation and pro-development.

Applications within the transition zone take 2-3 years to get approved because it is a very sensitive area and, with all of the environmental legislation, "it is a very contentious area" (Public Sector Planner), although developments still get approved due to "political influence" (Public Sector Planner).

Finally, there is a perception amongst some of the people I interviewed that principles of capitalist property development are embedded into the Cape Winelands Biosphere Reserve Spatial Development Framework. To be clear, all study participants support the UNESCO Biosphere Reserve in principle; however, it is the way that they perceive it is packaged that is the problem. To quote a Municipal planner who spoke about the Cape Winelands Biosphere Reserve programme at length:

> *This is a difficult one. I've got two views on that. The first view, the more purist view, is I agree with the principles of the Biosphere Reserve...I support the idea of a Biosphere Reserve and the protection of the biosphere and enhancement of the environment...I disagree where the Biosphere Reserve plan actually goes into the detail. There's, for instance, an idea in the Biosphere Reserve where people with rural land or agricultural land or natural environment can do some development and then use the money to enhance the rest of the farm, for instance. Where I've seen that happening in the Stellenbosch area and elsewhere it's a total ****up. It's an excuse for development. De Zalze is registered [as] what they call a 'Special Management Area'...the notion there was if you allow us to develop this farm, and it's a huge farm for housing units, we will create a fund out of that and we will use that fund to enhance the wetlands and the river systems. Now what has happened in essence is we've got urban sprawl supreme with a little river...which is a golf course in any case (Study Participant #19).*

A Municipal planner explained while the Municipality's vision for spatial development includes growth nodes and a high emphasis on conservation between the nodes, the Biosphere Reserve model developed for the Cape Winelands gives open access to all areas for development, with the exception of areas identified as being suitable for agriculture or conservation. A private sector planner (who also said that all areas should be treated like a Biosphere Reserve) made a similar comment:

> *It seems that it's actually a mechanism for finding development opportunities that would be treated in slightly different ways but never the less can be considered because they are under the cloak of a Biosphere Reserve programme (Study Participant #14).*

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It was explained that other legislation might be stricter whereas the Biosphere Reserve allows development. "It could be argued that it's a kind of smoke screen that's undermining other development control policies" (Private Sector Planner).

Ultimately, a District Municipal planner stated:

> *The main problem in the Western Cape [is], our Biosphere Reserve vision is pro-development, but there's a conflict between us and the Province because of that. The Province said in their comments that they do not support this because the consultants that drafted this Framework Plan are almost creating work for themselves, because the strategies that are in here, for example, the sustainable development initiatives, the Province says that it allows for development outside the urban edge, like these gentleman's estates (Study Participant #18).*

One of the roles of the Board of Directors, according to one of its members, is:

> *We should be interfacing it with businesses at all levels. The message that I would like to think that we can put through at some point is we are here to assist you as a business to grow in a sustainable environmentally friendly manner. We are not here to stop you. We should not be seen as the bad guys from a business point of view (Study Participant #23).*

Essentially, the Board Member believes that jobs and the enhancement of human wellbeing should trump environmental protection because the environment will revert back. He stated,

> *You generate more food for the people; create more jobs and everything moves forward. Yes, you've changed the environment…you can't stop progress, you can't stop growth (Study Participant #23).*

To the question 'Do you agree that the core area should be protected?' the Board Member responded:

> *Not as a blanket statement, no. I think that there's got to be a more extreme justification to go in and do what needs to be done but I don't think there should ever be such a thing as no (Study Participant #23).*

When asked about the role of the Biosphere Reserve management board, it was explained that the Biosphere Reserve could participate, with the support of government, to look at various studies "in a more independent way than government can". He further explained that the Board has a

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diversity of qualifications, and he sees the group working with local and national government, as an independent organization with no political affiliations, that can bring in specialists and help people develop, grow and create jobs.

> *You certainly can't stop the clock in a country with...what is it, eight, nine million people unemployed? You have to move forward. You have to create jobs. You have to make it sustainable and yet you have to somehow conserve the environment...I see a Biosphere organization to be advisory and not policing. And that ideally I would like to think that you get so close to business that when they want to develop something within a Biosphere one of the things they do is approach the Biosphere Reserve Board with their plans as early as possible. This is what we would like to do: we would like to sit down, now you tell us where you think there is a problem. Then talk it through, bring in people, keep people talking and communicating (Study Participant #23).*

4.9 Conclusion

4.9.1 Overall perception

In summary, planning policies can get changed or altered to allow for development outside of the urban edge, making land valuable as an economic investment opportunity. Furthermore, how this has happened, and how economics has been used to alter policy in the past has created tension in the present. This is especially apparent in the rural-urban fringe where multiple actors of various socio-economic classes come together. Planners are competing with the market because the Municipality has its own vision of where they want to grow while the market is trying to dictate direction and push growth in a different direction. The tension exists because developers are actively shaping the market. Even delineating an urban edge contributes to this because developers immediately purchase land along the edge and then lobby to change it.

4.9.2 Governance

South Africa's planning legislation is extremely advanced in that from the moment a development application is put forth, citizens have an opportunity to comment. Stellenbosch Municipality's Integrated Development Plan and Spatial Development Framework direct land use planning. All plans at the Municipal level must adhere to the requirements set out in Provincial and National planning legislation. The Biosphere Reserve Spatial Framework Plan is demonstrative of some of the

challenges of getting a plan approved so that it must legally be applied. The difficulty for planners to get an urban edge legislated causes planners significant frustration. This absence of legislation is perceived as a weakness in governance arrangements.

4.9.3 Management

Jamestown, South Africa is a place where rural meets urban (both in physical space and in ideas), where agriculture meets development, history meets the present day, where traditional ways of life meets the modern, and where rich meets poor. The interconnectivity of multiple influences, actors, processes, systems, organizations, and economic structures is very apparent in the Jamestown case study. This is, perhaps, most recognizable due to the severity of effects that outcomes (good and bad) can have on both society and the environment.

This case shows how an economics of capitalist property development and a politics of 'adaptable' planning subject to economic pressure can have a tremendous influence on planning processes in the rural-urban fringe. In Jamestown, ideologies and practices of capitalist economic development and return on investment have dramatically affected land-use decision making, in part because the land-use planning is open to review, appeal, amendment (through the economic pressure of developers). Municipal planners may desire rural development within the urban edge, but if developers wish to build a golf course/wine estate on a particular piece of land, the record indicates that they will likely succeed. This is despite the governance and management structures in place that support something different, because when developers promise money (in the form of trusts or investing in infrastructure) and jobs, politicians are unlikely to decline, especially given the state of the South African economy.

The inability for planners to get Stellenbosch's urban edge entrenched in enforceable plans makes it challenging for Municipal planners to maintain their position on where development can or cannot occur. Demarking an historically moveable urban edge also alters the value of land surrounding it, as it becomes a speculative commodity because developers and other investors buy the land surrounding a recently delineated edge. They then wait for the edge to be extended or they try to get the edge extended (or the status of the agricultural land changed to accommodate suburban and/or commercial development). Essentially, even with legalized planning zones, land-use planning is open to review, appeal, revision, blurring, and amendment through the economic pressure of developers. This shows the power and wealth dynamics that are present within the planning system.

Some people only value land because of its potential for development rather than its agricultural value. The Cape Winelands' natural beauty makes it highly attractive for high-end housing, resulting in gentrification and a change in dynamics within rural communities. Rural landowners are offered attractive sums for selling their land, making it difficult, if not impossible to reject.

Thus, we see how an economics of capitalist property development and a politics of 'adaptable' planning (meaning that plans can be amended, altered, etc.) influence planning decision-making processes. Specifically, even though a governance process is followed, plans can be legally altered, even with the world's 'best' Constitution, to benefit economic development. This is primarily to the benefit of those capitalist developers, who often present their plans as examples of "Corporate Social Responsibility", with promises to the poor. This favouring of those with economic power is escalated in the appeal process where time, money, and resources (such as access to technical experts) are required to participate effectively. Municipal officials responsible for decision-making in the area become vulnerable to developers because the municipalities do not have the economic resources to meet the demand of the severe poverty and human needs within the municipality (especially one that has the greatest divide between rich and poor in the world). So when developers make promises of supplying infrastructure to the community surrounding their development, it is difficult for municipal officials and politicians to say no.

It appears then, that legitimacy and transparency are lacking in the decision-making process (on many levels). Study Participants also reported that there is a general lack of capacity at the government level, further extending the already lengthy process. This brings into question whether or not participatory governance's attempt to 'hear the voices of multiple stakeholders' overcomes, in a substantive way, the structural shortcomings to rational decision-making that are imposed by political economy factors. In this case, it appears that it primarily does not. At the same time, developers typically cannot get their proposal approved without demonstrating some form of commitment to corporate social responsibility, especially since so many of the acts and plans referred to in this chapter incorporate the apparently laudable goals of social and environmental sustainability.

All of these issues come together at the rural-urban fringe as multiple users with varying wants attempt to carve out their own space, in pursuit of their own interests. NIMBYism is rising with changes in community character that accompany increasing gentrification. The belief amongst many of those I interviewed is that the outcome of new elite developments counters the overall goals of

forming an integrated South Africa. For instance, the majority of people interviewed criticize gated housing developments while others argue that they are necessary, given South Africa's socio-economic (and political) climate (because they provide low-skilled employment for the poor). South Africa was formed with townships outside the urban edge, and it is around these areas that the new developments are appearing. Some argue that development will occur on the rural land that connects urban areas, so they may as well connect the dots and prepare for it.

Biosphere Reserve status is highly supported but there is also concern that private sector planners may distort it as an excuse for development. Study Participants support the principles of the Biosphere Reserve programme but do not support the method in which certain private sector planners suggest implementing planning strategies. In particular, planners at the Province and Municipality of Stellenbosch do not support the concept of a Special Management Area because they feel it promotes development anywhere outside of the core (protected) area. This conflicts with Stellenbosch Municipality's own spatial strategy of developing particular nodes but protecting land between these nodes from development.

Ultimately the interconnectivity of multiple influences, actors, processes, systems, organizations, and economic structures is very apparent in the Jamestown case study. This is, perhaps, most recognizable due to the severity that outcomes (good and bad) can have on both society and the environment. Yet, I do not see these diverse actors steering governance processes in the manner Olsson et al. (2008, p. 2490) describe: "the interacting patterns of actors with conflicting objectives and the instruments chosen to steer social and environmental processes within a particular policy area…Institutions are a central component as are interactions between actors and the multilevel institutional setting, creating complex relationships between people and ecosystem dynamics".

The Jamestown case brings time into the equation as factors that happened in the past continue to shape current day decision-making processes, and consequently outcomes. Specifically there is a general lack of trust towards new applicants because of past controversial developments. After I completed this study, I wrote and published a paper on the results in *Urban Forum* (see Cash, 2013). I took the paper to one of the main actors in the Spier Development to share my results with him. He, for instance, had no idea that the Municipal officials had such a negative experience with Spier in the past, with De Zalze 1. When one is not aware of human emotions surrounding particular planning issues, present day realities are clearly impacted.

Governance and management literatures fail to address adequately all of the key political and economic factors that actually drive decision-making processes. Even though laws may be in place to support a particular participatory governance structure, the outcomes will not necessarily be fair, socially equitable or environmentally sustainable, and therefore 'rational'. This is especially the case, as we will see in Chapter 6, when we are situated in the context of neoliberal globalization with the private sector seated at the centre of power structures.

Chapter 5

Governance and management of the rural-urban fringe: Niagara Escarpment, Canada

5.1 Introduction

The aim of this chapter is to address the primary research question regarding decision-making dynamics at the rural-urban fringe. This chapter addresses the problem-solving portion of the analytical framework. The chapter describes the study area, and outlines the legal framework regarding how decisions are made before demonstrating how governance and management processes work in reality. First, I repeat the guiding questions articulated in Section 2.9. The questions for step 1 (the Governance component of the analytical framework) include: (i) what is the governance framework; (ii) what laws, policies and procedures are in place; (iii) is the process participatory; (iv) is the process transparent; (v) are actors accountable; and (vi) when conflict arises is there an effective dispute resolution mechanism? The questions for step 2 (the Management component of the analytical framework) include: (i) what are the land-use plans in place; (ii) how is the situation managed; (iii) are the goals of the plan realized in practice; (iv) what are the stakeholders perspectives about the situation; (v) how is the situation being handled (monitoring, evaluation, knowledge gathering, etc.)?

To begin, an overview of the Niagara Escarpment study area is provided.

5.2   Step 1: Governance: The Niagara Escarpment Study Area

The Niagara Escarpment Biosphere Reserve is located at 43°10' to 45°15N and 79°03' to 81°40'W. It gained formal status in February 1990, covers approximately 725 km and extends north south - from Queenstown, near Niagara Falls, to Tobermory at the tip of the Bruce Peninsula between Lake Huron and Georgian Bay (Niagara Escarpment Commission, 2013a). The Niagara Escarpment Biosphere Reserve spans eight regions or counties (Table 4).

Region or County	Percentage of county or region in
Regional Municipality of Niagara	7.34%
City of Hamilton	10.73%
Regional Municipality of Halton	24.04%
Regional Municipality of Peel	10.98%
Dufferin County	12.86%
Simcoe County	2.44%
Grey County	14.17%
Bruce County	8.90%

Table 4: Counties of regions within Niagara Escarpment Biosphere Reserve (Niagara Escarpment, 2011)

This study focuses on the Southern portion in the Niagara Region (see Figure 18).[55] Figure 19 depicts (in green) the precise area of interest for this case study.

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[55] While the South African case study focuses on a specific area (Jamestown), the rural-urban fringe areas within the southern portion of the Niagara Escarpment are looked at in general in this case study.

Figure 18: Map of the Niagara Escarpment Plan area (Niagara Escarpment Commission, 2013)
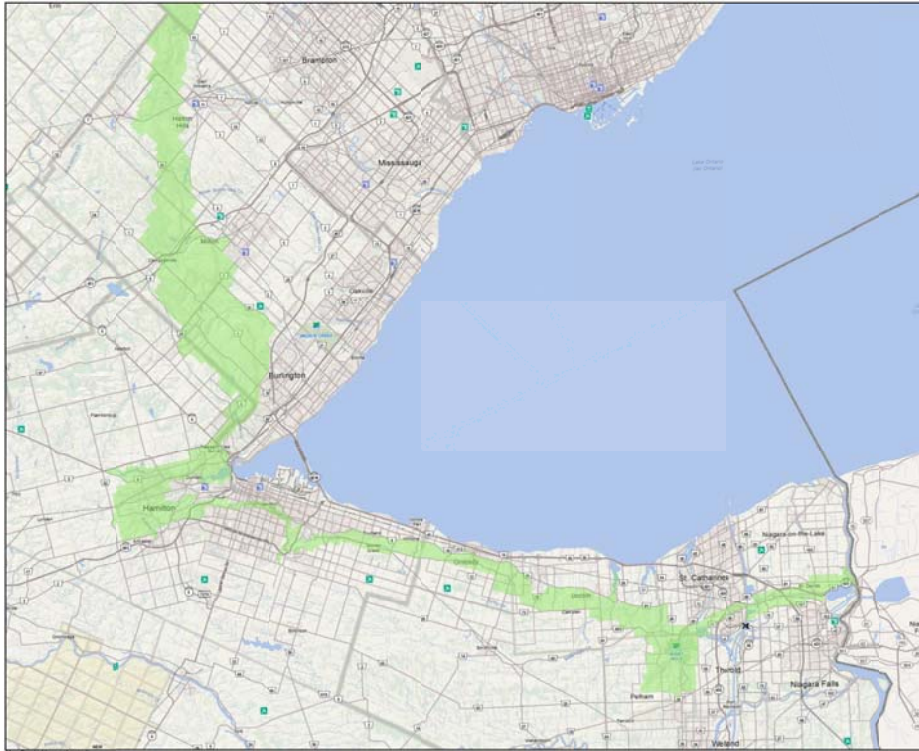
Figure 19: Southern portion of Niagara Escarpment (Niagara Escarpment Commission, 2014)

Main occupations in the Niagara Escarpment vary, from wine production, tourism and tender and mixed fruit farming in the south to cattle farming and adventure tourism in the north (UNESCO, 2013c). There is a rapidly growing wine industry in the South. The population of the Niagara Escarpment Biosphere Reserve is 320,024 (1,090,000 including urbanized areas bordering the biosphere reserve limits (UNESCO, 2013c). These numbers are increasing as urban dwellers move to the area, seeking solitude in the countryside and sometimes clashing with the families who have lived there for generations. Land in some places is rapidly becoming developed, causing serious threats to community preservation of the area through, for example, increasing land prices and property taxes (Niagara Escarpment, 2013b). How this impacts the socio-economic landscape is a valid concern. Occupants of new estate-style homes and quaint wineries live side by side with multi-generational farmers, and middle-income and low-income families.

The Niagara Escarpment is subject to various environmental pressures as well, as stated in its Plan (Niagara Escarpment Commission, 2013a):

The Escarpment area is the site of a large mineral aggregate extraction industry. Demand for permanent and seasonal residences in many areas is intense. Farming ranges from the cultivation of tender fruit and specialty crops in the Niagara Peninsula to the raising of beef cattle in Bruce County while the proximity to Ontario's largest population centres makes the Escarpment a popular tourist destination. Many archeological sites and historic homes and buildings reflect, in a richly picturesque and valuable way, the development of the current landscape and economy of the area.

The formation of the Niagara Escarpment began 430 to 450 million years ago. Much more recent Ice Age glaciers and water shaped the rock, creating features such as caves, cliffs, waterfalls and eroded shorelines. In some areas, the escarpment is obscured by glacial deposits, which create a rolling, hilly topography. Flora are diverse with boreal needle leaf forests in the north to one of the most "biologically diverse areas in Canada in the South", holding approximately 40 per cent of Ontario's vascular plants occurring in the area (Niagara Escarpment Commission, 2013a; Niagara Escarpment Commission, 2013b). There are two provincial national parks located in the Niagara Escarpment Biosphere Reserve and the area is subject to specially legislated planning controls, but it is still subject to concerns about unsustainable development, as will be discussed below.

5.3 Governance

5.3.1   Legal framework

The Niagara Escarpment Commission website states "The Niagara Escarpment Biosphere Reserve has been planned to reconcile conservation of natural resources with their sustainable use by permitting various land uses through the administration of the provincially adopted Niagara Escarpment Plan (Niagara Escarpment Commission, 2014).

The Niagara Escarpment Biosphere Reserve geographical area and the Niagara Escarpment Planning geographical area are the same. So, planning legislation for the Niagara Escarpment Biosphere Reserve area is dealt with and covered under the Niagara Escarpment Plans. The Biosphere Reserve designation itself confers no legal authority of legislated requirements. However, Biosphere

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Reserve status confers a sort of "symbolic capital"[56] on the area, leading conservationists to believe they have the moral and ethical "upper hand" regarding development in the region.

There are a number of plans and acts that impact planning in Ontario in general. For example, other relevant legislation and plans that cover geographical areas surrounding the Niagara Escarpment area include the Provincial Policy Statement (2005), Places to Grow Act (2005), the Places to Grow Plan (2006), the Greenbelt Act (2005), and the Greenbelt Plan (2005). These are summarized in Appendix F. However, the legislation that guides planning decisions in the Niagara Escarpment Planning area only include the Niagara Escarpment Planning and Development Act and the Niagara Escarpment Plan.

5.3.2 Historical perspective

Starting in the 1960's people began seeing that the Niagara Escarpment was beginning to deteriorate biophysically. The busiest highway in North America, the 401, passes through the Niagara Escarpment and this allowed many travellers to see the impact that irresponsible mining practices were having on the landscape (Study Participants #2, 13). Between 1967 and 1968, the Provincial Legislature's Select Committee on Conservation conducted a study that provided recommendations for protecting the future of the escarpment. These recommendations led to an implementation report in 1972 that was encapsulated in the Niagara Escarpment Planning and Development Act (1973). The Niagara Escarpment Planning and Development Act differed from the existing development-oriented Provincial Planning Act, in that it was the Province's first environmental plan with conservation forming the foundation upon which decisions were to be made (Niagara Escarpment Commission, 2013c). The Niagara Escarpment Commission was central in 1973, and consisted of 17 provincially appointed individuals (eight Municipal Councillors and nine representatives from the public) (Niagara Escarpment Commission, 2013c). In 1975 a mechanism to implement the conservation purpose, called development control, was put into place (this was the beginning of the Niagara Escarpment Plan). This replaced zoning bylaw control under the Planning Act and combined zoning and site plan control. This means that the specific details of each development application (for instance, height of buildings, environmental impact, etc.) are considered by the Niagara Escarpment Commission on a

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[56] Bourdieu (1993) describes symbolic capital as being known and recognized and is more or less synonymous with: standing, good name, humour, fame, prestige, and reputation. In the context of Biosphere Reserves, then, the symbolic capital of Biosphere Reserve status reflects the value system of a capable environmental steward.

case-by-case basis to ensure that the entire environment (above and below the soil) and overall nature of the proposed development is deemed appropriate for the zone involved (Niagara Escarpment Commission, 2013c). The Niagara Escarpment Plan that would guide the Niagara Escarpment Commission took until 1985 to be prepared and approved because there were public hearings, debates, court challenges and political issues that still encompass the Ontario planning process (Niagara Escarpment Commission, 2013c). Between 1973 and 1985, the Niagara Escarpment Commission did not have as much leverage as it did after the Niagara Escarpment Plan was completed and embedded into policy (Niagara Escarpment Commission, 2013c). Developments occurred during this time that affected the escarpment but the Niagara Escarpment Commission could not do anything about them.

Ontario's Planning Act is legislation that "sets out the ground rules for land use planning in Ontario and describes how land uses may be controlled, and who may control them" (Ontario Ministry of Municipal Affairs and Housing, 2014). The Planning Act "provides the basis for considering provincial interests, such as protecting and managing our natural resources; establishing local planning administration" (Ontario Ministry of Municipal Affairs and Housing, 2014). The Planning Act also sets out the rules for planning processes in Ontario, including the requirement for preparing planning policies and official plans, requirements for subdividing land, grants authority and provides support tools to municipalities for decision-making. It also sets out the rights for citizens to engage in planning processes, including the right to appeal to the Ontario Municipal Board or a municipal Local Appeal Body through the Ministry of Municipal Affairs and Housing (Ministry of Municipal Affairs and Housing, 2014).

Under the Planning Act, municipalities are required to develop an Official Plan. The Official Plan "sets out the municipality's general planning goals and policies that will guide future land use" (Ministry of Municipal Affairs and Housing, 2014). Municipalities also develop zoning by-laws that "set the rules and regulations that control development as it occurs" (Ministry of Municipal Affairs and Housing, 2014).

All planning decisions in Ontario must also comply with the Provincial Policy Statement (2005), which "provides policy direction on matters of provincial interest related to land use planning and development (Ministry of Municipal Affairs and Housing, 2014a).

The Provincial Policy Statement, as the main policy for regulating land use in Ontario, also supports provincial planning interests, which are aimed at improving living conditions for Ontarians, and calls for better land use planning (Ontario Ministry of Municipal Affairs and Housing, 2014a).

Most land use applications in Ontario (the Niagara Escarpment Planning area is an exception) are dealt with at the municipal (lower-tier, upper-tier, single tier, as described in the Municipal Act (2001)) level or provincially through the Ministry of Municipal Affairs and Housing. There is a table available on the Ministry of Municipal Affairs and Housing website that indicates which authority (municipal or Provincial) individuals must contact for particular types of land use applications (Ontario Ministry of Municipal Affairs and Housing, 2014b). So, an applicant submits their application to the appropriate authority (depending on the requested land use change) then that body will either approve or refuse the application.

An individual or public body that has been active in a proposed application may appeal the decision of a planning approval authority by appealing to the Ontario Municipal Board (Ministry of Municipal Affairs and Housing, 2014). Minor disputes can be resolved at the municipal level (if the particular municipality meets set requirements) (Ministry of Municipal Affairs and Housing, 2014a).

The Ontario Municipal Board is an "independent administrative tribunal responsible for hearing appeals and deciding on a variety of contentious municipal matters. The Ontario Municipal Board is similar to a court of law, but with less formality. Board members are appointed by the Ontario Cabinet and include lawyers, accountants, architects, planners and public administrators. The Ontario Municipal Board operates under the Ontario Municipal Board Act, as well as its own rules of practice and procedure. It reports administratively to the Ministry of the Attorney General" (Minister of Municipal Affairs and Housing, 2014a). The Ontario Municipal Board holds public hearings on "land use planning applications, such as subdivisions, land severances and minor variances; and planning documents and applications, such as official plans and zoning by-laws" (Minister of Municipal Affairs and Housing, 2014a).

All appeals to the Ontario Municipal Board must be made through the appropriate approval authority and that body sends the appeal application to the Ontario Municipal Board. All appeals to the Ontario Municipal Board are submitted through the Ministry of Municipal Affairs and Housing (Ministry of Municipal Affairs and Housing, 2014a). Decisions made by the Ontario Municipal Board are final unless the Minister of Municipal Affairs and Housing determines that the issue before the

Ontario Municipal Board will negatively affect provincial interests (Ministry of Municipal Affairs and Housing, 2014a).

The Ontario Provincial Greenbelt Act (2005) is legislation that "enables the creation of a Greenbelt Plan to protect about 1.8 million acres of environmentally sensitive and agricultural land in the Golden Horseshoe from urban development and sprawl. It includes and builds on about 800,000 acres of land within the Niagara Escarpment Plan and the Oak Ridges Moraine Conservation Plan" (Minister of Municipal Affairs and Housing, 2014c).

All planning decisions that will impact the Greenbelt area must conform to the Greenbelt Act. Applications that occur within the Greenbelt area are governed by existing agencies and at various levels of government. Essentially, the same process as occurs as regular planning applications, but the decision-making body must adhere to the Greenbelt Act and the Greenbelt Plan in the decision-making process. The Greenbelt Council administers the Greenbelt Plan (Ministry of Municipal Affairs and Housing, 2014c).

The Greenbelt Plan restricts urban development in particular areas in order to protect identified agricultural and ecological land (Ministry of Municipal Affairs and Housing, 2014c). Appeals to land-use decisions impacting the Greenbelt area are made to the Ontario Municipal Board, or a Joint Board under the Consolidated Hearings Act (Service Ontario, 2005).

The Greenbelt is also the "cornerstone of Ontario's Greater Golden Horseshoe Growth Plan" (Minister of Municipal Affairs and Housing, 2014c). Ontario's Greater Golden Horseshoe Growth Plan Act is legislation that is under Ontario's Ministry of Infrastructure (as opposed to the Ministry of Municipal Affairs and Housing). Called the "Places to Grow Act", this legislation gives the Ontario government the authority to: "designate any geographic region of the province as a growth plan area; develop a growth plan in consultation with local officials, stakeholders, public groups, and members of the public; and develop growth plans in any part of Ontario" (Ontario Ministry of Public Infrastructure Renewal, 2014). The Growth Plan for the Greater Golden Horseshoe falls under the Places to Grow Act (2005) and does not replace municipal Official Plans, but it builds on the Planning Act or Provincial Policy Statements and the Greenbelt Plan in order to provide "growth management policy direction" for the Greater Golden Horseshoe (Ministry of Public Infrastructure Renewal, 2006). All Official Plans developed by municipalities must comply with the Places to Grow Act, as well as any other, Provincial acts, policies and plans.

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The Niagara Escarpment Planning area falls under the Ministry of Natural Resources. Individuals who live within the Niagara Escarpment Plan area who wish to apply for land use changes must apply directly to the Niagara Escarpment Commission. This is unique to the Niagara Escarpment Plan area because all of the applicants who live outside the Niagara Escarpment Plan area apply directly to their local municipality (upper, lower or single tier) or the Ministry of Municipal Affairs and Housing (depending on the application being considered).

Beginning in the 1960s, the Provincial government purchased more land in the Niagara Escarpment, so that by the time the Niagara Escarpment Plan was legislated in 1985, 18 per cent of it was publically owned (Niagara Escarpment Commission, 2013c). The goal was to add to the land that would be protected. Currently, approximately 20 per cent of the land is publically owned. At that time the government was able to purchase, at a very low cost, land that we view today as being valuable in its natural state, such as land that held waterfalls, forests, rock, wetlands, steep slopes and pristine landscapes (Study Participants #3, 7). The land was inexpensive due to the fact that people viewed it as worthless because it could not be farmed and houses could not be built on it (Niagara Escarpment Commission, 2013c). By the time the Niagara Escarpment Plan was approved in 1985 many people's attitudes towards living in nature had dramatically changed. This, combined with limited budgets for land acquisitions, has made it difficult for the government to purchase land since 1985 (Niagara Escarpment Commission, 2013; Study Participants #3, 7). Amendments in the Niagara Escarpment Plan have allowed for private stewardship agencies to purchase land for conservation purposes[57] (labeled privately-held land in the Niagara Escarpment Commission database). These private agencies cooperate with other stakeholders within the escarpment (for instance, conservation authorities, government agencies, parks, etc.) for the broader purpose of protecting the escarpment.

5.3.3   The Niagara Escarpment Development Act (1973)

The Niagara Escarpment Planning and Development Act (1973) establishes a planning process to ensure the protection of the Niagara Escarpment. The purpose of the Act is "to provide for the maintenance of the Niagara Escarpment and land in its vicinity substantially as a continuous natural environment and to ensure only such development occurs as is compatible with the natural environment (Section 2)" (Niagara Escarpment Commission, 2013d). The Act discusses the

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[57]   Whereas it is very difficult to sever land to create lots for planned subdivisions, it is now possible to sever land for use as nature preserves or recreational areas.

"appointment of members and staff; Niagara Escarpment Plan objectives; procedures regarding plan preparation, reviews, hearings, amendments and conformity; regulations for establishing development permit requirements and exemptions; procedures for development control appeals, hearings and contraventions" (Niagara Escarpment Commission, 2013d).

5.3.4   The Niagara Escarpment Development Plan (2013)

The original Niagara Escarpment Plan was approved in 1985, but there have been several amendments to it since then (2005, 2006, 2009, 2010, 2011, and 2013). The Niagara Escarpment Plan emerged out of the Niagara Escarpment Planning and Development Act to "serve as a framework of objectives and policies to strike a balance between development, preservation" and enjoyment of the resource (Niagara Escarpment Commission, 2005, p. 6).

The Niagara Escarpment Plan (2013a) lists seven objectives it aims fulfill:

- To protect unique ecological and historic areas;
- To maintain and enhance the quality and character of natural streams and water supplies;
- To provide adequate opportunities for outdoor recreation;
- To maintain and enhance the open landscape character of the Niagara Escarpment in so far as possible, by such means as compatible farming or forestry and by preserving the natural scenery;
- To ensure that all new development is compatible with the purpose of the Plan;
- To provide for adequate public access to the Niagara Escarpment; and
- To support municipalities within the Niagara Escarpment Plan Area in their exercise of the planning functions conferred upon them by the Planning Act.

The first section of the three-part plan consists of land use policies, seven land use designations that show how land should be used throughout the area of the Niagara Escarpment Plan (uses permitted, lot creation policies, objectives and criteria for mapping are included with each designation) and policies governing amendments (Niagara Escarpment Commission, 2013a). Part two includes a set of Development Criteria, which is used in decision making about development proposals and associated permitted uses, and part three describes the Niagara Escarpment Parks and Open Space System (Niagara Escarpment Commission, 2013a).

5.3.5   The Niagara Escarpment Biosphere Reserve Plan

There is no Niagara Escarpment Biosphere Reserve Plan. The Niagara Escarpment Planning and Development Act and the Niagara Escarpment Plan regulate the area. However, significant resources are required to effectively market the Biosphere Reserve programme.

5.3.6   Dispute resolution

A key element of good governance is the presence of a functioning dispute settlement or conflict resolution mechanism (Green et. al, 2013).

Niagara Escarpment Plan amendment process is quite extensive, as illustrated in Appendix G. Appeals are decided on within the Environmental Review Tribunal, which "functions as a quasi-judicial body, subject to the rules of natural justice and the requirements of the *Statutory Powers Procedure Act*. [Its] primary role is adjudicating applications and appeals under various environmental and planning statutes" (Government of Ontario, 2013). The Environmental Review Tribunal also "functions as the Niagara Escarpment Hearing Office to hear development permit appeals [of a Niagara Escarpment Commission decision on a development plan] and Niagara Escarpment Plan amendment applications under the *Niagara Escarpment Planning and Development Act*" (Government of Ontario, 2013), that involve the Niagara Escarpment Plan.

5.4 Step 2: Management

In this section I present the current situation as it pertains to decision-making around development in the southern portion of Niagara Escarpment Biosphere Reserve as told to me by the study participants (including councillors, planners from the private and public sectors, and community leaders). First, some general statistics on the number of development permit applications that the Niagara Escarpment Commission received, how many of these were approved, appealed, etc. can be found in Table 5. The applications that were approved may have had conditions attached with the approval to protect the environment (Niagara Escarpment Commission, 2005).

While the Niagara Escarpment Commission Annual Reports did not specify the exact types of applications that were requested, the reports highlighted such applications as quarry expansions, requests to change rural areas to urban use, applications to allow for hydro lines to pass through protected areas. Each year the Niagara Escarpment Commission Annual Reports highlighted applications from quarry businesses to expand their operations.

Year	Development Permit Applications Received	Applications Carried Forward from Previous Year	Applications Approved	Applications Refused	Applications Appealed	Applications Approved on Appeal	Applications Refused on Appeal	Amendments to NEP received	Amendments to NEP approved	Amendments to NEP refused
2004-05	563	No data	435	14	47	No data	No data	7	2	1
2005-06	575	No data	434	12	39	No data	No data	No data	No data	No data
2006-07	565	No data	406	13	48	No data	No data	1	8	0
2007-08	515	No data	476	12	45	No data	No data	No data	No data	No data
2008-09	459	No data	360	12	35	No data	No data	6	0	0
2009-10	480	No data	369	9	34	No data	No data	3	3	0
2010-11	539	116	444	12	45	39	6	9	2	0
2011-12	557	121	471	9	37	31	4	0	7	0

Table 5: Niagara Escarpment Commission development permit and plan amendment activities

Implementation of the management plan (which is the Niagara Escarpment Plan) has given rise to many controversies, particularly as the pressures of urban expansion have increased over time. These pressures are described in more detail below.

5.4.1   Implementation: Planning in Practice

Based on the interviews with study participants, the goals of the plans are met in practice; however, that does not mean that study participants feel that the outcomes are fair or adhere to what they consider to be environmentally or socially optimal. Here we turn to a discussion of key issues emerging from planning practice.

5.4.1.1 Gentrification related impacts

Gentrification is viewed as the most significant issue within the Niagara Escarpment.

> *I think what the big issue with the Niagara Escarpment Plan and then what it's done is you've seen a lot of gentrification for lack of better terms, happening in that area. It's the playground of the real rich. The Green Belt is trending towards that same direction where it's just huge homes, not farm related really, and you're creating these gentlemen estates for lack of better terms, throughout the area because no new lots are being created. People are bidding up the prices if you want that. They're the ones who are buying it. They're the ones who are overbuilding on it, and then what does that mean? You're changing the rural community fundamentally. And that's I think is one of the unintended consequences of both the Niagara Escarpment Plan and the Greenbelt is…you've really changed the fabric of who lives there and the nature of their activities on the land base. If they're farming, it's probably for tax purpose or they want to have a couple of horses. It's something they want. But it's not a true agricultural preserve in that sense either (Study Participant #12).*

The Planners that I interviewed feel that throughout the escarpment, there are dramatic land use changes where farmland is being converted to private estates, including single, farm-size properties, often with a huge house, sometimes only for weekend use, and estate style homes. The people who move to the escarpment tend to be wealthy and are attracted to the peaceful, natural surroundings that the Niagara Escarpment offers. New residents who farm typically do so because they benefit from tax savings or they want to have horses for recreation. But study participants do not consider such use as truly agricultural. The people who have lived in these areas for generations see

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an increase in their taxes and likely move, until the entire area is owned by the wealthy.[58] The other concern expressed by planners is whether or not such estate developments are sustainable from a private servicing perspective (specifically, whether or not the groundwater can support the development because such homes often have pools, and other water intensive activities).

Study participants admitted to questioning the impact building "monster houses" has on land values. It was noted that it is becoming too expensive for people to live in rural communities. However, a Planner that I interviewed stated that low-income[59] people should live in urban areas anyway "because it is a trend and it costs more overall (3-4 times as much) to live in rural areas versus urban areas". Furthermore, no study participants could think of many low-income earners (represented by those living in social housing, for instance) who live in the Niagara Escarpment Plan area, other than farmers who are struggling with minimum resources. I was told by a public sector Planner that there are no support systems in rural areas, as opposed to many support systems in urban areas. He also stated that public trails within the Niagara Escarpment allow for people of all socio-economic classes to enjoy nature and there are urban parks that make nature accessible to those who cannot afford to travel to the non-urban portions of the Niagara Escarpment area. He furthermore explained that low-income or social housing *would not* be built in the Niagara Escarpment area because such housing developments must be placed where services are located (for instance, where people can use public transport). There is simply a lack of resources (education, employment training, etc.) for low-income individuals who wish to live in the Niagara Escarpment Plan area and they would not be able to easily break out of the poverty cycle.

Study participants widely acknowledged that people have a right to the enjoyment of their property. However, it was also understood that if their decisions on their property have detrimental consequences for the environmental integrity of the Niagara Escarpment land, then it becomes a society issue. I was told by a public sector planner that land should be looked after for future generations and this obligation to future generations is a social issue.

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[58] As study participants explained these concerns to me, I envisioned patterns as an exurban development trend yet still within the confines of the Niagara Escarpment (see http://www.esri.com/landsat-imagery/viewer.html for an indication of change over time).

[59] By low-income I mean below the poverty line, which is $18,582 for a single adult and $26,279 for a single adult with a child (Poverty Free Ontario, 2008).

5.4.1.2 The aggregate industry

Another area in which the plan is followed but most study participants perceive as being incompatible with goals of social and environmental sustainability is around the activities of the aggregate industry.

There are 83 quarries in the Niagara Escarpment and the stone and aggregate is primarily used locally, for building roads and other construction projects. Extraction can only take place in the areas indicated in the Plan (specifically the rural area) unless the aggregate companies obtained a licence prior to the plan being legislated in 1985 (referred to as the grandparent clause) in which case they can mine wherever the licence allows. Prior to 1985, some mines agreed to move once they completed the mining; however, they ended up simply expanding since this was easier than relocating. Many of the pre-1985 licences are expiring, meaning in the future no companies will have permission to mine in natural or protection areas.

Primarily the individuals who are involved in the decision-making process (including Niagara Escarpment Commission Planners and the Commissioners whom I interviewed) do not object to aggregates mining in the Niagara Escarpment. But, they do feel that it must be conducted in the areas identified within the plan and within the rules pertaining to mining. The aggregate industry brings employment and revenue to the municipalities and the Province, and it provides material for Ontario projects because using local material for local projects is cost-effective and better for the environment. The companies want government to understand that mining is just as important to the Province as the Niagara Escarpment.

However, those who object to the aggregate industry (primarily environmental groups and members from the general public) feel that simply limiting mining to Mineral Resource Extraction Area is inadequate because these boundaries are not based on ecological systems or water science. The impact of mining is far reaching and key environmental systems in the natural and protection areas may be significantly negatively impacted and/or permanently altered and degraded by mining in other areas. The mining industry may make promises to compensate for the impact of mining activities by planting trees elsewhere in the escarpment. But critics feel that planting seedlings to make up for the mature trees that they destroyed is not adequate or desirable because it, among other things, permanently changes the landscape (Study Participants #7 and 13). Furthermore, some worry about the scale of proposed mines and their impact on the environment (Study Participants #7, 8, 13, 15).

A number of environmentalists, and a couple of the Commissioners, that I interviewed feel that arguments that companies make such as limiting greenhouse gases and climate change because the aggregate is mined close to the local market, is an excuse that is not substantiated with science or quantitative evidence.

Local people must tolerate excessive noise, dust, disruption to their lives of a 24-hour operation, concern that the vibration from when they blast the rock will impact their home and property value (as well as causing annoyance to their own lives), and the hole left in the ground after the company completes its work poses a safety concern. Study Participants (#8 and 14) also felt that since many of the mining companies are foreign owned they may not be as sensitive to the needs of local people and a considerable amount of the revenue leaves Canada. There is a feeling that most people do not realize that the aggregates extraction companies are actually foreign multinationals and they purposely mislead Canadians into thinking otherwise to make it seem as if all the economic benefits remain local (Study Participants #5, 6, 8, 14).

Opponents also distrust the mining companies. Although mining is only allowed in areas designated Escarpment Rural Areas in the Niagara Escarpment Plan, companies can apply for an amendment to the Plan so that they can expand to new areas. Currently, the aggregate operators seek amendments to the plan more than any other party or group.[60] There is a perception that some Commissioners are more likely to side with the companies since they are closely affiliated in one way or another to them, despite the fact that they remove themselves from discussions when a conflict of interest occurs (Study Participants #11 and 15). Others feel that declaring a conflict of interest adequately addresses any potential conflicts that may arise. Some also feel that Niagara Escarpment Commission officials are more likely to support the mining industry.

> *We have a problem with the Escarpment Commission. Is it a conflict of interest? I would say yes (Study Participant #5).*
>
> *An aggregate application, especially now that they're so deep below the water level, especially now, but at any time, they're messing around with water systems, which is very important to the ecology of that natural area, no matter what you do. It would just be a no-go zone for me, including in the boundary lands (Study Participant #8).*

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[60] I have not been able to quantify how many more amendments the aggregate industry requests compared to others. This statement "the aggregate operators seek amendments to the plan more than any other party or group" emerges from interviews with study participants (Study Participants #2, 3, 4, 8, 9).

If their proposals for expansion are not approved by the Niagara Escarpment Commission, the aggregate companies appeal to the Environmental Review Tribunal and this marks the beginning of a very long, expensive process that more often than not results in aggregate companies winning. All but one of the study participants said that hearing processes favour the companies because they can afford the multiple lawyers, scientists, and staff that are necessary to complete the process. Companies can benefit and take advantage of the fact that the government and other stakeholders have a lack of resources, in the way of fiscal, people, time and experts.

Opponents to mining feel that there is a conflict of interest within the government because the Ministry of Natural Resources is in charge of both granting licences to the mining companies and overseeing the Niagara Escarpment Commission.

There is a general lack of trust towards the aggregate companies, and a feeling that they purposely mislead the public.

> *The quarry operator [in X area] issued newsletters weekly on the progress on the hearing, writing it from their point of view, sent the newsletters to the local papers who don't have any reporters, or very few, and they just printed it as is. And had quite a few experts and lawyers on hand whereas we had very few on the other side. So it was unbalanced in that way. And this is a case where they had the opportunity to buy land outside the Escarpment planning area, and could have done it and didn't. They bought this land instead; probably because they got it cheaper or something (Study Participant #13).*

However, it was pointed out that civil society could join forces (environmental groups work together, for instance) to fight the mining companies through collective power (Study Participants #4, 5, 6, 8, 10). Study participants who represent NGOs all believe that this more or less happens; resulting in a more powerful entity than a group would be on its own. An example of this is the Coalition on the Niagara Escarpment (CONE). CONE "is a non-profit alliance of environmental groups, conservation organizations, and concerned citizens and businesses founded in 1978 and dedicated to the protection of Ontario's Niagara Escarpment" (Coalition on the Niagara Escarpment, 2013).

Ultimately, it is felt by all those interviewed that aggregate companies will be very actively involved in the 2015 review of the Niagara Escarpment Plan. It is perceived by the majority that the aggregate companies will benefit from any changes to the plan. Specifically, there is a perception that

the economic power of aggregate companies will influence politicians and government officials to support their needs. Therefore, there may be more land that is allocated to the aggregate companies to meet their mining needs, for instance. The expansion of the aggregate industry is symptomatic of a larger problem: urban sprawl.

5.4.1.3 Urban sprawl

Urban sprawl was described as a terrible problem, especially in the Peel and Halton regions. More and more people who work in Toronto are living farther away and commute to the city every day. Furthermore, the population of the Greater Golden Horseshoe is increasing, as this is one of the cities where immigrants are most likely to settle when they first arrive in Canada. This means significant pressure on municipalities as they plan for growth. The Province's Places to Growth Act and Growth Plan address this issue and have identified where and how each municipality should respond to growth pressures. Provincial policies act to direct growth to defined intensification areas within each municipality.

Municipalities located within the Niagara Escarpment Plan area are under considerable pressure from developers and market forces to grow because of the natural beauty in which they are located, their proximity to Toronto, and the fact that the Niagara Escarpment covers a narrow strip of land. They are also forced, via Provincial policies, to implement and enforce compact communities through commitment to growth management strategies and denser development within urban boundaries. This is a considerable challenge for some municipalities because they have already intensified within their boundaries, are forced to grow more to account for rising population; but, are at the same time limited by where they can grow by the Niagara Escarpment Plan and the Greenbelt Plan area (Study Participants #7, 8, 9).[61] Therefore, municipalities must plan for "very dense development within their urban boundaries" (Study Participants #7, 8, 9).

Developers often prefer to develop at the periphery rather than intensifying within city boundaries, including the development of brownfield sites, because it is easier: they purchase land at a cheaper price, they don't have to deal with as many NIMBYists, and they don't have to rehabilitate brownfields. Services and infrastructure are already present in brownfield sites (for example, transit already exists) (Study Participants #1, 2, 3, 4, 5, 7, 8, 9).

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[61]   Urbanization extends directly to the edge of the Greenbelt and then leapfrogs over it in many areas.

Municipal level planners describe some of the tactics that developers use to get the urban edge extended. First, delineating an urban edge encourages developers to purchase the rural land along the outside of the line. Then they begin lobbying the government to amend the edge so that their land can be developed. Then when it is time for the city or municipality to review their Official Plan, developers become extremely active in the process. Farmers, who find it difficult to make a proper living from agriculture, will also sell their land to developers. Children who inherit agricultural land are also unlikely to continue farming and will wait until the urban edge is extended before selling. It was pointed out during interviews that some think that it is only people who work and perhaps live in urban areas who wish to protect agricultural land whereas many farmers would prefer to sell it because it is unprofitable.

> *They buy it and they're sitting on it or are they actually truly farming it and maintaining it for long-term agricultural lands or are they hoping one day that maybe there'll be a change at the Provincial level that would allow them to develop some of those lands? (Study Participant #4)*

Planners don't mind moving the urban edge but they want to ensure that there is a solid strategic plan in place. They don't want to move it just because there is pressure from developers to do so. One individual explained that planning involves choosing between factors that make up the ideal (Study Participant #12). In one of the group interviews, participants asserted that it is not possible to balance social, environmental and economic goals (Study Participants #8, 9, 10). Instead, a choice among the three must be made. Achieving the sustainability goals of Provincial Policy while concurrently achieving economic goals (through development) is very challenging for planners, as is meeting environmental goals in urban areas because economic goals are a priority. Yet measuring environmental and economic goals is easier than measuring social goals. It seems, in this case, that social goals are positioned last of the three.

Municipal planners pointed out that some developers would prefer to be able to develop the land between two growth points.

> *The people here at Twenty Road, they think that they should be next and their rationale is that you're just filling in the dots, you're just filling in a hole between the industrial business park and the other urban areas or the other residential areas so you just fill it in. Why not? I can just service it from here. Just keep going (Study Participant #14).*

Planners also receive complaints from developers who own rural land, are waiting for the status to change to urban development, and are angry when the municipality dictates growth in a different direction. Essentially, all of the developers want the urban boundary to be extended to include their land, even if it counters the vision of the plan. Developers prepare plans that, in their opinion, offer better ideas for regional growth because it includes their land. Planners feel that their plans should not be criticized simply because it did not include a developer's land where the urban edge will extend. In their view, developers simply want an immediate return on their investment.

> *So when we do a land budget, we will say we have enough land to accommodate 100 houses, but there will always be five builders who say, 'Well that's fine, but I don't have any building lots so what about me? I don't own any land out here'. Well that's just too bad. I'm sorry you're just out of luck. For those five builders, that's not an acceptable answer (Study Participant #15).*

> *Anybody that's buying land is speculating and you either have a one in three or one in four chance of being identified as a future growth area. Those who weren't included aren't happy. They will never be happy (Study Participant #14).*

According to a decision-maker within the Niagara Escarpment Commission, urban sprawl has many different definitions and this often depends on how it is measured and perceived. For instance, urban growth may not occur in the Niagara Escarpment Plan area directly, but it is impacted by the consequences of urban expansion in the greater region. Since there is development beyond the Escarpment planning areas, new roads and road widening, electric power lines and other utilities cross the Escarpment. Even something that is viewed as favourable such as extending the Go Train service causes development pressure in the Niagara Escarpment. One individual had concern that individuals who live in the Niagara Escarpment cannot argue for roads cutting across it for their travel convenience while arguing for protection of the environment from quarries and development because it is inconsistent (Study Participant #1).

Ultimately, study participants feel that urban sprawl must be contained because, among other reasons, it is expensive.

> *We have hundreds, thousands of acres, designated for urban development in Niagara: Niagara Falls, Thorold, Welland. You want to develop? You don't even have to get an amendment to the regional plan because it's already in the urban boundary. Do it there. Don't do it on the Escarpment (Study Participant #8).*

5.4.1.4 Incremental change

Since the Niagara Escarpment Plan has very firm boundaries, it is considered very successful in preventing urbanization. However, issues still occur within the Niagara Escarpment such as the process of "whittling away", meaning that little by little the urban boundary gets extended (through amendments) until one-day people realize that significant land has been converted. Incremental intrusion occurs, for example, where people gradually build into the natural area in the Niagara Escarpment Plan, hoping that no one will notice. This whittling away is also a problem at what may seem as small, unimportant scales, but the concern is that small amounts of something add up. People assume that they have the right to do whatever they want with their land, that the Constitution allows for it, but that is not the case (Study Participant #13). However, the majority of people who move to the Niagara Escarpment want to protect the land and respect the plan.

> *Massive sprawl, no .I mean, hard lines were drawn. But there will be little... you know, it wouldn't be harmful to allow expansion there...(Study Participant #17).*

> *In the urban area in St. Catharines, we had this application. The fellow had a development permit, he went ahead, but he over-built. He built beyond [where he was allowed], and he took out a narrow strip, just a small strip, of a natural feature he was supposed to leave alone. Well he put in a two-layer patio and took out the natural feature, and that was just wrong. And I was quite perturbed about that (Study Participant #11)*

A related issue is the applications to build or expand individual homes. These houses also contribute to greater traffic problems, leading to more roads being built through the escarpment. The decision about whether to build the road comes down to which do voters want more: a new highway or protection of the escarpment?

Urban edges are very important for containing growth. They must be very specific and inflexible until they are amended, and this requires a process. It was indicated that edges should never be flexible where they're adjacent to a unique resource, such as within the Niagara Escarpment or unique agricultural land that is highly favourable to farming (meaning they should not ever be considered for amendment) (Study Participant #15). Unfortunately it was pointed out that people do not perceive agriculture land as being valuable. Some people value land only for its urban or industrial economic worth, and this taints holistic goals of protection of valuable environmental systems so facilitating incremental change through urban bias. Also, farming, if identified as a

priority, must be supported and considered an important part of the planning process. Indeed, economic development in the rural areas, including farming, needs to be a priority among many fields of employment.

5.4.1.5 The site of the Protected Area

In the 2015 Niagara Escarpment Plan review, study participants expect to see developers lobbying for the Niagara Escarpment to be narrowed and environmental groups rallying for it to be widened. It was questioned during an interview how the two could join forces and cooperate as opposed to continuing the historical status quo fighting.

It was suggested during the interview process that some land within the Niagara Escarpment Planning area should be "protected" and most of it should be designated "natural".[62] Some also hope that the boundaries within the Niagara Escarpment Plan will be made clearer because, particularly in the transition zone, land use becomes "blurry". This area that was described as both blurry and a place of awkward transitions is in the rural-urban fringe area, which hosts multiple land uses. Most of those interviewed strongly viewed the transition area as unsuccessfully managed. They feel the decision-making process acts primarily to protect the natural and protection areas. What some perceive as sustainable land use, others perceive as detrimental. So, what unsuitable development in the transition area (or rural-urban fringe) is to one person, is perfectly adequate and in line with the overall objectives of the Niagara Escarpment Plan to another. Nevertheless, it is a complicated space because it does not benefit from urban economic development as much as other areas and it does not receive the support that strictly rural areas receive for agricultural endeavours.[63]

It was recommended in an interview that the boundaries should be drawn according to ecological systems, rather than politically or economically.

> *With the Escarpment, the boundaries were established to retain the natural. This rural [or transition zone] landscape [is] a little wishy-washy (Study Participant #6).*

> *You go further into Niagara region, that's when you start seeing the winery, the gin and the tender fruit industry and all that. This area is sort of that transition from urban to rural. It's a funny thing*

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[62]   There are attempts to balance protection of the escarpment natural area with opening it up more for public access.

[63]   Interestingly this is not the case for the Greenbelt because multiple programs are available for farmers and others in sustainable business.

because there's one winery in the lower Stony Creek area and it
doesn't get the same level of support and marketing that Niagara
region gets in supporting their agricultural and tender fruit industry.
It's a really awkward transition (Study Participant #12).

5.4.1.6 Monster Homes

Some characterize urban sprawl as including the abundance of "Monster Homes" built throughout the Niagara Escarpment. Even if they were not referred to as "sprawl" as such, everyone identified them as being a concern, as they contradict the environmental goals that are fundamental to Niagara Escarpment values. According to Ken Whitbread, Manager of the Niagara Escarpment Commission, there is no accepted definition for Monster Homes but they (the Niagara Escarpment Commission) assessed that "a Monster Home in the Niagara Escarpment Plan rural setting generally was 745 square meters (8000 sq. ft.), but the size of lot and site conditions could impact this. The Niagara Escarpment Commission never really endorsed the floor area calculation one way or another but choose to continue assessing new residential development on a case by case basis".

Critics of the homes are concerned with their effect on the environment, such as the perceived impact that they have on water supplies.[64] The perceived environmental impact extends to transportation problems to which that the owners contribute (including road construction and pollution), as they may have to drive to Toronto for work and each home has a minimum of two cars.

Neighbours get upset about the size of Monster Homes, the impact that they have on the local community, and blame them for interrupting the 'nature experience'. This is especially the case for those who live nearby in modest homes and those who have lived in the area for many years, perhaps generations.[65] The builders counter their opponents by proposing what they view as solutions to the objections. For instance, in response to complaints about the visual impact of their home, builders will plan for planting trees around it, claiming that it would then be hidden from public views.[66]

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[64]   For example, study participants who identified this as an issue do so in part because each home will use more water due to the size of its footprint and each will have a pool.

[65]   One study participant explained that there are prejudices against the people who build. Specifically, it was explained that someone who has "old money" views it as grotesque and labels the builder as "new money" to imply that they are flaunting their 'new' wealth and disrespect nature whereas people with "old money" are more discreet.

[66]   While visual impact assessments are a part of the approval process, factors such as height are determined from public access points. This means that a neighbour may find the structure visually intrusive but since it is fine from a public access point, it will be approved.

Nevertheless, there is concern that the environment is also permanently altered when development occurs (Study Participants # 5, 6, 12, 14, 15).

> *It's sort of an irreversible change once you put a million dollar home on a property, it will never revert to anything else (Study Participant #11).*

One study participant explained that Canadians like their space and if they have money, they are willing to spend it on space. It was also mentioned that although new immigrants may not enter Canada with the same perspective, it changes over time and eventually they end up also desiring the same. Planners, it was explained, simply do not have the power to change the magnitude of what people want and the result is those without the type of necessary wealth are priced out of the Niagara Escarpment market.

> *If you can afford the lot, the price gets bid up and if you can afford that much for the land, you'll build your dream house and the dream house gets bigger and bigger (Study Participant #14).*

The problem for Niagara Escarpment Commission planners is that they have no choice but to approve the building of Monster Homes if they adhere to the Niagara Escarpment Plan. Furthermore, there is no policy that restricts or controls home size.

> *Ancaster has some nice old country roads. There's areas in there where there are large lots, and the problem there is that people are wanting to put monster homes on them. The Escarpment Commission needs to get a policy on what's a monster home and what they want to do with them (Study Participant #16).*

5.4.2 Summary

As demonstrated through this analysis, the Niagara Escarpment is under a great deal of developmental pressure. Nevertheless, it seems the core mandate continues to be respected though it is clearly under pressure. How is this so? The governance and management literature argues that best practices emerge from a combination of three factors: transparency, accountability and participation. This chapter now turns to a discussion of these issues.

5.5 Transparency

A majority of stakeholders (Study Participants #8, 4, 17, 19, 20) indicate they are very satisfied that the Niagara Escarpment Planning process is transparent. All study participants felt that the planning

staff who work for the Niagara Escarpment Commission are highly ethical and committed to the Niagara Escarpment Planning Commission's mandate. The only criticism in this regard came from a few study participants who work for the municipalities as planners. They felt that the Niagara Escarpment Commission's guidelines for decision-making are sometimes not transparent. They felt that the criteria for decision-making about activities permitted in particular zones should be clearly laid out (it was suggested that they appear on the Niagara Escarpment Commission's website). Representatives from one of the municipalities that I interviewed said that the Province should offer municipalities more opportunities to comment on various issues, especially because they feel that the municipalities give the Province multiple opportunities to comment. Niagara Escarpment Commission planners were also criticized for not consulting with local municipalities before making decisions that will impact their plan. There is a perceived lack of cooperation and communication between the Niagara Escarpment Commission and municipalities on some planning matters. While municipal planners feel they are treated as "just another stakeholder", they feel that they should be involved in processes before the final decision is made because it would allow them to prepare accordingly, and brief politicians who represent the broader public. Although it may seem as if the Niagara Escarpment Commission planners are not respecting the municipalities, they are following the planning process as required by them. The law does not require (or preclude) pre-decision consultation with stakeholders. From the outside, however, this can appear as a bit of a "black box".

Also, the majority of study participants felt that party politics affects outcomes within the Niagara Escarpment area. Specifically, there is concern over who will be in political power when the plan is renewed in 2015 because a development-friendly government (stereotyped as the Provincial Progressive Conservative party) may decrease the strength of the Niagara Escarpment Plan. A study participant felt that politicians who favour development dispute science and mislead the public. One of the study participants from civil society said that provincial level planners might alter decisions based on who is in power, or whom they believe will get into political office if it is an election year. They will approve applications that may be contentious, without the Board seeing it. Although one study participant indicated that Commissioners themselves were intimidated by the opposition prior to the last election and were "siding with what the opposition would like [rather] than what the

Liberals [the current governing party] would like; in case they got in, they'd still have a job" (Study Participant #4).[67]

Despite mostly transparent formal processes, the majority of study participants felt that the most influential factors that impact outcomes within the Niagara Escarpment are money and politics.[68] What I mean by this is that big multinational aggregates companies have economic power and can lobby government to allow for mining activities. Typically the argument to the government that aggregate companies use is one of economic development, and that it is better for the environment to use locally sourced gravel for construction projects within the Southern Ontario region.

Essentially, it was felt that following a planning process does not guarantee that the outcome is fair or in line with overall environmental or planning goals.

> *The Province makes money on tonnage. The municipality makes money on tonnage. Both of them spend quite a bit of money on roads and other things. The real money is the fact that there is money to be made by the owners, so the owners hire lobby groups. The lobbyists get to say to the [decision-makers] that they will receive $5 million [in revenues] or something [for the aggregate] (Study Participant #6).[69]*

Lobbyists try to obtain support by presenting various economic incentives to decision makers: there will be jobs for local people, the municipality will receive tonnage payments, and municipal taxes will be lower because they need the aggregate for local building and would have to pay much more if it came from farther away. Many study participants (i) do not believe that the aggregate industry is honest; (ii) distrust high-level decision makers and politicians; and (iii) feel that the process runs improperly in that it favours developers (including aggregates mining companies)

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[67]   The Niagara Escarpment Commission examines each application on a case-by-case basis (for instance, they assess the height of buildings, environmental impact, etc.) to ensure that the entire environment (above and below the soil) and overall nature of the proposed development is deemed appropriate for the zone involved (Niagara Escarpment Commission, 2013a).

[68]   By this, I do not mean outright payments to a politician or government official personally that one pockets.

[69]   I do not believe that the interviewee meant that the decision-maker would personally receive $5 million. I believe that they meant that the municipality or province would receive that money.

because they are such an important part of the Ontario economy (Study Participants #3, 7, 11, 14, 8).[70]

A common perception amongst all study participants, especially the planners that I interviewed, is that hearing outcomes are determined by the ability of the witnesses and lawyers involved and those making the final decision. Furthermore, hearings involve a lengthy process (some are 8-13 months in duration, for instance). The hearings process uses many resources, such as planners, staff, experts, money. Ultimately, it takes time and money to participate in the hearing process for all involved. Study participants who represented the general public said that people have had to remortgage their homes to participate in hearings (typically members of the general public are involved with hearing processes because they wish to appeal a Niagara Escarpment Commission approval of an unwanted development, or they wish to appeal an amendment in the Niagara Escarpment Plan, or they may support the Niagara Escarpment Commission decision in the appeal process) when there should be the expectation that the taxpayer will be well represented by government officials and politicians.

> [The hearing process] takes a lot out of everyone to go through...it's
> never nice. It's always adversarial. You don't sit around the table
> and have a chat. That's not how it works. It's like going to court. It's
> nothing less (Study Participant #5).

Many people and groups are involved in development processes within the Niagara Escarpment Plan area, with many different opinions. Study Participants (#6, 8, 15) acknowledged that the number of people involved makes the process longer but all people must be allowed to participate. Study Participants (#1, 2, 3, 5, 11, 16) stated that since planning takes place in the public sphere, the more that planners (and others involved in the process) engage with the general public, and share the merits of planning, the better overall outcomes will result.

> We as municipal planners, we are there to protect the city and
> represent the public good. So we don't just look at within 150
> meters, but we need to look at the public good which can go beyond
> an isolated site (Study Participant #7).

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[70] From my perspective, the process runs according to law and the planners at the Niagara Escarpment Commission very diligently follow the planning process. I think that participants who are frustrated with the process feel that the economic strength of developers gives them an advantage throughout the process.

The general feeling is that communities and municipalities are now more aligned than ever to uphold the goals of the Niagara Escarpment Plan. Municipal and regional politics is also important in that the Niagara Escarpment Commission requires support from the municipalities and regions that co-exist within the Escarpment area. This cooperation must extend throughout the process to implementation.

5.6 Participation

Stakeholders felt that planning changes over time; therefore, planners should not be authoritarian, telling others what is best for them. The municipal planners interviewed say they prefer to work with the public as soon as possible in the process, understanding that the public begins processes with considerable distrust towards government officials. The solution to this issue of distrust is to be upfront with people and address concerns in the beginning of the process to develop trust and ultimately educate the public about the planning process.

Considerable financial resources are required in the appeal process since it takes time, skills, and expertise (through the hiring of lawyers, scientists, water science experts, etc.) to participate. Typically, wealthy individuals, companies, and groups can easily participate while others cannot engage as easily or effectively.

5.6.1 Participation from the bottom up

Ultimately, it was widely accepted that it is important to engage people early and be open and transparent throughout planning. According to municipal level planners, multiple stakeholder consultations are perceived as being more effective and enjoyable because communicating towards common goals gives everyone a feeling of a united vision.

> *Even if they don't like the fact that ultimately there's going to be a land use change, they don't take issue with the process. They may not like the outcome; but, they still feel like the process was fair (Stakeholder #5).*

While most study participants support bottom up planning approaches, some feel that sometimes a "sledgehammer approach is needed" (Study Participant #6). Essentially, if the decision is backed by firm science, then it is viewed that the top down approach is sometimes desirable.

But, ultimately, the interviews revealed a firmly held belief that powerful change requires a strong civil society. People can work together, to raise the required funds and appeal undesirable

applications. Public engagement extends beyond NIMBYism. Many people who live far away from the immediate impacts of particular developments worry about the broader and long-term consequences of developments, with water security acting as a sort of unifying issue.

> *If nobody cares about it, well, that's...it doesn't matter what the*
> *planner thinks about it particularly (Study Participant #8).*

5.6.2 Participation from the top down

At the same time, it must be appreciated that those from the public who are involved in planning processes may all have very different perspectives and objectives. It was mentioned, for instance, that there are people whose family has owned a farm for generations and object to government telling them how to manage it and what to do with it. Some people view planners as just "outsiders telling them what to do" and government enforcing environmental restrictions is simply getting in the way of economic development in rural areas (Study Participants #6, 4, 8). People with such perceptions do not support the Niagara Escarpment Commission and the role of government intervention. Other study participants feel that this is more reflective of earlier times in the Niagara Escarpment and has changed considerably, especially in the northern parts of the Escarpment, due to advertising and marketing that has increased tourism, and ultimately economic development throughout the Escarpment. I was told by those that I interviewed that overall people now primarily see more positive aspects of the Niagara Escarpment Plan than negative features.

5.6.2.1 The relevance of the Niagara Escarpment Commission

The future of the Niagara Escarpment Commission is a concern for many of the study participants for many reasons. First, it was mentioned by one of the Commissioners that Canadians increasingly view the government as being intrusive, and a restrictor of individual freedom as opposed to using collected tax money for the greater good. The Commissioner feels that these same Canadians who perceive government as being part of the problem as opposed to the solution, feel that the Niagara Escarpment Commission is simply wasteful government spending and should be terminated. Secondly, there is concern that politicians will decide that the Niagara Escarpment Commission should be managed like the Greenbelt is in the review that is coming up in 2015 (meaning the municipalities will decide on planning issues within the Escarpment but be expected to respect the

plan and associated requirements).[71] Participants feel that the Niagara Escarpment would become very disjointed because of the number of regions or municipalities that would be involved in decision-making. Since the Niagara Escarpment Commission is a government body, there are no guarantees that it will be there forever because plans get reviewed and can change. Essentially, they are only as secure as their last review results.

Others are more confident about the 2015 review process and feel that there may be additional areas that will be added to those protected. Many people talked about the "Mike Harris years" (Conservative Mike Harris was Ontario's 22nd premier from 1995 until 2002) during which critics that I interviewed contend that his cost saving measures (to streamline government spending and reverse the debt that was handed over from the previous government) occurred at the expense of social and environmental objectives and negatively impacted successful government programmes. Although the Provincial government cut numerous publically funded environmental and social programmes, the Niagara Escarpment Commission was spared. Numerous study participants relied on this as an indication (or a hope) that funding for the Niagara Escarpment Commission will not be cut in the future, and that it would remain in place for many years to come. Commissioners, planners who work for the Niagara Escarpment Commission and NGOs believe that they have considerable public support and threatening it in any way would be politically unwise. Yet some believe that the Niagara Escarpment Commission must continue to focus on the natural and protected areas within the plan because, in their view, it is not the responsibility of the Niagara Escarpment Commission to "preserve everything" (Niagara Escarpment Commissioner, 2011). To some observers, the Niagara Escarpment Commission seeks to extend its area of jurisdiction, acting as an environmental "policeman" for the entire region.

5.7 Accountability: Monitoring; Evaluation; Enforcement

Several interviewees asserted that some property owners in the Niagara Escarpment abuse and disobey the law, even if their actions have negative social and environmental consequences. For example, there are homeowners who will extend their property into areas (meaning they take over

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[71] The review process includes participation with municipalities and government ministries. An initial report is completed as a result of the collaboration of these actors. The report then goes to the Niagara Escarpment Commission Board of Directors for approval. Members of the public can give feedback on the report at that time. A Hearing Officer may end up making the final decision or ultimately, the Minister can decide what should be done with the Niagara Escarpment Commission.

public lands and/or engage in unpermitted activities on a portion of their own lands) that are zoned as "natural", even if their application to extend their property (to build a shed or extend a deck, for instance) was rejected. These are often the people who will continue to disobey and disregard the rules because they simply gamble that they will not get caught, and perhaps the fine is viewed as less than the advantages of going forward. They may get fined but consider the fine simply a part of the development process, or part of doing business, and factor in the fine with the costs of construction (Study Participants #1, 4, 7, 15).

> *We have maybe ten problem files that tend to be businesses in the rural area, transitioning from a small agricultural use or a small recreation use to something bigger and when we begin to see intensification in that boundary land, there's a problem (Respondent #6).*

An enforcement officer has been hired to police and fine unlawful citizens within the escarpment Plan area. Prior to the hiring of the enforcement officer, compliance was left to the Department of Natural Resources Officers and the concerns of the Niagara Escarpment Commission were not a priority for them. Even now there is only one enforcement officer who covers the entire Niagara Escarpment. Monitoring has been a problem throughout the Niagara Escarpment, yet consistent enforcement is believed by all study participants to be necessary for successful implementation of the Plan. Participants view this as being especially vital in the Escarpment natural areas. An example was given in which a farmer who is far away from the face of the escarpment may dig a pond without a development permit and the Niagara Escarpment Commission simply issued the permit afterwards with no negative consequences (Study Participant #5). If; however, the farmer had destroyed trees on the face of the Escarpment, then the study participants who shared this story felt that he should be fined.

5.8 Biosphere Reserve status: the value of "symbolic capital"

When asked about the significance of the UNESCO Biosphere Reserve status, all study participants agreed that it was valuable to have because it draws attention to the Niagara Escarpment region. It attracts tourists to the area and identifies the Niagara Escarpment Plan area as special and unique, largely because it is part of a global network that identifies areas within the world as such. NGOs and the general public emphasize Biosphere Reserve status during appeal processes as a reason to protect the area and oppose unwanted developments. It was explained to me that members from the public

often argue that an area should not be developed because it would counter the UNESCO Biosphere Reserve status, potentially causing the area to lose its status. Politicians are wary of this and, without knowing the intricacies of the UNESCO process (or knowing and still being threatened by the potential bad publicity of losing the Biosphere Reserve status), will sometimes oppose the proposed development. Overall it is unanimously felt that having the Biosphere Reserve status improves the image of the Niagara Escarpment.

With that said; however, the planners who work for the Niagara Escarpment Commission were quick to point out that the Biosphere Reserve status, while beneficial for marketability of the area and as carrying symbolic weight in environmental circles, is secondary to the authoritative power contained in the Niagara Escarpment Planning and Development Act and Niagara Escarpment Plan. The Niagara Escarpment Plan and Niagara Escarpment Planning and Development Act were both in existence before the area became a Biosphere Reserve and it was the fact that this legislation was in place that largely determined its successful attainment of the status. This is important to understand because the strength of the Biosphere Reserve actually exists because the area is legislated through the Act and Plan. The Niagara Escarpment Plan portrayed characteristics of the Biosphere Reserve's holistic planning approach, as it was first designed. It was for this reason that the area was nominated to become a Biosphere Reserve in the first place. Ken Whitbread, Manager of the Niagara Escarpment Commission, pointed out that other groups set in motion the process for the area to obtain the status, as opposed to the Niagara Escarpment Commission doing it on their own. Essentially others recognized the Niagara Escarpment Plan area because it already had the holistic approach to planning.

The Niagara Escarpment Planning and Development Act and Niagara Escarpment Plan draw worldwide attention to the area because the legislation serves as a model for other Biosphere Reserves. Ultimately having the status, while not directly impacting the need to protect because Biosphere Reserve designation does not have legislative or legal power, provides publicity, status and importance because it is significant beyond Southern Ontario. In other words, it carries symbolic capital – a sort of "environmental" or "sustainability" currency regarded as valuable on a global level.

An important point that emerged in the interviews is that Biosphere Reserves need money to be effective as it takes resources to market the area effectively and provide the programs that help attain the goals of the programme.

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With the exception of the Niagara Escarpment (which is funded through the Provincial Government via the Niagara Escarpment Commission), Canadian Biosphere Reserves do not receive funding from public sources. This means they rely on the commitment and innovative fundraising strategies of local volunteers. Without the commitment of these individuals, the Biosphere Reserves in Canada would not exist.

5.9 Conclusion

5.9.1 Perceptions of performance

In conclusion, the governance model in the Niagara Escarpment area initiated in the early 1970s is believed by interviewees to be critical to present day success (meaning protection of environmental systems). But it is also clear that established organizations take time to develop. This is an important point because it reminds us that organizations often do not rapidly become successful. It requires long processes and much dialogue to develop, and then afterward are constantly adapting to change over time. While not perfect, the governance arrangement of the Niagara Escarpment has allowed for the protection of the Niagara Escarpment.

Overall it is felt that the Niagara Escarpment Plan is well designed and has been successful, obtaining strength from the variety of land uses that it consists of. Planners who work for the Niagara Escarpment stated that the Niagara Escarpment Planning Development Act is probably the strongest piece of development control legislation in the province. It is viewed as essential to preserving rural land, especially because local planning primarily values urban development. Therefore, planning and a strong commitment by government have made a difference. Niagara Escarpment Plan planning involves looking at each application individually and assessing it. The Niagara Escarpment Commission decision-makers feel that overall they have done a good job of protecting the Niagara Escarpment, due in part to beginning with a uniform, consistent plan that isn't disjointed, and implementing it in a uniform and consistent way.

> *This is the good thing about the Commission – its consistency, and uniformity throughout the area (Study Participant#4).*
>
> *What can you do? You do your best. And if it continued like it was, then the Escarpment would just be houses, quarries, a lot more than it is today. It's not perfect, but it's a lot better than it would have been (Study Participant #10).*

5.9.2 Governance

5.9.2.1 Importance of legislation

The Niagara Escarpment case reveals that strong legislation is essential for achieving the goals of the plan; however, even when a plan has public support and a strong historical foundation, it is never completely secure. Plans get reviewed (for instance both people who want to ease restrictions and others who wish to strengthen restrictions are preparing for the 2015 review of the Niagara Escarpment Plan), developers attempt to amend the plan (and those opposing the application sometimes incur personal debt in doing so), and the political party in power at the time may sway the direction of decisions one way or the other (as noted above, some political parties are viewed as being more development friendly while others are more concerned with environmental protection). Developers (including the aggregates mining industry) lobby government officials and sell their projects as instrumental to the local and provincial economy, making political actors sensitive to the interests of the mining industry.

The challenge is to ensure that development is prevented from making its way into (or otherwise threatening to impair) natural areas. This case shows that robust legislation is essential for protecting such land from unwanted urbanization (via a strong and identifiable urban edge)[72] and other forms of development (for instance, ensuring that mining only occurs in appropriate areas). However, simply protecting an area from development by legislation does not mean that the area is fully secure.

The Niagara Escarpment case also demonstrates that in order for the goals of a Biosphere Reserve to be attained, all processes must be embedded in strong legislation (either in the beginning as was the case with the Niagara Escarpment Commission or after the area obtains its status). While the UNESCO Biosphere Reserve status receives great esteem, the Niagara Escarpment Plan was developed prior to obtaining the Biosphere Reserve status and is most significant in determining outcomes. Biosphere Reserve's bring attention to Southern Ontario, are used in marketing, and imply a legal significance that they don't, in fact, have. Regardless, it is perceived by the planners that Biosphere Reserves require an established organization for success and both time and money are essential to this.

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[72]   A strong urban edge is believed to be essential for preventing unwanted urban expansion, even though delineating it results in economic speculation (Study Participants #8, 9, 10).

5.9.2.2 Power and wealth

Land-use planning is open to review, appeal, revision, blurring, and amendment through the economic pressure of developers.

The goal of the Niagara Escarpment Plan is not to oppose all forms of development; however, it aims to ensure that specific types of land use occur in identified locations (including areas for urban development, mining, recreational activities, and relatively intact natural areas). Land that may be labeled as being of no use for development (or for other forms of human use such as areas for outdoor recreation) is, in fact, functional and valuable for humans because it provides essential biological functions such as natural water filtration systems, etc. The idea is not that all development is "bad" but rather development that pushes into natural areas –areas that are identified as being valuable in their own right – is damaging.

This research shows that the management arrangements are viewed as very successful and much more of the escarpment would be developed or mined without the Niagara Escarpment Commission.

5.9.2.3 Niagara Escarpment Commission

The Niagara Escarpment Commission receives applications for any form of development within the escarpment and they are reviewed according to the Niagara Escarpment Plan. Planners who work for the Niagara Escarpment Commission make decisions on the applications that are viewed as straight forward while the Commissioners (those who sit on the Board for the Niagara Escarpment Commission) make decisions on more complicated cases.

The Niagara Escarpment Commission Board of Directors is made up of many different people with varying ideologies. Those who I interviewed perceive this diversity of interests as protecting the various views of other people (who are not necessarily in the room during deliberations). For example, there are people who are stereotyped as more "mining friendly" while others are labeled more "green". I was told by many of the study participants that this results in a balance of perspectives when evaluating applications.[73]

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[73]   I did not evaluate the truth in whether or not Board Members with varying ideologies translate into conflict or a lack of conflict. However, I was told that having diverse perspectives on the board mean that there is greater balance throughout the decision-making process.

5.9.3 Management

5.9.3.1 Implementation: plethora of problems shows management is fine, but stressed

"Whittling away" also occurs when numerous applicants appeal for adjustments to the Niagara Escarpment Plan so that the planning requirements applying to small pieces of land can be changed. While some perceive this whittling away as "just a little bit, it's not a big deal", these small amendments can add up to a considerable amount of land that gets changed.

It is perceived by many that the protection of the environment in the Niagara Escarpment results in a spatial block between the wealthy and others.

Consequently, even though processes are followed, they do not result in socially equitable outcomes all of the time. The Niagara Escarpment legislation is primarily aimed at the environment and social issues are not a dominant feature in the Act or the Plan.

Study participants also felt that various factors geographically located outside of specific areas influence outcomes in that area. For example, even though there may not be urban development within the core area, highways, power lines and other infrastructure may go through the Escarpment natural and protection core areas to service the developed regions.

5.9.3.2 Stressed transparency system: system is "open" but has hidden elements

It is vital that processes are transparent and applied consistently since the diversity of stakeholders' ideologies results in decreased trust in the motives of others. For instance, the Ministry of Natural Resources is responsible for the Niagara Escarpment Commission and mining, which some stakeholders perceive as a conflict of interest. This perception is perpetuated by the view that those who hold economic and political power begin from an advantageous position. The process becomes more compromised during the appeal process since this is where resources (fiscal, human, technical, etc.) are essential for success. To counter this, stewardship-oriented civil society organizations have had to work together and pool their resources, especially throughout hearing processes.

5.9.3.3 Participation: civil society is important but fractious and the Niagara Escarpment is an important nodal point

Public ownership of plans is understood to be essential for implementation, longevity, and achieving the support of the electorate is essential to securing the Niagara Escarpment's continued operation.

The management arrangement for the Niagara Escarpment case adheres to that which is set out in the Niagara Escarpment Planning and Development Act.

Processes are conducted strictly according to the law. There are opportunities for individuals, NGOs, and various other groups to participate in planning processes. Furthermore, study participants strongly feel that legislation is critical for conservation. However, study participants also feel that simply being engaged in processes does not guarantee outcomes that are environmentally and socially desirable.

The Niagara Escarpment case shows that there is "strength in numbers", meaning the general public and organized groups have collective power when they join together to oppose or appeal unwanted developments – CONE is an excellent example of such an umbrella organization. Despite this, the Niagara Escarpment case shows that one can never be complacent when concerned with protection of the plan. A lack of resources leads to a diminished ability to monitor compliance with the plan and this results in some citizens disobeying the law.

5.9.3.4 Accountability: limited capacity for oversight

The Commission still has problems such as a lack of ability to monitor developments or planning outcomes because of a lack of resources (human and financial) within the Niagara Escarpment area. Monitoring is important because even with strong legislation, some individuals illegally develop in areas where they do not have rights. Enforcement of the Niagara Escarpment Plan is an identifiable problem, and the Niagara Escarpment Commission has recently hired an enforcement officer to deal with this.

5.9.4 Biosphere Reserve as symbolic

Study Participants agreed that the Biosphere Reserve status is valuable to the Niagara Escarpment Plan area. It is nice to be included in the Biosphere Reserve programme, but it does not add any legal backing to support land use outcomes in the area. It was described to me as a marketing tool, and for leverage when citizen groups try to oppose an unwanted development. The strength of the Niagara Escarpment Biosphere Reserve is actually in the Niagara Escarpment Planning and Development Act, and the Niagara Escarpment Plan, which were both in place before obtaining UNESCO Biosphere Reserve status.

5.9.5 Rural-urban fringe as particular point of tension

I was told by numerous study participants (#3, 4, 5, 13, 14) that the rural-urban fringe (one of the transition zones) in the Niagara Escarpment Plan area are perceived as problematic and do not receive the government assistance (capacity or economic) that the rural area or the urban area obtains. The array of land uses increases the complexity, and ultimately makes it challenging to assess applications consistently. It is perceived by civil society groups that this complexity causes the Niagara Escarpment Commission to apply the plan consistently only in the core and buffer area.

Next, in Chapter 6, I return to South Africa to apply the final two parts of the analytical framework, critical political economy and resilience. I conduct the same exercise for the Niagara Escarpment case in Chapter 7. Critical political economy and resilience make up the critical theory component of the framework. Critical political economy provides a critical view into power structures, how economics and political will are connected, and how historical events have and continue to impact present-day dynamics in the rural-urban fringe. The final step of the analytical framework (resilience) helps us understand tipping points and how the adaptive cycle can be used to understand changes in historic blocs, especially in light of surprise. Resilience is also very important for reminding us that all systems operate in cycles and there are tipping points where a system can be transformed. Knowing when to encourage a change in one system while systematically preventing change in another is an important contribution that the resilience literature provides.

Chapter 8 discusses the main findings and Chapter 9 concludes the thesis.

Chapter 6

Broadening the perspective: Cape Winelands Biosphere Reserve, with special attention to Stellenbosch Municipality and Jamestown.

6.1 Introduction

In the last two chapters I have looked at the land-use dynamics within the Niagara Escarpment and Cape Winelands Biosphere Reserves through the analytical lenses provided by the governance and management literatures (which both fall under the umbrella of problem-solving theories). We now have insight into how decisions get made, and some of the key issues these decisions raise. It has been shown in both cases that Biosphere Reserve designation is regarded, if regarded at all, as primarily an exercise in tourism planning. In this and the following chapter the perspective is widened beyond the problem-solving literatures through the lens of critical theory, specifically critical political economy[74] and resilience. In this way, the framework aims to answer the 'why' questions regarding decision-making, so possibly revealing strategies for moving toward more equitable, efficient and sustainable plans and practices.

6.2 Step 3: Critical political economy: historical context

The current planning context in South Africa reflects nearly two centuries of colonial and neo-colonial racism and exploitation combining state, commercial and white interests, as well as both the efforts of the post-Apartheid governments to promote more equitable (and, more broadly, sustainable) development and the broader global influence of neo-liberal ideas (Saul and Bond, 2014). Existing institutions and practices operate in this difficult context.

In South Africa, it has been twenty years since 'the negotiated revolution' (O'Meara, 1996; Marais, 2001), often referred to as a 'miracle' of compromise, marked the end of *de jure* (but not, in many ways, *de facto*) Apartheid. Subsequently, South Africa has given rise to majority rule (in particular a one-party dominant form of government at the national level through the African National

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[74]   While this thesis privileges the work of Robert Cox, he and others like him (see Cox, 1997), derive their theory of world order from the writings of Gramsci (1971). While citing Cox on occasion, O'Meara's (1996) history of the rise and fall of the Apartheid state illustrates very clearly the insights to be derived from critical theory. See, in particular, pp. 466-489, where he articulates his critical theoretical approach. See, also, Swatuk 1998 and 2010 and Leysens 2001, 2008 for Coxian critical political economy applications in relation to South Africa.

Congress (ANC), a world-renowned constitution, and significant pieces of progressive legislation (including black economic empowerment (BEE), land claims restitution, housing and services). In contrast to decades of (economic, cultural, sports) sanctions, the post-Apartheid era has witnessed the integration of a former pariah-state into the mainstream of global political and economic processes and institutions. It has also given people a great deal of hope, but led to persistent criticisms from both the conservative right and the progressive left about having not done well enough.[75] The appalling slaughter of 34 striking miners employed by Lonmin at Marikana in August 2012 harkened back to the dark days of Sharpeville and Soweto massacres under Apartheid, but also signaled to many the stark failure of the 'new South Africa' to transform beyond its historical role as a local site of globalized monopoly capital (Saul and Bond, 2014).

Because it was 'negotiated', the 'revolution' has left the bulk of economic power where it was prior to 1994: in the hands of a minority, white elite. Government policy has also made it possible for many of the political elite to join them.[76] Political power is primarily in the hands of the ruling ANC, a party that rules as part of a continuing 'tripartite alliance' with the South African Communist Party (SACP) and COSATU (the Congress of South African Trade Unions). Government policy has, for twenty years, tried to manoeuver around the difficult fact that white capital would not be the foundation upon which a 'new', more equitable, South Africa would be built. Major South African companies such as Anglo American and Old Mutual delisted from the Johannesburg Stock Exchange and relisted in London. De Beers also delisted to become a privately held company. Fearing the lack of indigenous capital to drive broad-based economic development, the ANC embarked upon GEAR – the Growth Employment and Redistribution program – in an effort to entice foreign investment.[77] Many on the political left regarded GEAR as a betrayal of the Reconstruction and Development Program (RDP) (Bond, 2006). Whatever its genesis, GEAR is representative of a

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[75]   For example, see the special issue of <u>Thesis Eleven</u>, April, 2013; No. 115(1) entitled 'Between Adolescence and Anger: the 'new' South Africa nears Twenty' co-edited by Peter Vale and Estelle Prinsloo.
[76]   For example, Cyril Ramaphosa currently serves as the Deputy President of the African National Congress. A former trade-union leader, Forbes magazine ranks him as the 27th richest African with a net-worth of USD 700 million (www.forbes.com). He is also a board member of Lonmin.
[77]   According to the highly regarded South African economist, Stephen Gelb, 'GEAR focused on attracting foreign capital to drive the development process, and in this respect reflected skepticism about the capacity of an untransformed (i.e. white) domestic bourgeoisie to *lead* a non-racial development process in South Africa.'

government that feels there to be no alternative to fundamental engagement with the forces of global capitalism.[78] Stephen Gelb (2006) feels the fear of white capital might have been misplaced:

> [I]t is hard to refute the argument that capitalism has in many respects successfully developed South Africa over the past 80 to 90 years and that the process has been led by the domestic bourgeoisie, in partnership with both the state and foreign capital. Through this period, capitalism – and the bourgeoisie – have on several occasions demonstrated their 'plasticity', their ability to adapt and reinvent themselves. BEE [Black Economic Empowerment] is yet another example of this quality.

What this short example illustrates is the serious contradictions at the heart of the 'negotiated revolution': a long-marginalized and oppressed citizenry keen on safety, security and economic well-being who look to the ANC government to deliver on these hopes; deeply entrenched white economic power (embedded in the South African economy through expensive fixed investments such as mining and commercial agriculture) keen to maintain its profitability while wary of government with 'nationalization' always on its populist agenda; a government in desperate need of the ways and means to create jobs and pay for the provision and extension of services but with little capital available other than that derived from its largely-white tax base; and emergent black middle- and upper-classes tied to a combination of state power (through policies such as broad-based black economic empowerment) and neoliberal economic policies and practice that has managed to create numerous economic opportunities for those with particular skills (in financial services, transportation, insurance, telecommunications, tourism, trade) but has otherwise led to massive job losses in 'inefficient' sectors.[79]

Numerous contradictions and tensions are at play across the South African political economic landscape: change and continuity at the national level, economic and political power making for strange bedfellows, all affected by a changed global context (that probably made the end of Apartheid possible). Such dramatic and often global-scale complexities underlie the realities of urban planning

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[78] According to Jakes Gerwel, '[T]here was no way that you could have achieved what we hoped to achieve without taking the Washington Consensus seriously. We simply had to stabilize the South African economy. We had inherited a virtually bankrupt country ... The world had changed in ways so that you couldn't go any other way' (in Higgins, 2013, p.19). Gerwel was the Director-General of the Office of the President of South Africa during Nelson Mandela's term in office (1994-99). In explaining the shift from RDP to GEAR, Thabo Mbeki stated, 'South Africa had no choice but to play by the rules of the globalized economy', (quoted in Davies, 2007).

[79] The unemployment rate in the Western Cape is estimated at 23% (Statistics SA, 2011 Census).

and practice in the study area. Trying to understand plan performance in the study area solely based on stated goals, enacted legislation, and governance and management frameworks, even in light of the 'need for change', therefore, misses a critical element: the complex, spatially and temporally affected, contemporary socio-politico-economic setting. To adequately lay this out is beyond the scope of this thesis. What this section intends to do is sketch out the ways in which a critical political economy analysis sheds light on current problems in the study area by addressing four main questions:[80]

- What is the historical context and how does the past shape the present?
- How is the local setting embedded within and impacted by other levels of socio-economic and socio-political activity (regional/national/global)?
- Who are the main actors and how are they arranged in the decision-making framework relative to each other? (the constellation of social forces)
- What are their ideological, material and institutional bases of power? (historical structures or potentials)

6.2.1 From Apartheid and the welfare state to post-Apartheid and neoliberalism

Table 6 summarizes the "spheres of activities" that shaped historical and continue to shape contemporary events in South Africa since 1945. It charts three time periods (1945-85, 1986-94, and 1994-present day) that roughly correspond to three crucial turning points in South African history. Drawing on Coxian theory, the table demonstrates some of the events that occurred during each time period that ultimately shaped historical structures. For example, South Africa in 1948 (when the National Party rose to power and began its 45 year experiment with Apartheid social engineering) was vastly different than South Africa in 1998 (when Thabo Mbeki was elected as the second president of a 'free' South Africa), and both are different to South Africa today. Hence Cox's use of the term 'state forms' rather than simply 'states'.

The table categorizes social forces, forms of state and world orders in order to provide a snapshot of the particular spheres of human activities that led to the rise (and demise) of a particular historic bloc at the level of world order and within particular state forms. "Each of the levels can be studied as a succession of dominant and emergent rival structures" (Cox, 1981, p 100). So, the three levels are interrelated, interacting and influencing each other.

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[80] These questions are derived from a Coxian/neo-Gramscian framework (see Chapter 2 above).

Comprehensive discussions of these dynamics are to be found in the studies cited in Table. Suffice to say here that a few key points will be made in reference to each of the three time periods. With regard to the 1945-85 period, the post-1945 global consensus among Western states around Keynesianism not only led to the rise of welfare states across the capitalist world, but justified the dominant role played by the state in South Africa in (i) privileging the rise of Afrikaner national capital; and (ii) rolling out 'grand Apartheid' (Davenport, 1981). As a founding member of the United Nations, a member of the Commonwealth, and a member of the North Atlantic Treaty Organization's 'southern cone' protection zone, South Africa's government was granted great latitude in terms of shaping its own state form: being anti-communist was enough to shift global attention from racist planning and practice (Shaw, 1983). At the same time, the Apartheid government's conflation of rising black discontent with 'communist destabilization' helped keep the enfranchised population in line irrespective of their own feelings regarding separate development.

Time Period	Social Forces	Forms of State	World Orders	Literature
1945-85	Expanded industrial base (import substitution); heavy dependence on mining and farming; rise of Afrikaner capital; unions; capital used to enact 'Grand Apartheid'; student rebellion; Emergence of 'black spots' in white cities	*Keynesian Welfare State*: used to develop Apartheid and privilege rise of Afrikaner capital relative to English capital; post-1971 global recession impacts 'rentier' state revenue and economy	• Keynesianism • Cold War = capitalism vs communism • South Africa regarded post-1960 as pariah state, but partner in anti-communism • Anti-Apartheid movement globally gains momentum after Sharpeville (1960)	• Carter (1982) • Davenport (1981) • O'Meara (1996) • Shaw (1983)
1986-94	• Global recession impacts economy • State of Emergency	• Shift from *Keynesian Welfare* to *Neoliberal* state form • National	• Neoliberalism • Thatcherism • Structural adjustment programs globally	• Davenport and Saunders (2000) • Marais (2001)

	• Rise of United Development Front; Union activism	Security Management System • PW Botha's 'Crossing the Rubicon' speech • National capitalist pressure to end Apartheid • Rise of FW de Klerk	(shock therapy in post-Soviet Union)	• O' Meara (1996)
1994-present	• Truth and Reconciliation • "Bringing back the state" • Rise of Black Economic Empowerment • Unions	• *Neoliberal* but high price of gold facilitates some aspects of welfare state form; post-Apartheid RDP but also GEAR	• Neoliberalism • Globalisation • War on Terror	• Davenport and Saunders (2000) • Marais (2001)

Table 6: Sphere of activities: 1945-present day in South Africa

However, South Africa increasingly came to be seen as either a pariah state (at worst) or a problematic but necessary Cold War ally (at best) beyond 1960. The 1976 Soweto massacre helped consolidate national and international opposition to Apartheid at the same time as global economic recession – where the high export prices of gold, uranium and other key minerals were offset by the high import prices of oil and industrial-inputs, not to mention sanctions – began to take the economic cost of Apartheid beyond sustainability (Shaw, 1983).

In terms of the 1986-94 time period, although South African President P.W. Botha told the world to 'do your worst' in his famous 'Crossing the Rubicon' speech, it was clear that change was inevitable (Davenport and Saunders, 2000). Globally, the consensus was that the welfare state was bankrupt and had to be replaced by the dynamism of the market. Led by political converts such as Margaret Thatcher, economists such as F.A. Hayek and 'the Chicago Boys', in particular Milton Friedman (Cox, 1987), rich and poor economies alike – to less and more degrees of variation – undertook painful structural adjustment programs. With the retooling of the World Bank and the International Monetary Fund as the world's 'financial policemen', there emerged the so-called

Washington Consensus (Callinicos, 2009). Once the Berlin Wall came down and the Soviet Union collapsed, the way was paved for the emergence of neoliberal globalization (Harvey, 2005). Cox (1987), Gill (1993), and Mittelman (1996), among others, describe the rise of a 'transnational managerial class' which became and remains the purveyors of neoliberal globalization. So pervasive is this ideology, it is said to constitute a hegemonic force in the search for world order values (Cox, 1987).[81]

The impact on South Africa of these twin pressures of the fall of communism and the rise of neoliberal globalization was dramatic: the end of Apartheid and the emergence of Nelson Mandela as the first president of a non-racial, democratic South Africa. As stated above, however, this socio-political change was accompanied not only by socio-economic continuity, but in some ways a reification of these relations through neoliberalism (Saul and Bond, 2014).

In terms of post-1994 to the present day period, what we have seen at the global level is a global historic bloc arrayed around neoliberal globalization as if it constituted 'the end of History' (Fukuyama, 1990). While the so-called Washington Consensus remains contested, and frayed around the edges, as social protests mount against 'the one percent' and rising economic inequalities, neoliberalism remains the dominant ideological position (as witnessed by the shock-therapy meted out to Greece and Spain most recently) (Klein, 2008). These contradictions are dramatically reproduced in post-Apartheid South Africa: consistent economic growth accompanied by dramatic job losses, high levels of unemployment and widening social unrest.

6.2.2 A brief history of race and space

Land-use practices in South Africa reflect the interests of dominant actors at a particular time in history, given what they believed at the time to be the 'correct way' of doing things. Inevitably, the actions of the current South African state form reflect the interests of the most powerful actors (Bond, 2005); however, the constellation of social forces has changed dramatically since 1994 (see below). Ultimately present-day planning decision-making reflects particular dynamics, including historical as well as more recent influences. As with much of the Global South, South Africa experienced a long history of struggle and turmoil due to the numerous invasions and subsequent colonial domination by, first, the Dutch and later, the English (Davenport, 1981). While the narrative above has focused on

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[81]   Stephen Gill (1992) describes the World Economic Forum and the Trilateral Commission as emblematic of the 'transnational managerial class'.

world order, social forces and state form dynamics since 1945, given the central place of race and space in South African history, and the way it functions as a complicating factor in urban planning today, a brief review of the history of colonialism is in order as it shaped many of the laws governing the country and, most obviously, spatial development.

South African common law continues to contain elements of both Roman Dutch law and English common law while their administrative law, which includes the planning system, is strongly British (Harrison et al. 2006). This allowed planners at the time to use the existing law to serve the overall objectives of Apartheid. For instance, the English common law linked water control and use rights to private property (Bate and Tren, 2002). When this was applied in South Africa via administrative law, it resulted in vast inequalities since more than 80% of land belonged to white farmers.

Maylam (1995) argues that there are three main periods into which segregationist planning and policy can be divided: pre-Apartheid segregation (pre-1948), Apartheid planning (1948), and grand Apartheid (1950-1985). The focus here is primarily on the grand Apartheid era; however, brief descriptions of each are provided to set the context and give the reader a better understanding of how current day practices are influenced by history.[82]

In 1834, the London Missionary Society (LMS) established a formal black settlement on the western edge of Port Elizabeth. Maylam (1995) has stated that this lays evidence that missionaries were the initiators of Apartheid. In the 1850s, one hundred years before the "Group Areas Act", the Port Elizabeth Municipality created the Native Stranger's Location. This is where black people had to live if they didn't own property or if they did not have employee housing. This is important for this thesis because missionaries initially formed Jamestown and other towns around Stellenbosch Municipality – specifically for Coloured settlement. By the last two decades of the 19th century, segregationist principles marked urban planning in South Africa with "locations", i.e. contained black settlements, emerging in urban areas across South Africa. During the first decade of the 20th Century, most municipalities had created legislation regarding these settlements (Davenport, 1981: 332-34; 339-41).

Some scholarly accounts claim that segregation grew out of industrialization and capitalist development during the mineral revolution with compounds and hostels housing mining workers in Kimberly (Maylam, 1995). This has been cited as the most important form of urban segregation. This

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[82]   For a more complete discussion of the various periods, see Maylam (1995).

is important because it shows how capitalist forms of production drove the segregation agenda, and how economic production shaped a policy characterized by acute division of land use on the basis of, first, race, and second, class.[83]

Yet although the mining industry was one of the first instigators of separatist spatial development, health was actually used as a reason why black people and white people "had" to live apart – segregation was advocated as a solution to the overcrowded and unsanitary living conditions of urban Africans. For instance, between 1901 and 1904 white people in South Africa believed that black people were carriers of the plague, thereby linking the fear of epidemics to urban removals. In 1901, inner-city locations were destroyed as a result of this and townships were created (Maylam, 1995). Policy to support these land use decisions was given effect in the 1919 Public Health Act, and in 1934 the Slums Act was established to implement residential segregation, again rationalized by health concerns. The overall aim was to remove black slum communities so that they could free up land for middle-class white housing and business development (Maylam, 1995).

The removal of black people from urban (white) communities and the establishment of townships was one of the first ways in which capitalist property development shaped planning policies. Maylam (1995) reports that the earliest segregationist measures applied to Indians in South Africa, officially rationalized as responses to sanitation and disease concerns, had more to do with white resentment of the Indians' commercial success. More recently, and even as the Apartheid edifice began to crumble, local councils used the 1987 Licensing Act to deny trading licences to Indians.[84]

Securing their property value and "return on investment" was another reason that white property owners gave for supporting segregation and since they represented an important voting population, they determined the shape of municipal councils and secured property values.[85] Residential segregation was also used in releasing land for industrial purposes (Maylam, 1995). When

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[83]   See Dubow (1989), Lipton (1985) and O'Meara (1996) for details.

[84]   Davenport's well-regarded history of South Africa (1981) shows quite clearly how racial segregation had its roots in resource capture and control basically from the day Jan van Riebeeck landed at the Cape in 1652.

[85]   Black people did not have voting rights in South Africa until 1951 when black people were allowed to vote on their self-governing "homelands" (which made them lose their South African citizenship). In 1983 Coloured and Indian people were granted the ability to vote and participate in the Tricameral Parliament. Non-whites have had voting rights at different times in the history of European settlement across what is present day South Africa. For example, in the early years of English settlement at the Cape, the franchise was awarded to any man in the Cape Colony for a fee of 50 pounds or evidence that he had property worth 25 pounds (Davenport, 1981).

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black settlement areas were wanted for white business development, black communities were forced to move thereby serving both racist and capitalist interests.

By the time the South African 'Apartheid city' was officially established by the Group Areas Act of 1950, urban structures and life were increasingly controlled by legislation segregating racial groups (Harrison et al., 2006). For example, the Transvaal Town Planning Ordinance (1931) required that municipalities have greater control over land use, building size and housing density. Racial zoning was a key component of this. The Housing Amendment Act (1943) allowed for racial restrictions in ownership and occupancy in public housing schemes. Essentially, urban segregation gained momentum during the first half of 20th century and kept it until the last years of United Party rule in the 1940s (Davenport, 1981). Local urban planners thus became key implementers of racial zoning, the demolition of uncontrolled settlement, and the formalisation of land use development on the basis of race.

After 1950, local authorities controlled technical processes and land use by strict regulations and restrictions. Municipal planning benefited privileged groups and areas while environmental sustainability and meaningful public participation were neglected.[86] Town planning was viewed as the primary tool for Apartheid planning with planning policies supporting the aims of racial segregation (Harrison et al. 2006). During this time only 13 per cent of the national land was allocated to African people, although they comprised over 70 per cent of the total population (Marais, 2001). The principal policy instrument at the time was the creation of quasi-independent "homelands", based on former tribal reserves (Browett, 1982). During the 1950s tens of millions of Africans living in South Africa were classified as not actually being South African nationals but belonging to one of ten 'ethnic homelands' several of which eventually became 'independent' states recognized only by each other and South Africa. Foreign aid – from South Africa – constituted the entirety of their budgets (O'Meara, 1996).

Maylam (1995, p. 35) clarified the rationale:

> *The ultimate objective of Apartheid was to achieve the unattainable*
> *– to maximize the exploitation of cheap black urban labour, while*
> *minimizing the presence of the labourers in white urban areas. But*
> *the exclusionary dimension of influx control tended to be self-*
> *defeating...and increasing 'surplus' of the urban population was sent*

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[86]   What is meant here is that blacks had no voice regarding whether and where to move; and township locations were sited with virtually no consideration for local resource endowments. To the contrary, townships lands were the least desirable lands possible (Cock and Koch, 1991).

> *to the reserves/Bantustans...[and] aggravated overcrowding and*
> *rural impoverishment in those areas.*

Cox (1987, p.1) states that "production creates the material basis for all forms of social existence, and the ways in which human efforts are combined in productive processes affect all other aspects of social life, including the polity". He goes on to explain that the "principal structures of production have been, if not actually created by the state, at least encouraged and sustained by the state" (Cox, 1987, p. 5). South Africa's structures of production, as well as its social relations, have been shaped by a history of extractive industries, commercial farms, import-substitution industrialization and service-oriented cities and towns (Bond, 2005). The long history of colonial, settler and imperial interest in the natural resources of South Africa (land, water, minerals), and their varied and comprehensive attempts to separate Africans from these resources, while often in competition with each other (most notoriously culminating in the Anglo-Boer War of 1899-1902, now officially called the South African War), laid the complicated groundwork for Apartheid spatial development. In particular, needing cheap labour (Colored, Black, Indian, Chinese) on the mines, farms and in the towns, but wanting to exclude non-whites from the built spaces of the cities and towns, whites were saying, in essence, work for me but do not live near me.[87]

Also, South African political leaders mimicked the western world by building modern cities to serve the needs of "modern" – i.e. white – South Africans. Modernist town planning principles that were being applied throughout the world in the 1940s, 1950s and 1960s were also employed in South Africa (Nicks, 2003). Yet in South Africa, these modernist planning practices and urban development strategies were geared at furthering Apartheid (Harrison et al, 2006).[88]

Beginning in the late 1970s, white urban areas increasingly demanded migrant black labour to assist with their mission of creating modern cities. It became impractical for blacks to travel every day from the homelands to the cities and back again. Squatter camps soon surfaced. Since black people were not allowed to live in white urban areas, informal settlements and official peri-urban townships emerged as a way of securing the (black) labour market to serve the white economy

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[87] That this spatial segregation still exists is most dramatically seen in the daily commutes from 'locations' such as Kayamandi to Stellenbosch or from Joza into Grahamstown (personal observation). The small scale of these towns and locations throw Apartheid planning into *bas relief.*

[88] International practices that South African planners implemented included the creation of growth poles and deconcentration points to create township areas, thereby justifying Apartheid (Harrison et al., 2006).

(O'Meara, 1996; Robinson, 2004). These areas were already located on undesirable land with limited resources.

To cope with the undeniable fact of black labour located on the periphery of white cities, urban planning encouraged the segregation of African people in formal, neatly laid out townships. Formalised townships promoted concepts of physical order, social stability and visibility (so facilitating policing) while being closely administered by a bureaucracy headed by white officials (Robinson, 1992). Initially, most of the population in these township areas did not receive services such as water, infrastructure, electricity and transportation. This is when, in the 1970s, a group of planners emerged who proposed that the South African government implement international strategies to combat poverty with an overall goal of creating spatially integrated cities that were accessible to all.[89]

When P.W. Botha, who was Minister of Defense for 12 years before becoming President of South Africa, took office in 1978, security concerns directed all governmental policies. Botha and the new Minister of Defense, General Magnus Malan, overhauled, consolidated, and streamlined much of the government, subordinating its other functions to their security concerns. In order to manage the heavy bureaucratic arrangements of doing this, they created the National Security Management System, which coordinated all structures within the public and private realms as security apparatuses. The most significant site of power within the National Security Management System was the State Security Council, which replaced parliament as the most influential decision-making body (Grundy, 1986). Parliament essentially became little more than a rubber stamp.

This is important when trying to understand the role of planning in South Africa because at the same time that planning models alternative to the Rational Comprehensive Model arose in the Western world[90], the National Security Management System arose in South Africa and this dictated

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[89]   In the mid 1970s the Urban Foundation was created by liberal South Africans whose main aim was not separate development but liberal capitalist development which meant in part making urban blacks beneficiaries of the system (Smit, 1992). Moreover, they also gained the freedom to move throughout the country and to settle wherever they wished, without fear of being asked for their "pass". Black and Coloured people were required to carry an identification pass with them at all times (when they were outside of their homelands) – without it they could have been arrested. Despite these advances, the black and coloured population had to wait until 1994 to receive full freedom to vote in the country's first democratically held election. In the early post-Apartheid years, there were massive influxes of people to the major cities. South African planners currently face profound challenges in rebuilding towards an equal society.

[90]   For instance, in 1965 Davidoff called for a move from land-based planning to social-economic planning to reflect a more general effort to shift the identity of the planner as the objective technocrat of the conservative 1950s to the engaged, social advocate of the 1960s.

all decision making processes. Any form of resistance to the National Security Management System (whether it was performed by a white, coloured, or a black person) was regarded as a breach of security.

Throughout the 1980s, then, as the rest of the planning world moved towards more participatory planning models, South African decision-makers practiced what might be considered a hyper-rational comprehensive model style of planning tightly focused on serving a set of objectives centered on white advantage and security. Such an approach further entrenched the race-space character that plagues South Africa today.

6.2.3 The local embedded in the regional/national/global

The Western Cape is embedded in these historical and contemporary processes in very particular ways. Unlike the rest of the country, the province is dominated by Coloured people, who constitute slightly more than half of the current population of 6 million (Statistics SA, 2011). As with the rest of the country, there is a population boom within the province, having increased in numbers from 4 million in 1996 (Statistics SA, 2011). Forty-nine percent of all coloured citizens in South Africa live in the Western Cape. In the study area, of Greater Stellenbosch Municipality's population of 155,700, approximately 81,000 are coloured. As described in Chapter 4, as a result of the history of settlement in South Africa, the coloured population, which results from miscegenation, has held very different rights – voting, land holding – from Black Africans throughout the colonial/imperial/republican periods. Moreover, they share the Afrikaans language with the Afrikaners, and are sometimes today being referred to as 'brown Afrikaners' (Davies, 2007).

In the Western Cape, Coloured people have benefited economically from industrialization and 'Bantu education' policy (Bellville being the home of light industry for Cape Town, and the University of Western Cape) and have long worked as farm labour or owned their own small plots of land throughout the region. In the post-Apartheid era many have taken advantage of government Black Economic Empowerment programs to find places at the region's leading universities (especially Stellenbosch where the language of instruction is Afrikaans) and in employment across a range of existing and new businesses. Thus, shared language and to some degree culture (particularly on the rural lands) have created very strange bedfellows in the post-Apartheid setting.

At the same time, while the Western Cape counts 85,000 farm households, this constitutes only 5% of the province's population; 95% reside in the cities and towns of the province (Statistics

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SA, 2011). The Western Cape is also home to the second largest in-migration of people, with 304,000 new residents over the 1996 census of which 114,000 are 'non-South Africans' (Gauteng Province leads with more than 1 million documented migrants, of which almost half are non-citizens) (Statistics SA, 2011). The Western Cape is attractive for several reasons: the perception of a stable and growing economy (it accounts for approximately 14% of South Africa's GDP and has shown a 4.1% real growth rate between 2001-11); opportunities for farm employment and 'emerging farmer' development (Western Cape accounted for 22.6% of all South African agriculture/fisheries/forestry in 2011); and the global attraction of Cape Town as a tourism destination (Statistics SA, 2011). In addition, the Western Cape leads in most categories of service delivery (despite numerous on-going issues with water, housing and sanitation particularly among the shack dwellers who reside on the margins of already under-serviced townships such as Khayelitsha).

With the end of Apartheid, South Africa was 'open to the world'. World Tourism Organisation data shows that there were 4.64 million international tourist arrivals during the first half of 2013 (admittedly, the bulk of this is for short-term trips from residents of South Africa's immediate neighbors: Botswana, Lesotho, Mozambique and Zimbabwe). This is almost 10% increase in annual growth over the last four years. Many visitors to the Cape are also in the market for property. A favorable exchange rate has led many foreigners to purchase holiday homes and buy-to-let properties. In addition, 'riding on the back of an empowered middle class, annual house price increases peaked in October 2004 with a remarkable 35.7% year-on-year growth (32.5% in real terms)' (Global Property Guide, 2013). Property demand is higher in the Western Cape than in the rest of South Africa, and whereas the highest priced properties are along the Atlantic Seaboard, City Bowl, Constantiaberg and Hout Bay areas, this interest is driving property development throughout the greater Cape Town area – including Stellenbosch Municipality. Taken together, these facts of language, ethnicity, and particular rights regimes and benefits combine to create a particular set of expectations on the part of the coloured majority in the Western Cape. This is especially so, but made difficult for those with less education (as with the original inhabitants of Jamestown, Pniel, Kylemore), in light of the influx of outsiders to the region (many being Xhosa speakers from the Eastern Cape; but also foreigners who visit or settle in the area), and the land-use and property dynamics this has set in train.

6.3 The configuration of social forces: toward a new "historic bloc"?

In 1977 it was the demands of white business, capitalist development and pressure from the international community that eventually led to the collapse of Apartheid in South Africa. Swatuk (2010, p. 523) explains that the "historic bloc dissolved due to a combination of domestic and world order pressures which, together, initiated changes in the configuration of social forces within the state" (see also O'Meara, 1996, pp. 396-418 for details).

A historic bloc up until 1994 existed that allowed a centralized government to control land use planning. Land-use planning tools were used to further the goals of Apartheid by creating a divided society determined by race. As shown in Figure 20 and Figure 21, the spatial pattern that emerged reflects a support system for dominant economic activities throughout time: for example, townships outside the urban edge, divided by industry, agriculture or greenspace, existed to support white-owned farms or other businesses. Indeed, the black or coloured inhabited spaces were built as a consequence of racism and an economics of white-owned development, in an overall perverse, discriminatory system.

Figure 20: Regional spatial settlement patterns, Western Cape
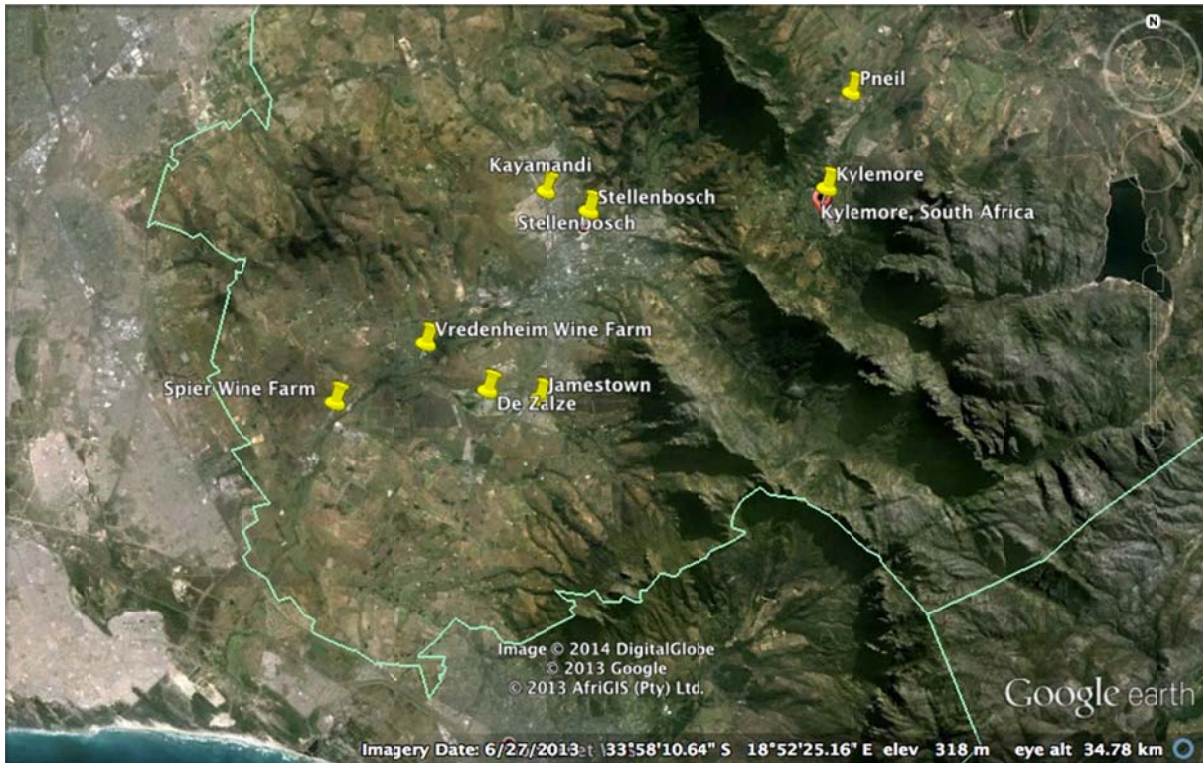
Figure 21: Stellenbosch Municipality and surrounding settlements

South Africa has been in a period of transition since the country's first democratically held election in 1994. Essentially, this transition began with a complete overhaul of governmental systems, structures, and bodies but still struggles with the historical legacies and spatial realities of the previous ideas, institutions, practices and effects, including those that affect land use and land use decision-making. One of the most interesting points regarding planning is the way new planning boundaries have been configured to *include* formerly deliberately *excluded* settlements, so Kayamandi, Jamestown, Pniel and so on are now part of Greater Stellenbosch Municipality. Table 7 represents the configuration of social forces that existed in South Africa prior to 1994. Recall from Chapter 2 that these forces have an influence on the shape of the forms of state, social forces, and world orders (illustrated in Table 6: Sphere of activities: 1945-present day in South Africa). The relationship and inter-relationships between all forces is dynamic, and ultimately shapes the power structure of the social forces, forms of state, and world orders illustrated in Table 6.

Actor	Material Capabilities	Ideas	Institutions
State	Sovereign Authority, e.g. taxation, revenue generation, monopoly of force	Security: *swart gevaar*; *red peril* State of Emergency Economic Growth	Government (laws, courts, executive) Police and Military, Bureau of State Security, information and telecoms, Universities, Broederbond
Private Sector	Capital	Economic Growth	Business; Chambers of Commerce; Irrigation Boards; Broederbond; Churches
Black/Coloured	Activism through music, blockades, strike action (disruptive power)	Morality Equality	Activism networks and organizations; Churches; Universities; Own governmental system (Bantu "Nations", representation of Coloured population in government)
White/Rate Payers/ 'citizens'	Voting	Divided around the dominant ideas above	Universities; Business; Government; Civil society organizations

Table 7: Pre-1994 Constellation of Social Forces

Among other things, Table 7 shows that the state's material capabilities were realized through sovereign authority (e.g., its ability to tax and spend, generate revenue, to create and uphold laws). The ideas that shaped the Apartheid state at the time involved a desire for a controlled, secure state, and the method of achieving this, it was believed, was to create racial segregation. Separate development was buttressed by narrative of anti-communism, since government told White South Africans that they were really fighting against black people (the so-called 'black peril' or *swart gevaar*) because black people (and whoever their white sympathizers were) were communists (the red peril).[91] The institutional power used to support these ideas revolved around formal organizations

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[91]   I have spoken with many white men who had to serve time in the army as young men, during Apartheid. They told me that they were told that black people were indeed communists and that is why white people had to fight them.

such as government departments and universities but also less formal 'secret societies' such as the *Broederbond*.[92] While the private sector was less united than portrayed in the table, they were as a whole held together and allied to the state by this combination of 'state of emergency' social ordering, the link to the state in ensuring access to markets (through sanctions busting with Israel and the United States for example) and the promotion of Afrikaner capital, and through the *Broederbond*– an organization that transcended state, civil society and private sector organizations through personal ties. Thus, this historic bloc managed to hold together despite increasing international and national challenges through the deployment of different actors' material capabilities (e.g. nationwide work stoppages; international sanctions).

Figure 22 positions the main actors who were involved in decision-making in the Western Cape during Apartheid. Given Apartheid planning, it is interesting to note that the constellation of social forces, in particular its material and institutional dimensions, mirrors the spatial arrangement of forces with government, the private sector, and white rate-payers clustered around the central business district (CBD), and black and coloured people occupying the margins, in townships and homelands (see Figure 20 and Figure 21). The only deviation from this was the white owned farms (where black people also lived, albeit in poor conditions in a sort of feudal arrangement) but where the towns served as nodal points for white farmers to congregate, especially around shared activities such as attending markets, church, childrens' school and sports events.[93] As demonstrated in Figure 20, the spatial layout remains relatively the same today. However, as noted earlier, Jamestown is now home to some middle class white people.

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[92]   In English, 'Afrikaner Brotherhood': A secret society, sometimes compared to the Freemasons. According to Encyclopaedia Brittanica, 'The organisation was established in 1918 for the purpose of counteracting the humiliating defeat of the Afrikaners by the British in the South African War (1899-1902). A 1964 government commission observed that the Broederbond was an organization "in which Afrikaners could find each other in the midst of great confusion and disunity and be able to work together for the survival of the Afrikaner people in South Africa and the promotion of its interests".'

[93]   It is interesting to note that one key informant mentioned to me the importance of rugby to white commercial farmers. In addition to being members of an Irrigation Board (since disbanded *de jure* post-1994, but *de facto* still in operation), many would drive or fly their small 2 or 4 seater planes to rugby fields for weekend games, so reinforcing the cultural elements of Afrikaner white power in the agricultural sector.
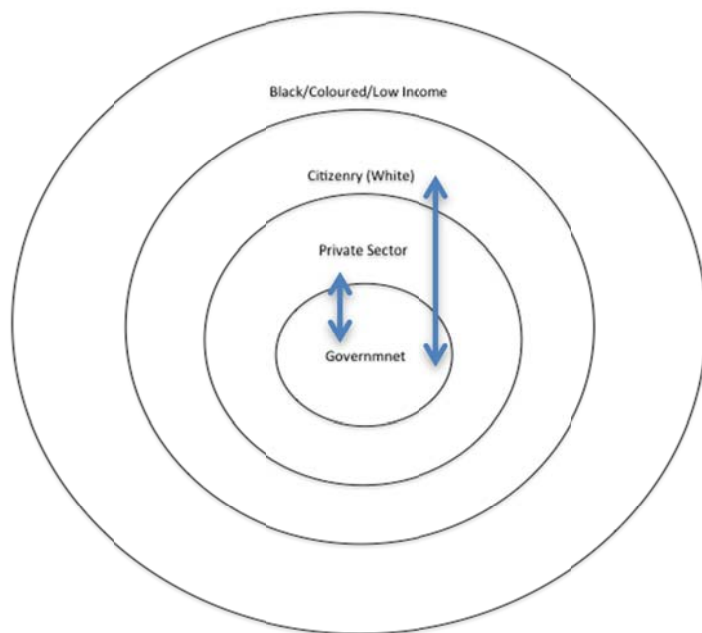
Figure 22: Constellation of social forces: pre-1994

As seen in Figure 23, in present day South Africa there has been a significant shift in the constellation of social forces. At the national level, the ANC continues to occupy the centre of power, although its relative acceptance of neoliberal macro-economic policies and its promotion of South Africa's open and ready participation in globalization has limited its capacity to determine the course and pace of development, in particular the type of societal transformation so hoped for by the non-white majority that continues to elect them into power (Saul and Bond, 2014).

In the Western Cape, the electoral process has revealed some fundamental differences with the rest of the country. In particular, the ANC continues to fair poorly. It may be remembered that in the first non-racial election of 1994, the Western Cape returned the National Party (NP) to power. In the last provincial election, all provinces elected an ANC majority, except in the Western Cape where the Democratic Alliance (DA) gained 51% of the vote (Kersting, 2009). In the last three municipal elections the City of Cape Town has returned the Democratic Alliance (DA) to power.[94] In

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[94]   The National Party has since disappeared from the political landscape. Rebranding itself as the New National Party in the new millennium, national support (as measured through party identification) fell from 15% (mostly confined to the Western Cape) to 3% between 2000-2006 (Habib and Naidu, 2006).

Stellenbosch Municipality, the DA has dominated with the elected Executive Mayor coming from that party in all but one instance: the 2006 election which returned a plurality of seats to the ANC; this has since been reversed, and the DA has an absolute majority in both Stellenbosch and Cape Town.[95]

According to Mattes, Giliomee and James (1996), the NP was regarded as the party of the 'unemployed and underemployed' in the Western Cape. Mattes (1995) showed that more than 60% of coloured people earned less than R1599/month and it was these people who returned the NP to power. According to Mattes (1995, p. 89), coloured people's perceived 'material vulnerability in the post-Apartheid era' derived from (i) ANC affirmative action policies which were likely to privilege black South Africans over others in the job market; and (ii) fear of Mandela and the ANC in general as 'terrorists' and 'communists'.[96] This was 'compounded by the effects of neoliberal macroeconomic policy' (Mattes, 1995, p. 89). "The National Party was the favored party of voters who worried about change' (Eldridge and Seekings, 1996, p. 536).

These electoral results offer some insight into the constellation of social forces as they exist at the local/regional level and how they differ from the national level. Table 8 below offers a crude rendering of this constellation. Unlike the pre-1994 constellation, the post-1994 constellation seems to show a fairly strong alliance between coloured 'citizens' (now free to vote, hold property and so on), the state (through the DA in power), and private capital (through increasing employment via BEE legislation for example). As suggested above, the shared language of Afrikaans, and mutual suspicion of the ANC (though somewhat dissipated today) offers a bridge across racial divides, at least where educated and employed actors are concerned.[97]

With regard to the Cape Winelands Biosphere Reserve area in general, the private sector holds material capability in the form of economic power (commercial agriculture, services, job opportunities through seasonal and temporary work in construction and fruit harvesting) and ideas are

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[95]   Of the 22 Wards in the greater Stellenbosch Municipality, 17 returned a DA candidate. The 5 other Wards that elected ANC candidates all come from the townships near Stellenbosch (4 elected out of 4 ridings) and Franschoek (1 elected out of 1 riding). See Electoral Institute of South Africa (EISA), Election Update 2006, SA, no. 3, 4 April, and the Greater Stellenbosch Municipality website (Stellenbosch Municipality, 2014b).

[96]   According to Eldridge and Seekings (1996, p. 535), 42% of voters in the Western Cape said FW de Klerk would make the best president.

[97]   The ANC has worked hard to make inroads into the Western Cape, recruiting from COSATU membership (where many COSATU members are colored and living and working in Bellville and surrounding suburbs and towns) (Eldridge and Seekings, 1996). In Pniel and Kylemore, ANC candidates for Municipal Council were elected in 2006, for example. But they have since lost these positions (see Cash, 2010).

built on notions of economic profitability.[98] At the same time, ideas are also closely shaped by the requirements set out in the plans and policies that government puts in place. So, if the Integrated Development Plan for Stellenbosch Municipality lists providing housing for the poor as a key goal, then the private sector will adopt this idea and incorporate strategies to help achieve that goal into their plan. There will also be, for instance, ideas based on environmental protection (their interpretation of it). The institutions that the private sector uses to achieve these ideas are of course their businesses, but chambers of commerce provide important sites where private capital, the state and civil society groups can meet and share ideas.

Government, as final arbiter in all decisions, retains the centre of power, but neoliberal ideology has raised the power of some elements of the private sector to be a main driver of decision-making. An important example here is the rise of Afrikaner capital on the Johannesburg Stock Exchange (JSE). Davies (2007) shows that the percentage of Afrikaner controlled capital on the JSE has increased from 1% in 1959 to 25% in 1991 to 28% in 2002. Afrikaner businesses span the entire range of industry in South Africa, but with two main stems: financial and related services (e.g. insurance, transportation) and (in the Western Cape) commercial agriculture. Each of these sectors of business has done exceedingly well through South Africa's neoliberal macroeconomic framework, GEAR. Afrikaner-owned businesses are allied through the *Afrikaans Handelsinstituut*, basically a national chamber of commerce for Afrikaners (Davies, 2007). The AHI has local chapters in most municipalities (see www.ahisites.co.za for details). The Executive Mayor of the Stellenbosch Municipality, Conrad Sidego, is a former CEO of Media 24, a corporate member of the AHI. Mr. Sidego is also a trustee of the AHI. While the principal planning firm in the study area, Dennis Moss Partnership (DMP), does not appear to be a member of the AHI, DMP's CEO is Gys de Klerk, formerly chief urban planner at the Municipality of Stellenbosch. This suggests a rather tight connection between the state and private sector both at the local/regional level and the national level. As Davies (2007) suggests, particular elements of the Afrikaner 'community' have fared exceedingly well in the post-1994 era. And as Gelb suggests, capital in the past has shown great 'plasticity' in accommodating itself to state interests.

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[98] At the same time, many of the companies active in the study area are keen to demonstrate their commitment to social transformation (most have their BBBEE 'scorecards' available for scrutiny on their websites), and to 'triple E' bottom lines: economic profitability, environmental sustainability and social equity. (See, for example, www.spier.co.za and www.rhodesfoodgroup.com).

Actor	Material Capabilities	Ideas	Institutions
State	Sovereign Authority, e.g. taxation, revenue generation, monopoly of force	'Simunye': we are one Social justice: equality Jobs for all	Government (laws, courts, executive) Police and Military, Marketing/soft power, Universities
Private Sector	Capital	Economic Growth	Business; Chambers of Commerce; Water User Associations; *Afrikaner Handelsinstituut*; Churches
Coloured Rate Payers 'citizens'	Voting; Disruptive power	Morality Equality	Activism networks and organizations; Social movements; Churches; Universities
Black 'citizens' Rate Payers	Voting; Disruptive power	Morality Equality	Activism networks and organizations; Social movements; Churches; Universities
White/Rate Payers/ 'citizens'	Voting	Divided around the dominant ideas above	Universities; Business; Government; Civil society organizations

Table 8: Post-1994 Constellation of Social Forces

The wealthy white, black and coloured population, as controllers of both government and the private sector are positioned closely to the centre of power. Their material capabilities include money, voting, and decision-making power. Ideas likely vary (economic development would certainly be included for the most part, but other ideas may include everything from equality to 'higher fences'). Institutions where their power is exerted is through government, business, and universities.

The poor black and coloured communities hold material capabilities in the form of newly acquired voting rights, the ability to strike, and engage in social protest (such as blockades in the townships and vandalism on city streets).[99] The sheer extent of their voting power (due to population

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[99] During much of 2013, marginalized groups, in particular shack dwellers, vandalized crossing lights at major intersections in Bellville in protest against poor service delivery (personal observation). Khayelitsha

size) links them to the centre of power through the government (because political leaders want their votes to get elected). Their ideas are built on desires for economic development and equality. The poor citizenry implements these goals through networks, civil associations and, where employed, unions, for example.

Once again, the spatial layout of the Cape Winelands mirrors these power dynamics with each group living in proximity to one another (see Figure 24). However, many of the white-owned farms – particularly established and newly initiated 'boutique wineries' – include or have been subdivided into gated communities where (primarily white)[100] wealthy people live.

The result in Jamestown and the wider Cape Winelands Biosphere Reserve is a continuation of the spatial patterns that existed during Apartheid with urban type development housing (mostly) white wealthy people behind gates, with a black or coloured labour force living in the existing township or in informal settlements on the edges.

Some view the fact that middle-income white people have moved into the community of Jamestown as a step towards an integrated society. However, the coloured people that I spoke with indicated that this has only created problems within Jamestown because property prices have escalated and there are cultural differences within the community that result in division and animosity. Essentially we now see an economic or class type of division.

Clearly, there is a split and some tension across the Western Cape where the minority black population supports the ANC, but most of the rest of the voting population do not. This is why, for example, in Table 8 above, I have split the black and colored populations from each other in the post-1994 era. While the majority of each group remains physically on the margins of power, it appears that coloured communities, with different histories of rights and responsibilities as compared to blacks, especially in the Western Cape, perceive the possibility of getting what they want through a combination of language and cultural similarity (so providing new opportunities through education for example), and citizen rights (of protest, of voting) and government responsibilities (of creating

township has also seen a rolling series of protests regarding sanitation upgrading, dubbed by the media 'toilet wars' (see Glynnis Underhill, 'ANCYL presses Shiceka over Makhaza toilets', Mail and Guardian, 10 June 2010; also Glynnis Underhill, 'Cape Town protestors: it's not about politics but delivery', Mail and Guardian, 30 October 2013). For a more general discussion regarding social movements in the Western Cape, see Tapscott, 2010, and Nleya et al, 2011.

[100] I cannot say for sure whether black or coloured people live in the gated communities such as DeZalze. When asked, people will automatically state that only white wealthy people live in these areas but I have not done research into finding out the exact demographics.

opportunities as expressed in government policy and through the Constitution) in alliance with developers (who promise all sorts of things while responding to vibrant market demand).

This is not to say that black communities do not perceive their opportunities in the same way; however, given the spatial facts of Apartheid, there is very little opportunity for these groups to interact: Kyamandi is physically distant from Jamestown, for example (see Figure 21). In the study area, this critical political economy analysis sheds light on both the expectations and frustrations of Jamestown residents, who see themselves physically located in newly important land, having Constitutionally-embedded rights, hearing government promises regarding jobs and land, but being still on the margins of power despite a shared language and shared belief in the DA as the proper ruling party. It also sheds light on the tight alliance between the state and the private sector, through formal and informal channels. Of course, this is a simplistic overview because there are multiple levels and scales of power within each group and a smorgasbord of power dynamics that operate within and across each circle (see Figure 23 and Figure 24). But it serves to illustrate the important insights derived from a critical political economy analysis.
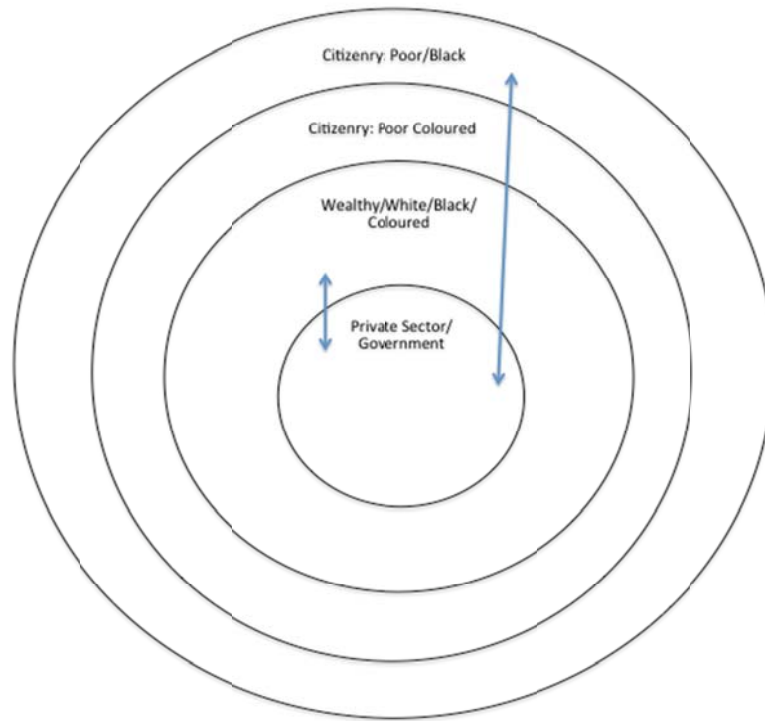
Figure 23: Present day centre of power
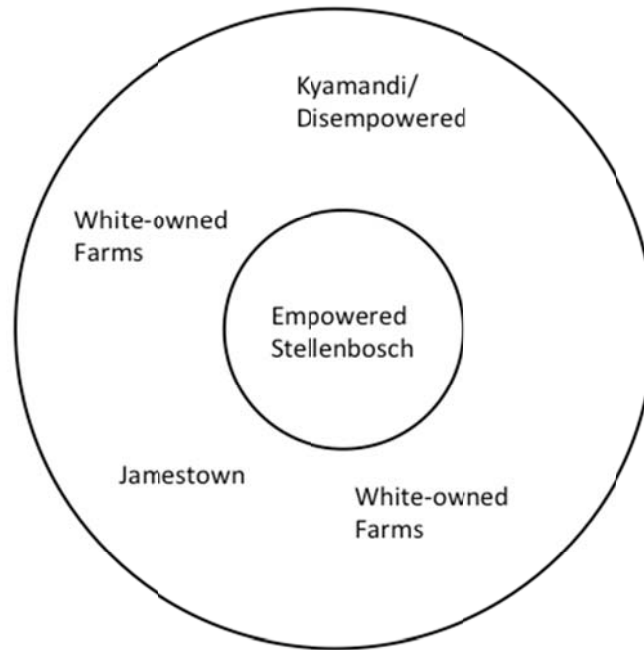
Figure 24: Pre-1994 (and current) spatial layout of Stellenbosch Municipality

6.4 Step 4: Resilience

As mentioned, conducting a resilience analysis is an important component of the analytical framework as doing so broadens the understanding of how multiple forces interact to result in a particular outcome. As apparent from the critical political economy assessment, social-ecological systems encompass multiple layers and systems that all interact and impact one another. The combination – or smorgasbord – of multiple systems interact in various and often unpredictable ways. For simplicity, I focus on one single aspect of it in this section, and never intend for the reader to interpret that the system is immune from other systems – across time and space. As pointed out in Chapter 2, one would thoroughly answer questions such as: How is the particular system embedded in other systems and how do they affect one another?; What systems seem resilient and why?; Can any tipping points be determined?; In the given situation, where in the adaptive cycle is the system?; and What information is lacking?.

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6.4.1 Interaction of multiple systems

Table 9 charts some of the environmental problems that exist in the Western Cape, environmental and social drivers (drivers cause or perpetuate the environmental factors), and sources that give further insight into the particular environmental factor and social or economic driver. The study area of the Cape Winelands Biosphere Reserve, and specifically the Jamestown case represents an example of all factors on the chart. It is important to realize that this list is no way exhaustive of all of the factors or the social, economic, or political drivers that contribute to the environmental problems (and vice versa). Furthermore, in true complex systems fashion, it is important to realize that the environmental factors impact one another and are influenced by the other. For example, air pollution contributes to climate change (see Thambiran and Diab, 2011) and waste management contributes to air pollution, which ultimately contributes to climate change. This is not a straightforward, linear list of factors that have no bearing on other factors. Furthermore, a consequence of one environmental factor may further impact or create a new social problem. That said, the goal of this section is to provide an example of a component of a resilience assessment so that one can appreciate the benefits of incorporating resilience thinking into an analytical framework for understanding decision-making at the rural-urban fringe.

Environmental Issue	Social/Economic Driver (Examples)	Sources
Air pollution and air quality	Automobile emissions Industry Wood and coal burning Inadequate housing Low-density sprawl Population increases Transportation infrastructure Waste management	Provincial Government of Western Cape (2005) Winkler (2005) Bailie et al. (1999) Moody (2012) Brent et al. (2012) Sinclair et al. (2012) Travener-Smith (2012) Donaldson and Morkel (2012) Nicks (2012) Thambiran and Diab (2011)
Land degradation	Inadequate housing Low-density sprawl Lack of access to land Automobile emissions Population increases Transportation infrastructure	Provincial Government of Western Cape (2005) Neely (2010) Butchart et al. (2010) Moseley and McCusker (2008)

	Waste management Lack of sustainable energy options	Ernstson et al. (2010) Moody (2012) Sebitosi (2012) Brent et al. (2012) Sinclair et al. (2012) Travener-Smith (2012) Donaldson and Morkel (2012) Nicks (2012)
Biodiversity loss	Urban expansion Industry Automobile emissions Population increases Inadequate housing Waste management	Provincial Government of Western Cape (2005) Neely (2010) Butchart et al. (2010) Moseley and McCusker (2008) Ernstson et al. (2010) Moody (2012) Sebitosi (2012) Sinclair et al. (2012) Travener-Smith (2012) Donaldson and Morkel (2012) Nicks (2012)
Water pollution	Industrial agriculture Inadequate housing Lack of land tenure Industrial agriculture Waste management	Provincial Government of Western Cape (2005) Cloete et al. (2012) Sebitosi (2012) Travener-Smith (2012) Donaldson and Morkel (2012) Nicks (2012) Davies and Day (1998)
Water shortages	Inadequate housing Transportation infrastructure Population increases Low-density sprawl Industrial agriculture	Provincial Government of Western Cape (2005) Neely (2010) Moody (2012) Cloete et al. (2012) Sebitosi (2012) Sinclair et al. (2012) Travener-Smith (2012) Donaldson and Morkel (2012) Nicks (2012) Davies and Day (1998)
Deforestation	Inadequate housing Poverty	Provincial Government of Western Cape (2005)

		Neely (2010)
		Butchart et al. (2010)
		Travener-Smith (2012)
		Donaldson and Morkel (2012)
Climate change	Inadequate housing Low-density sprawl Industrial agriculture Waste management Transportation infrastructure Lack of sustainable energy options Population increases Automobile emissions	Provincial Government of Western Cape (2005) Butchart et al. (2010) Ernstson et al. (2010) Moody (2012) Brent et al. (2012) Sinclair et al. (2012) Travener-Smith (2012) Donaldson and Morkel (2012) Nicks (2012) Thambiran and Diab (2011)

Table 9: Environmental issues and their social and economic drivers in the Western Cape

6.4.2 Co-existing factors creating change

Complex systems and resilience scholarship teaches us to examine the multiple factors that impact or influence a change. Ernstson et al. (2010, p. 531) state "Urbanization is a global multidimensional process paired with increasing uncertainty due to climate change, migration of people, and changes in the capacity to sustain ecosystem service". Resilience literature promotes recognizing the inter-linkages between various systems (social, ecological, economic and political) as they occur across time and scale (Walker and Salt, 2012). Indeed each of the systems is dynamic in its own right, and cities are certainly representative of this. Ernstson et al. (2010) suggest contemplating cities as "systems within systems" whereby social networks are utilized to sustain ecosystem services, while situating a city within its broader regional geography. Doing so, they claim, would involve harnessing innovation in order to alter urban governance discourse so that ecosystem services are sustained.

To clearly demonstrate this notion that co-existing factors across multiple systems impact change, I will describe how environmental consequences and both economic and social drivers are interconnected, using the Cape Winelands Biosphere Reserve case as an example.

The Study Participants indicated that low-density, gated communities are undesirable for both social and ecological reasons. Mentioning De Zalze in his article, Nicks (2012) also discusses how low-density, gated communities such as De Zalze contribute to car culture, perpetuate social division

and utilize underground infrastructure (such as sewage and storm water pipes) while lower-income communities are left with poor to no services. The middle to high income dwellers of communities such as De Zalze meet their lower income fellow citizens on one of the main highways leading to either Cape Town or Stellenbosch. Both groups sit in their cars while emissions contribute to air quality and pollution (see Moody, 2012; and Sinclair et al., 2012).

The story of the government provided housing programme actually begins with a post-Apartheid promise: that the state would give all black South Africans a house (Lodge, 2003). This has resulted in politicians using the "gift of a house" as political ammunition, despite the unsustainability of the housing programme (Western Cape, 2013; Study Participants #5, 8, 11, 13, 17). The scale of this is significant as there are numerous low-density gated communities and Reconstruction and Development Programme housing communities (called RDP housing)[101] throughout t the Western Cape. Additionally, the scale of informal housing is vast. For instance, there are 10,000-12,000 shacks in informal settlements in the Municipality of Stellenbosch (Swilling et al., 2012). This is growing at 4,600 shacks per year and the Municipality only receives 300 housing subsidies annually. There are currently 20,000 people on the waiting list for a house.

The housing problem in the Stellenbosch area is merely the tip of the iceberg, with vast informal settlements arising on the edges of Cape Town's already vast township areas. Of the 5,822,734 people who live in the Western Cape, 80% live and conduct economic activity in the City of Cape Town and the Cape Winelands area (Stats SA 2012c; Western Cape Government, 2013).[102] The State of the Environment Report (2005) indicates that 65% of the total air pollution generated in the Western Cape is generated in the City of Cape Town and is a result of car emissions (Western Cape, 2005). The burning of wood generates 11% pollution, industry accounts for 22% and natural (including fynbos fires and sea emissions) contributes 2% to total pollution (Western Cape, 2005). Also burning of coal and wood in the winter months (in low-income settlements) further impacts air quality (Western Cape, 2005).

Air pollution has been cited extensively as a main contributor to climate change (Thambiran

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[101]   Reconstruction and Development Programme housing (or RDP housing) is the name given to the government-supplied housing programme. On some of the problems relating to the RDP housing schemes, see 'Settlements minister cracks the whip', Mail and Guardian, 16 October 2012, available at www.mg.co.za.
[102]   The State of the Environment Report (2005) and the State of the Environment Outlook Report (2013) both report that a lack of data is a significant issue for being able to articulate precise reports. Therefore, obtaining information such as the percentage of the population who live in gated communities versus within the urban edge is not possible.

and Diab, 2012). Climate change, in turn, has been linked to contributing to erratic rainfall patterns (Western Cape, 2005). This is a problem because "some time around 2040 South Africa's water supply - surface and groundwater - will dip below water demand" (Western Cape, 2005, p. 34). Water shortages are driven by the fact that South Africa has a dry climate, and it has high rates of evaporation that exceeds rainfall (Davies and Day, 1998). This results in decreased supplies of water in dams and regular occurrences of drought and drought-like conditions (Davies and Day, 1998). The Western Cape's growing population stresses the already inadequate water supply infrastructure and there are few options for increasing water availability via water transfer systems. The river systems are also threatened by agriculture run off (including pesticides and fertilizers draining into river systems), and water is being polluted by industrial economic activities.

So this describes one way of the numerous in which both low-density sprawl and inadequate social housing contributes to climate change. There is one train that travels from various communities to Cape Town, yet the transportation infrastructure is not linked. I spoke with a transportation expert in Stellenbosch who gave the following as an example: a woman may live in a shack and she must walk to get to the train and then she would have to get a bus that leaves her somewhere in the vicinity of where she needs to be for work, then she must walk again. Or she may take a combi (a private sector alternative that is regulated by the state) that gets her closer to her destination. Some South Africans have up to two-hour transit times each day. The location of the RDP housing is often located far from areas of work for many people, further complicating the transportation process.

As stated above, the burning of wood and coal is another contributor to emissions, which leads to air pollution, and ultimately contributes to climate change, and so the circle continues. The issue is indeed, complex, as Nicks (2012) writes about Stellenbosch:

> [C]racks are appearing in the bucolic landscapes surrounding the urban settlements, and the tipping points may not be far off. Most visually obvious is the urbanisation-by-stealth of the countryside: packing sheds are growing into distribution centres; shiny plastic is covering more and more agricultural land; wineries are becoming large bottling plants; and labourers' cottages are being transformed into holiday chalet compounds; in places even morphing into small, upmarket residential security estates…Less obvious, unless experienced during rush hour, are growing traffic volumes. The landfill site outside Stellenbosch town – now legally full, yet still accepting waste while other affordable and acceptable alternatives are investigated – continues to tower upwards. The water quality in the main rivers is extremely poor – so much so that it might pose a

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threat to the export of produce to overseas markets that insist on acceptable standards of irrigation water. And, lurking in overcrowded rooms and informal shacks is the housing challenge. Stellenbosch Municipality's current waiting list is about the same as the current number of formal dwelling units in the Municipality – around 20,000; in order words, about the same number of dwelling units as have been built in Stellenbosch Municipality during the entire past 300 years are needed. Where will they be built? And how did this untenable situation arrive?

This is a simplistic account of a very complex issue because each stage is itself nested in its own social-ecological system with factors impacting and influencing it across space and time. Furthermore, there are economic and political factors that impact the process that I have not explored, but would be explored in a proper resilience assessment. In summary, then, the specific planning issues confronting the people of Jamestown and the wider Stellenbosch Municipality are themselves symptoms of wider socio-ecological-system dynamics: demographic pressures spurred by local, national and global interest in the City of Cape Town; historically derived inadequate social supports – housing, electricity, water, transportation – contributing to health problems, social unrest, and environmental degradation (see the critical political economy section above).

Resilience scholarship essentially instructs us to understand the interconnectivity of all systems, and the cross scale relationships involved in life's processes. Resilience scholarship furthermore sheds light on the fact that there are limits to all processes within a system, and one may wish to cross that limit in order to change a highly resilient unwanted result (such as transportation issues that are a consequence of poor spatial planning) or continue to support a system that is thus far enduring despite threats (such as forms of fynbos in the Western Cape).

6.5 Conclusion

Table 6: Sphere of activities: 1945-present day in South Africa, shows that the South Africa that existed in 1998 was vastly different than the South Africa of 1948, and the South Africa that exists today is considerably different from both of these time periods. For example, the Apartheid government monopolized on the west's fear of communism, using the 'Black peril' as an excuse for Apartheid goals. Then with neoliberalism in the 1980s came increased pressure to end Apartheid by capitalist South Africans. Throughout this time, material capabilities, ideas and institutions shaped power structures, and this, in turn, further shaped (and continues to shape) South African spheres of activities. Understanding the historical trends, and how power has actually been shaped at multiple

levels provides insight that governance and management frameworks miss. Ultimately we see how power at various scales has resulted in an unequal society, which is represented by socio-economic status and the spatial layout of communities. Ballard (2005) has stated that present-day gated communities actually privatise Apartheid in democratic South Africa. The critical political economy analysis discussed in this chapter shows how this continues.

The brief example of the benefit of conducting a resilience assessment demonstrates how systems affect one another. This is a complex system in which social, economic and environmental factors all affect one another, ultimately creating consequences for the health of both humans and ecological systems. For example, low-density sprawl contributes to traffic congestion, which causes increased air emissions, which increases consequences of climate change, which ultimately impacts the systems that are required for human well being, and especially creating vulnerabilities for the poor. This is only part of a highly complex system that is furthermore impacted by social, economic, and environmental factors at the regional, national, and global scale.

Critical theory shows how multiple factors interact across time and scale, and it is these factors that shaped present day realities. In this way, critical theory complements the insights of problem-solving theory so deepening the analysis.

This chapter completes the four phase analytical framework for the South African case study area. In Chapter 7, I return to the Niagara Escarpment case and apply the critical political economy and resilience aspects of the analytical framework.

Chapter 7

Broadening the perspective: Niagara Escarpment, Canada

7.1   Introduction

In Chapter 6, I located the Jamestown case in a larger framework of analysis by including critical political economy and resilience. In this chapter I conduct the same analysis for the Canadian case. As with the previous chapter, the first section of this chapter applies a critical political economy analysis by addressing four main questions:

- What is the historical context and how does the past shape the present?
- How is the local setting embedded within and impacted by other levels of socio-economic and socio-political activity (regional/national/global)?
- Who are the main actors and how are they arranged in the decision-making framework relative to each other? (the constellation of social forces)
- What are their ideological, material and institutional bases of power? (historical structures or potentials)

7.2   Step 3: Critical political economy: historical context

Land-use practices in Southern Ontario reflect the changing dynamics of Canada's political economy in a post-World War II world. They also show a very different reality from those in the South African case. With regard to the 1945-85 period, the post-1945 global consensus among Western states around Keynesianism led to the rise of welfare states across the capitalist world. In Canada in the late 1940s, an economic boom started that lasted until the oil crisis in the early 1970s (Norrie et al., 2002; see Table 10 below for highlights). A resource-based economy was responsible for Canada becoming one of the world's richest countries (Norrie et al., 2002). Canada also played a strong role in re-building Europe after World War II via the Marshall Plan, and, like South Africa, was one of the original members of the newly formed United Nations (established in 1944) (Hogan, 1987).

Canada also experienced a tremendous growth in population after World War II. In what is known as the baby boom, more than 8.2 million babies were born from 1946-1965, an average of close to 412,000 a year (Statistics Canada, 2013a). Ontario's population increased from 3,431,683 in 1931 to 12,160,280 in 2006 (date of the last census) (Statistics Canada, 2006). Along with population

growth came a rush to the city. In 1931, 800,960 people, representing 23.3% of Ontario's population, resided on farms (Statistics Canada, 2006). By 2006, the number had dropped to 178,575 – a mere 1.5% of provincial population (Statistics Canada, 2006). In addition, farms have decreased in number (from 192,174 to 57,211) but increased in average size (233 acres in 2006 compared to 119 acres in 1931) (Statistics Canada, 2006). In the 1950s, work opportunities were abundant as Canada developed economically, largely due to the export of natural resources to the United States and the development of industry, particularly along the Windsor-Montreal corridor (CCIC, 2013). Along with the raise in incomes came an era of mass consumption, including cars, which "refashioned lifestyles and cities" (Filion and Hammond, 2003). It was also at this time that the construction of suburbs began, catering to new car-focused lifestyles (Filion and Hammond, 2003). Unlike the South African case, the Canadian case – especially in Ontario – shows a history where high mass consumption was at the centre of policymaking and social concern. Economic growth and, particularly after 1960 or so, its negative environmental consequences have tended to dominate public discourse in Canada.

Recall from Chapter 5 that in the 1960s people in Ontario became concerned about aggregates mining activities in the Niagara Escarpment. "From a point west of Toronto in Halton Region, along the most heavily travelled highway in Canada, the 401, the passing motorist could see a large gap blasted out of the Escarpment cliff face – a highly visible example of environmental damage" (Niagara Escarpment Commission, 2013c). The aggregates mining industry has remained a touchstone of citizen concern, but also a contradiction – because citizens benefit from new roads, shopping complexes, housing and so on – since that time.[103]

In 1967, the Province of Ontario put into place a "Select Committee on Conservation" which conducted a study on the Niagara Escarpment and gave recommendations on how it should be preserved (Niagara Escarpment, 2013c). A task force was put into place after the study was completed in 1968 to determine how to implement the goals of the report (Niagara Escarpment, 2013c). The results of the task force's study (revealed in 1972) resulted in the Niagara Escarpment Planning and Development Act (passed in June 1973). This legislation called for the establishment of the Niagara Escarpment Commission and the Niagara Escarpment Plan. This is important because it

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[103]   The minutes of the Niagara Escarpment Commission reveal a sort of dialectical relationship between the Commission, as upholders of the Act, and construction companies keen to satisfy real and anticipated demand for housing, roads, and so on. (See, Minutes of M738/06-2013 Niagara Escarpment Commission, Georgetown, Ontario, June 20, 1013 as one example.) A cursory review of the small town newspapers reveals similar tensions between town councils (located along the edges of the escarpment) and the aggregates industry. See, for example, Don Crosby, 'Council gets advice, changes pit stance', Owen Sound Sun Times, 21 September 2011.

shows that during the domination of the historic bloc organised around capitalist industrialization there were and continue to be counter-hegemonic forces animated by the negative environmental and social consequences of economic development (in both its Keynesian and more neoliberal forms). Thus, the post-War 'global boom' phase coincides with rising public interest in environmental issues in Ontario.[104]

Table 10 highlights some of the events that occurred during each time period that ultimately shaped historical structures. For example, Canada in 1948 (which marked the beginning of post World War II economic growth and significant population growth) was vastly different than Canada in 1998 (when Canadians experienced deficit-reduction through cutting social programmes), and both are different to Canada today. Hence Cox's use of the term 'state forms' rather than simply 'states'.

The table categorizes social forces, forms of state and world orders in order to provide a snapshot of the particular spheres of human activities that led to the rise (and demise) of a particular historic bloc at the level of world order and within particular state forms. "Each of the levels can be studied as a succession of dominant and emergent rival structures" (Cox, 1981, p 100). So, the three levels are interrelated, interacting and influencing each other. The table will be elaborated on in the following section, as it also addresses how local, regional, national and global activities have interacted and influenced one another throughout time. Comprehensive discussions of these dynamics are to be found in the studies cited in Table 10.

Time Period	Social Forces Post war	Forms of State	World Orders	Literature
1945-85	• Post-war industrialization centered on Windsor-Montreal corridor • Branch plant economy • Massive labour	• *Keynesian Welfare State* • Redistribution • Equalization payments • Women and youth joined labour force. • Canada active in	• Keynesianism • Cold War = capitalism vs communism • Liberalisation of international economic environment	• Norrie et al., 2002 • Krueger and Mitchell 1977 • Cullingworth, 1987 • Manthorpe 1974

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[104] During the same time period, many environmental non-governmental organizations emerged in Ontario. For example, the Canadian Environmental Law Association was founded in 1970. The Faculty of Environment (initially called the Faculty of Environmental Studies) was founded at the University of Waterloo in 1969; York University in Toronto was the first to establish a Faculty of Environmental Studies, in 1968, in Canada.

	forces in Southern Ontario • Exploitation of renewable resources • Mining and steel-making • Immigration increases • Changes in production (move from farms, mechanized agriculture) • Regulating foreign investment (1960's-70s) • Change of perception of women in workforce • Ontario: only province to not receive equalization payments (1946-1973) • Niagara Escarpment Planning and Development Act (1973) • Niagara Escarpment Commission (1973) • Niagara Escarpment Plan (1985)	post WW2 re-construction efforts • GATT agreement signed in 1947 • National Transportation Act (Hwy 401 built to connect the country) • Veterans' Rehabilitation Act (1945) • Social-policy formation • Medical Care Act (1966) • Health-insurance system (1968) • Educational grant to universities and colleges • Canada Students Loan Act (1964) • Fiscal Arrangements Act (1967) • Old Age Security Act (1951) • Old Age Assistance Act (1952) • Canada Pension Plans (1967) • Canada Assistance Plan (1966) • Unemployment Insurance (coverage extended in 1971 from 1940 coverage) • By end of 1973, Canada's social-security system		• Winfield 2012 • Hogan 1987 • Smith et al. 1997 • Laxer 1975 • White 1998 • Cullingworth 1987

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		was in place		
		• Oil crisis (1973)		
		• Inflation (1970s)		
		• Rethinking international economic advantage (Japan)		
		• New (restrictive) Immigration Act (1973)		
		• Quebec sovereignty debate		
		• Canadian Bill of Rights (1960)		
		• Canadian Charter of Rights and Freedoms (1982)		
		• Constitution Act (1982)		
		• Economic fragmentation in provinces		
1986-94	• Global recession impacts economy • Market solutions • Public –concern for environmental issues peaked in 1989 • Provinces view federal transfers as too little after 1995 (due to Canada Health and Social Transfer (1995))	• Shift from *Keynesian Welfare* to *Neoliberal* state form • Market-driven solutions • NAFTA (1994) • Trade liberalisation • Deregulation • Deficit-reduction through cutting social programs • Canada Assistance Plan and Established Programs Financing replaced by Canada Health and Social Transfer (1995) • Reform Party gained 50 seats in	• Neoliberalism • Thatcherism • Structural adjustment programs globally (shock therapy in post-Soviet Union) • United Nations Conference on Environment and Development (1992)	• Norrie et al. 2002 • Cowling and Sugden 1994 • Bryden 2013 • Winfield 2012 • Conca 1995 • Graham and Phillips 1998

		1994 election • High-tech emerges • Deindustrialization		
1995-present	• Rise of service sector economy • Cuts to social and environmental programmes • New Public Management (1995) • New Labour Model (2003) • Reduced deficit (Harris) • Lowering of taxes (Harris) • Decrease fines for environmental prosecutions (Harris) • Planning regulation weakened (Harris) • Considerable environmental initiatives (McGuinty) • Re-focus on environment (post 2000) • Attention to planning initiatives (McGuinty)	• *Neoliberal* with some state intervention • Government programmes cut: (Environment Canada cut by 30%) • Decrease role of federal government • Increase in military and prison budgets • "Attack" on environment and research • Shift to Alberta-focus (oil for export) • "Snubbing" international organizations (e.g. United Nations) • Focus on change • Economic "comebacks"	• Neoliberalism • "Common Sense Revolution" • Globalisation • War on Terror • New Public Management • Tony Blair's "New Labour Model" • Global economic crisis (2008)	• Norrie et al. 2002 • Winfield 2012 • Krajnc 2000 • Kiel 2000 • Clark 2002 • Prudham 2004 • Neptis 2005

Table 10: Spheres of activities: 1945-present day Canada

Winfield (2012, p. 185) describes "three major peaks in top-of-mind public concern for the environment" not only in Canada but also throughout the world: the late 1960s to mid-1970s, the mid-1980s to the early 1990s, and from 2003 to 2008: "The peaks have been driven by complex mixes of factors, from improving scientific understandings of the scale and significance of regional and global environmental problems to more local crises and disasters". Interestingly, public and policy-maker concerns for the economy are inversely related to the environment, with environmental valleys being displaced by economic peaks. In Canada, the first environmental peak ended with oil shocks of the mid-1970s, the recession of the early 1990s ended the second peak from the mid-1980s to the early 1990s, and the global financial crisis of 2008 ended the most recent peak (2003-2008). Winfield (2012, pp. 185-186) claims that these periods of citizen interest in environmental issues, along with "government's perception of their own roles and their understanding of the relationship between economic development and protection of the environment", has had a "significant effect on the pace and direction of the evolution of law, policy, and its institutions related to the environment in Ontario".

The impacts that industrialization has on the environment became all too apparent in the 1960s. Rachel Carson's highly influential book *Silent Spring* (1962) sparked the environmental movement and people wished to protect the environment not just for recreation or conservation purposes, but also because of the impact that pollution had on humans. The baby boomer generation reached the voting age and a period of social activism emerged (CCIC, 2013). The Peace Movement, Civil Rights activism, and the environmental movement also originated in the 1960s (Smith et al., 1997). Notably, Greenpeace was founded in Canada in 1971 when a group of environmental activists set sail from the Amchitka Island off Alaska to try to stop United States nuclear testing (Greenpeace, 2013). "Today Greenpeace is the world's most visible environmental organisation, with offices in more than 40 countries and over 2.9 million members worldwide" (Greenpeace, 2013). As a nation, Canada also increased its involvement with international endeavours such as the United Nations Conference on the Human Environment that was held in Sweden in 1972. Canadian Maurice Strong was chairperson of this event and in 1975 became the first Director of the United Nations Environment Programme (which was developed out of the 1972 meeting in Sweden) (Westrup, 1994).

This is significant because Canadians were becoming involved in social and environmental issues at local, national and international levels. Social involvement is a factor that Winfield (2012) identifies as being critical to the shaping of environmental law, policy and institutions.

Canada's GDP growth reflects the economic dynamism of this period. GDP rose from 40.8b USD in 1961 to 97.5b USD in 1971, a year where the GDP growth rate reached 3% before entering the long seesaw of stagnation and growth that has marked much of the last four decades (Trading Economies, 2013). This is important because it demonstrates that the economic conditions were strong, which is another factor that Winfield (2012) identifies as determining the fate of environmental laws, policies and institutions.

In the 1970s, Canada focused on becoming a country open to all people of all ethnicities and races. Prior to this, race and skill were factors driving immigration policy.[105] During this time non-European immigrants came to Canada in greater numbers (Norrie et al., 2002). The Multicultural Act was passed in 1971, granting formal equality to all cultural and ethnic groups. The focus was on skill development and training and immigration eligibility was determined by the skills candidates could contribute to Canada. Refugees were also welcomed to Canada (Norrie et al., 2002). As a nation Canada's "government policy reflected a certain unity that spanned the entire period from 1945-the early 1980s. Governments and voters believed that a modern urban-industrial society required a strong social safety net for all" (Norrie et al., 2002, p. 414).

The passing of the Niagara Escarpment Planning and Development Act (1973) also coincided with a general focus on environmental issues for the Ontario government. When Progressive Conservative Party leader William Davis became Ontario's premier in 1971, the environment was a significant area of focus. Prominent initiatives emerged at this time, among them the first Environmental Protection Act, which was adopted in July 1971, and Ontario's first Department of the Environment, which was established in 1972 (Winfield, 2012). Pressure from the newly formed environmental non-governmental organizations and a strong environmental focus by the New Democrat Party made the environment an election issue for the Progressive Conservatives in the 1975 election. In fact, in addition to pollution control, one of the key issues for the New Democrat Party

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[105]   Immigration policy up to 1930 allowed for "white and as British as possible"; after 1946 unskilled labour was allowed but ethnic-group restrictions still applied (preference was given to people from France in 1948 and then people from Germany and Italy in 1950); in 1953 policy eased once again (noted by 32,000 Hungarians immigrating in 1957); in 1962 immigration was allowed to professionals and highly skilled individuals (Norrie et al., 2002).

was "the loss of agricultural land to urban sprawl in southern Ontario" (Winfield, 2012, p. 30). Responding to these pressures, the Ontario government pushed for the enactment of the Environmental Assessment Act (1975), which "marked the completion of the basic institutional and legislative framework for environmental protection in Ontario that remains in place today" (Winfield, 2012, p. 28).

This is interesting because while the environment continued to be a political issue between the parties, interest from the broader public in environmental issues[106] began to wane with the oil crisis of 1973.[107] As a result of higher energy and labour costs, businesses began to fail and more people found themselves unemployed (Laxer, 1975). After the oil crisis an acceptance emerged among global powers that the state should lessen its role in economic activities.[108]

This is not to say that the government did nothing about social or environmental issues. For example, responding to pressure from the New Democrat Party, in 1977 the government appointed The Planning Act Review Committee to review the Planning Act (Winfield, 2012). This Review Committee recommended that:

> [L]egislation be amended to permit province to give greater policy direction to municipalities in land-use planning, particularly in relation to matters of provincial interest, such as the protection of agricultural land, provision of low-income housing, and gravel extraction (Winfield, 2012, p. 33).[109]

By the 1980s most Canadians had become city dwellers and the majority of workers were in white-collar jobs, generally in the service-producing industries (Norrie et al., 2002). The North American Free Trade Agreement (NAFTA) of 1987 saw the removal of tariffs and closer ties with the

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[106]   Both opposition parties (the Liberals and the New Democratic Party) joined forces and were highly critical of Ontario's Environment Minister. This led to a close partnership between the opposition parties and environmental organizations (Winfield, 2012).
[107]   Windfield's research shows a consistent time lag of about 3-5 years between citizen concern for the environment, as revealed through surveys, and declines in government spending for the environment. While he offers no explanation, it seems plausible that the lag reflects fixed three to five year planning cycles limiting government's 'adaptability' to the concerns of the electorate.
[108]   This is not to say that state involvement in the economy in developed countries was as dramatically altered as it was in developing states. World Bank data shows total government expenditure as a percentage of GDP in OECD states rising from about 20% in 1960 to a high of close to 50% in 1995 (World Bank, 1997). OECD data today reveals state spending as a percentage of GDP to be hovering around 40%.
[109]   However, no action was taken on the recommendations of the Planning Act Review Committee until 1983 (Winfield, 2012).

United States (Norrie et al., 2002). The private sector as the primary actor in economic development strengthened throughout the 1980s.

7.3   Relationship between environmental initiatives and neoliberalism

The Great Recession of 1982 resulted in another waning of public interest in environmental issues (White, 1998). In fact, after the 1981 election (in which Premier William Davis once again led the Progressive Conservative Party to victory) environmental initiatives took a considerable downturn (Winfield, 2012). That said, the Consolidated Hearings Act (1981) was put into place to streamline the planning approval process so that one hearing could occur as opposed to the many that were statutorily required (Cullingworth, 1987). Economics trumped environmental issues until 1984 and "the 1985 election marked a watershed in the evolution of environmental policy in Ontario" (Winfield, 2012, p. 40). The notion of integrating environment and the economy sprung out of the World Commission on Environment and Development, and the economic conditions in Ontario were ripe once again for renewed interest in environmental initiatives (Winfield, 2012). The environment was a significant issue for Ontario voters, peaking in 1989. Industry became rapidly discontent with the Ministry of Environment's aggressive approach by the time the Liberals obtained a majority government in the 1987 election (Winfield, 2012). At this time the Ontario Round Table on Environment was created to explore what incorporating principles from the Brundtland report would do to Ontario. The overarching aim was to help resolve the conflicts between industry and the public who was deeply concerned about environmental issues. The inability for this Round Table to come to any conclusions or ways forward promoted, in 1989, the development of a Cabinet Committee on Economic and Environmental Policy (Winfield, 2012).

Impacted by their poor environmental record, the Liberal government was defeated in the 1990 election, making way for Bob Rae to lead the New Democratic Party to victory. Bob Rae's term in office resulted in significant victories for the environmental movement (including the enactment of the Waste Management Act, the Environmental Bill of Rights, numerous land-use planning reforms, and institutionally strengthening the Ministry of Environment) (Winfield, 2012). On the international scale, environmental issues were highly prominent during this time (with the 1992 United Nations Conference on Environment and Development influencing global discourse) (Conca, 1995). The New Democratic Party also furthered the discussions surrounding integrating the economy and environment, that started with the former Liberal government (Winfield, 2012).

However, economic conditions that came with the recession of the early 1990s proved fatal for the Rae government. A year after the North American Free Trade Agreement came into effect on January 1, 1994 (Norrie, 2002), the Progressive Conservative Party, led by Mike Harris, gained a majority in the 1995 election (Graham and Phillips, 1998). The campaign that brought victory for the Progressive Conservative Party was built on their "Common Sense Revolution" manifesto (Graham and Phillips, 1998). By the 1990s, neoliberal globalization was changing the role of the state (Mittelman, 1996; Panitch and Gindin, 2012); the Harris-led government in Ontario being a prime example of this trend to letting the state 'steer' and the private sector 'row'.[110]

During Mike Harris's term in power, his government reduced the deficit, lowered taxes, and drastically cut government programmes (Krajnc, 2000; Kiel, 2000). In fact, by 1997-98, the Ministry of Environment's budget was cut by 50% (from $286 million to $142 million) and fines obtained from environmental prosecutions by the Ministry of Environment decreased from $3,065,504 in 1995 to $863,840 in 1998 (Winfield, 2012). Winfield (2012, p. 93) explains the magnitude of the cuts that the Harris government made:

> The scope of the changes undertaken to Ontario's environment and natural resources legislation and regulations during the first three years of the CSR [Common Sense Revolution] was enormous. With the singular exception of the Environmental Bill of Rights, every significant provincial statute dealing with the environment and natural resources management underwent major amendments between 1995 and 1998.

Any perceived environmental barrier to development was removed and reforms to the Planning Act that were made under the New Democratic Party government were repealed (Krajnc, 2000). Importantly, policy statements that were meant to "discourage low-density developments in un-urbanized areas, through the protection of ecologically significant areas and prime agricultural lands, and through requirements for the establishment of infrastructure prior to development, were significantly weakened" (Winfield, 2012, p. 98).

The "new public management" form of governance heavily influenced the explicitly neoliberal policies implemented by the Harris government (Clark, 2002). At the federal level, the Canadian government also cut programs, including in 1996 a 30% decrease in Environment Canada's budget (Krajnc, 2000). This, combined with the public's lack of concern for environmental issues at

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[110] The terms 'steering' and 'rowing' are from Rhodes, 1996.

the time, resulted in considerable consequences for Ontario's environmental movement (Krajnc, 2000).

The Harris years oversaw the dramatic restructuring of Ontario's economy, away from manufacturing to services. The 9/11 terrorist attacks in the United States slightly impacted the economy in 2001, but then it recovered in 2002, which also marked another transition in the Ontario public's interest in environmental issues. The fate of the Progressive Conservative Party was determined by the Walkerton crisis, where in 2000 thousands of Ontario residents became ill and 7 people died when the municipal water supply became contaminated by Escherichia coli and Campylobacter jejuni bacteria (Prudham, 2004). Prudham (2004, p.1) describes the Walkerton incident as "an important example of a "normal accident" of neoliberalism, one that can be expected from neoliberal environmental regulatory reforms arising from systematic irresponsibility in environmental governance. This irresponsibility is promulgated by an overarching hostility to any regulatory interference with free markets, as well as specific regulatory gaps that produce environmental risks".

When new premier Dalton McGuinty and his Liberal party were elected in the October 2003 election it coincided with the third peak in public interest in environmental issues (Winfield, 2012). Dalton McGuinty's government was said to be modeled after United Kingdom Prime Minister Tony Blair's' new labour' model (The Star, 2010). Part of the Liberal's platform for the 2003 election included focus on combating urban sprawl, and this gained them significant support in Toronto's suburbs. Growth management initiatives included:

- In 2004 the Planning Act and the Provincial Policy Statement (PPS) were amended so that all planning decisions must comply with the Provincial Policy Statement and to "restrict appeals of local planning decisions by proponents of urban boundary expansion" (Winfield, 2012, p. 158).
- In March 2005, the Greenbelt Act and Greenbelt Plan were approved. The Greenbelt Act requires that all municipal and provincial planning decisions comply with the Greenbelt Plan. Interestingly, Winfield (2012, p. 159) writes: "The government chose not to establish a greenbelt commission, as originally proposed in the Liberal platform. Experience with the Niagara Escarpment Plan and the Niagara Escarpment Commission suggested that such a commission could become a mechanism for incremental weakening of the plan". However

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68,000 hectares of countryside located in the rural-urban fringe remained unprotected (Neptis, 2005).

- The Niagara Escarpment Plan was revised and then approved in June 2005.
- In March 2005, the Places to Grow Act was approved, and the Places to Grow Plan passed in June 2006, with intent to determine direction of urban growth in the Greater Golden Horseshoe.

According to Winfield (2012, p. 163) the Liberal government's growth management initiatives:

> in the GGH [Greater Golden Horseshoe] would provide an archetype for its approach to other complex environmental files. The overall outcome balanced demonstrable wins for both sides – the greenbelt and transit investments for environmental interests; the binding growth targets, continuation of highway projects, and strengthened policies on aggregates for growth-oriented municipalities and the development industry – while providing an outward appearance of being a more aggressive effort to curb urban sprawl than it might actually be.

Despite criticism, the McGuinty government was re-elected in 2007, just in time for the 2008 global financial crisis. Ontario's manufacturing industry was particularly impacted by the crisis – 250,000 jobs were lost between fall 2008 and spring 2009 (Winfield, 2012). Yet, recovery from the financial crisis involved the linking of environmental and economic initiatives (Winfield, 2012). The Liberal government was re-elected in 2011 as a minority government after holding majority government in their previous terms. Dalton McGuinty remained premier until he resigned in October 2012 among controversy that government records regarding the cancellation of two gas-fired power plants were deleted (Globe and Mail 2012; Globe and Mail, 2013). Following this, Kathleen Wynne became premier, and remains so today (February 2014). As of November 2013, Kathleen Wynne has verbally committed to combating consequences of climate change, and notably has been praised for her plans to outlaw coal-burning electricity (The Star, 2013).

7.4   From manufacturing to service

A clear economic trend in Ontario has been a move away from manufacturing jobs to service-related employment. According to the last census (2006) manufacturing accounted for 13%, construction 6%,

other industries 3% and services 78% of GDP in Canada (Statistics Canada, 2006). In Ontario, manufacturing accounts for 15% of provincial GDP and 13% of employment (Econowatch, 2013). This may be contrasted with manufacturing's 30% contribution to the Ontario workforce forty years earlier (Econowatch, 2013). The manufacturing that exists remains heavily dependent on both raw materials extraction and food/agricultural production (OCC, 2013). The agri-food industry accounts for 745,000 jobs and contributes approximately $33b CAD to Ontario's economy (OCC, 2013). Along with food production and processing, manufacturing in Ontario is heavily tied to the mining industry (broadly defined): transportation-equipment, petroleum and coal products, chemicals, primary metals, fabricated metals, and machinery account for the bulk of manufacturing's contribution to provincial GDP (Statistics Canada, 2013b). Provincial GDP in 2013 was 1821.4b USD, more than 200 times greater than that of 1971 (Statistics Canada, 2013b). This should help the reader conceptualize not only the scale of activity but also its dramatically changing character.

This brief account of major political and economic events, and the relationship they have had to environmental issues in Ontario shows broadly how economic growth priorities, sometimes offset by the perceived and actual negative consequences of growth (e.g. environmental pollution, urban sprawl), shaped and reshaped the historic bloc through time. As a provincial body, the Niagara Escarpment Planning area is highly influenced by the motivations and actions of the government of the day, which has also been impacted by national discourse and significant events on the international scale (for example the influence of the World Commission on Environment and Development on environmental issues in the 1980s). Despite the changes, the Niagara Escarpment Planning and Development Act has thus far survived economic recessions and the various ideas that environmentalists would see as regressive, such as the 'common sense revolution', where social and environmental planning is concerned.

7.5   The local embedded in the regional/national/global

In Southern Ontario, the post World War II economic boom created significant growth that resulted in influx to urban centres. This growth and urbanization made it abundantly clear for political leaders that the provincial government had to become active in land-use planning, major infrastructure projects, and municipal government structures because municipalities could no longer bear the weight of growing needs (Winfield, 2012).

Ontario is a massive province, covering 1,076,395 square kms, making it larger than France and Spain combined. However, Toronto alone accounts for more than 35% of the province's entire population.[111] Ontario's GDP in 2012 was $674,485 million, accounting for 37.1% of Canada's total GDP (Ontario Ministry of Finance, 2014a). The primary household income per capita was $33,962 in Ontario, and $34,084 in Canada (Ontario Ministry of Finance, 2014a).[112] Unemployment rate was 7.5% in 2013 and 7.0% for all of Canada as of January 2014 (Ontario Ministry of Finance, 2014a; Statistics Canada, 2014a). In 2012 goods accounted for 23.2% of GDP of which 12.7% was manufacturing, and services accounted for 76.8% (Ontario Ministry of Finance, 2014a).

In 2012 exports accounted for $343,073 million and imports equaled $347,761 million, leaving a trade balance of -4.688 (Ontario Ministry of Finance, 2014a). The top five international export markets for Ontario in 2012 were the United States at 77.9%, United Kingdom at 9.0%, Norway at 1.2%, China at 1.2% and Mexico at 1.1% (Ontario Ministry of Finance, 2014a). The top five international exports in 2012 included motor vehicles and parts at 34.7%, precious metals and stones at 11.7%, mechanical equipment at 9.2%, electrical machinery at 4.0% and plastic products at 3.5% (Ontario Ministry of Finance, 2014a). The top five international import suppliers for 2012 were the United States at 56.3%, China at 10.8%, Mexico at 7.5%, Japan at 3.8%, and Germany at 2.6% (Ontario Ministry of Finance, 2014a). The top five international imports include motor vehicles and parts at 21.2%, mechanical equipment at 14.5%, electrical machinery at 11.6%, precious metals and stones at 5.0% and pharmaceutical products at 3.8% (Ontario Ministry of Finance, 2014a).

Clearly, despite deindustrialization, the shift to a service-based economy allows Ontario to continue to generate much of Canada's economic activity and make it a target for local and global in-migration. The average housing prices for Toronto was $526,528 in January 2014, marking a change of 9.2% from January 2013 (Toronto Real Estate Board, 2014). Housing prices decrease as one moves outside of the Toronto area, which draws people to the outlying areas of the Greater Golden Horseshoe. For example, the average housing prices for the Hamilton/Burlington area was $395,445 in January 2014, up from $361,669 in January 2013 (Realtors Association of Hamilton-Burlington,

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[111] Ontario's population was 13,537,994 as of July 2013 (approximately 35% of Canadian population in total). Toronto's population is estimated to be 5,941,488 (Ontario Ministry of Finance, 2014a; Statistics Canada, 2014a).
[112] The gross primary household income in Ontario is estimated to be $458,683 million, accounting for 38.6% of Canadian gross primary household income (Ontario Ministry of Finance, 2014a).

2014). Overall, the Ontario Ministry of Finance (2014b) currently predicts continued moderate economic growth for 2014.

7.6 The configuration of social forces: a persistent "historic bloc"?

The post-war boom was a time of building and possibility. The state was driven by ideas of economic growth, which was made obtainable by a combination of factors such as the liberalisation of global trade (allowing for increase in exports and cheaper imports), growing population, new infrastructure projects, more education and training projects and resource discovery. As shown in Table 11, taxes and revenue generation by state-run projects, along with sovereign authority contributed to the state's material capacity. This resulted in considerable economic development throughout the country as Canada's standard of living doubled between 1945 and 1973. After the consequences of the Great Depression and World Wars, there was also a desire for creating equity throughout the country, and this lead to a strong social-security system with social programmes such as a universal and government supported health care system that was put in place by the 1960s. After Canada began to feel the impacts of the oil crisis of 1973 and its rippling affects, regional conflicts across Canada began to emerge. The relationship between provincial and federal governments was debated.

The private sector was active during this time, although often at the mercy of state regulation.[113] Material capacity was capital and power was exerted in the business environment, Chambers of Commerce, the private clubs (Toronto Club) and so on. There was a great deal of overlap between the state and the private sector, with ex-politicians immediately assuming positions on one or several corporate boards of directors.[114]

Ratepayers and citizens exercised their different ideas through voting and unions. The 1960s brought the beginnings of a movement that attempted to show how Canadians would not tolerate continuous degradation of the environment. Institutionally Canadians used universities, churches, community organizations and sport to develop, share and express viewpoints.

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[113] According to Panitch and Gindin (2012), the Keynesian welfare-oriented, state-directed-developmental approach had a disciplining effect on capital. At the same time, the authors argue that the post-1973 crises period allowed capital to escape state control (leading to today's globalized economy), but also the structures created by states (e.g. GATT, WTO) made it possible for the state (through local and global legislation) to smooth the path for capital by providing the regulatory authority for neoliberal globalization. Hence, the 'steering' and 'rowing' elements described by Rhodes (1996) and the 'facilitating' role in development for the state.

[114] Brian Mulroney, for example, has once held seats on the Boards of Directors of companies such as Quebecor, Barrick Gold, and Blackstone. Two years out of office, former Ontario Premier Bill Davis was sitting on eleven corporate boards (Paikin, 2001).

Actor	Material Capabilities	Ideas	Institutions
State	Sovereign Authority, e.g. taxation, revenue generation	Economic Growth Equity (Social policy formed by 1973) Industrialisation Environmental initiatives begin Provincial/federal roles Regional unity or divide	Government (laws, courts, executive), Information and telecoms, Universities
Private Sector	Capital	Economic Growth	Business; Chambers of Commerce
Ratepayers/ 'citizenry'	Voting Activism Environmental movement began Unions	Divided (some social or environmental activist, some not, and various degrees in between)	Universities Churches Communities Sport

Table 11: 1945-1985 Constellation of Social Forces

From 1986 to the present day, we have entered an era of neoliberalism. Table 12 demonstrates the dominant constellation of social forces marking this era. The state continues to have sovereign authority. Material capabilities are generated via taxation, revenue general. State ideas centre on economic growth, de-regulation, a decreased role of government and, currently, economic development through resource depletion (in particular Alberta's oil resources). The federal government furthermore has an "attack on knowledge" whereby funding has dramatically been reduced in areas such as climate change research and Statistics Canada. Since 1986 ideas have been expressed through governmental organizations (including laws, courts and executive bodies), marketing and soft power, as well as universities.

Since 1986 the private sector has played an increasing role in the economy as government has promoted market-driven solutions to economic growth. That said, the Canadian economy does not exemplify "pure" neoliberalism, as demonstrated by the Keynesian-like strategies that government implemented to save the automotive industry after the 2008 global economic crisis. The private sector uses business, business schools, Think Tanks and Chambers of Commerce to institutionalize its ideas.

Ratepayers/citizens have divided views, which are generally articulated through voting or unions, or, increasingly social media. Views are also expressed through consumption patterns (for instance the 100-mile diet, vegetarianism, fair trade, alternative 'sustainable' energy sources, are

various methods that consumers use to express ideas). Institutionally, ideas are expressed in universities, businesses, governments, civil society organizations, social movements, activism networks, and sports. As citizens become increasingly discontent with the political system in Canada, more people are turning to alternative forms of expression (such as that listed above) rather than voting.

Figure 25 depicts generally the hierarchy of political and economic power in southern Ontario up to 1985. Government is situated in the centre because it held sovereign authority, and was responsible for laws and associated policies impacting private sector growth. I've placed the private sector in the second circle because economic interests continued to influence government decisions and business has always been a significant part of economic growth for Canada (they are closely linked). I have placed civil society in the outer circle since it is through voting, unions, consumer habits, and activism that citizens impacted decision-making processes.
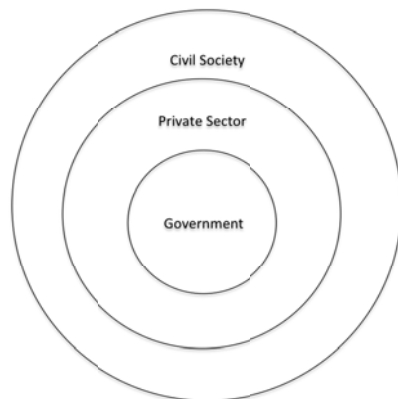
Figure 25: Constellation of social forces in Canada in 1968

Actor	Material Capabilities	Ideas	Institutions
State (including all governmental levels)	Sovereign Authority, e.g. taxation, revenue generation, monopoly of force	Economic growth De-regulation Decrease role of government Current (attack on knowledge)	Government (laws, courts, executive) Marketing/soft power, Universities
Private Sector	Capital	Economic Growth	Business; Chambers of Commerce; business schools
Rate Payers/ 'citizens'	Voting Unions	Divided around the dominant ideas	Universities; Business; Government; Civil society organizations; Social movements; Activism networks; Sport

Table 12: 1986-present Constellation of Social Forces

In Figure 26, the private sector has moved to the centre of the circle because current socio-economic and socio-political realities are influenced by a dominant neo-liberal world order (Bond, 2012). This means that the economy continues to shape land-use patterns, and government supports market forces. While the private sector has considerable influence, government makes the final decisions and intervenes in supposed 'market-determined' economic processes when it deems appropriate (as mentioned above, this is exemplified by the automotive bail out post 2008). I place wealthy property owners in the next outer circle because they have the most influence with political actors (they also contribute to various political parties). Their numbers have increased dramatically in the Greater Golden Horseshoe as the economy shifted towards services. I place low-income individuals on the outer circle because they hold the least power in decision-making processes. Across Southwestern Ontario many of these individuals are the economic victims of deindustrialization (Econowatch, 2013). Over the past twenty-five years we have seen neoliberalism escalate and the state take on more of a facilitating (as opposed to determining) role in development. The importance of civil society has increased during this time in an attempt to create more socially

and environmentally equitable outcomes in the face of powerful actors, as shown by the environmental NGOs, including the Coalition on the Niagara Escarpment (CONE).
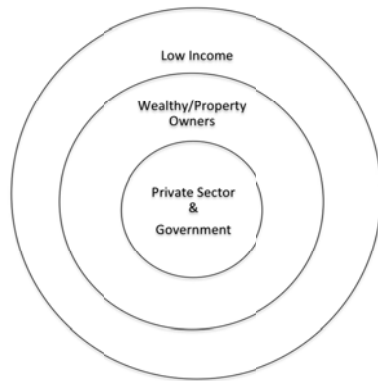
Figure 26: Present day constellation of social forces in Canada

Mapping the various actors and understanding why they have a particular perspective (historically and currently) is very useful because it helps to understand and describe the potential for arriving at particular decision-making processes and outcomes for transformation. While showing how and why particular environmental legislation has arisen, understanding the relatively evenly balanced constellation of social forces in the study area (allied around economic growth, jobs, and a safe biophysical environment) suggests why there has been little deviation from the centre (irrespective of the political party in power). What also seems clear from this discussion is the continuing tension between environmentalism and economic growth. Because the issues are intimately linked through consumption, there seems to be less of a clear break within the historic bloc both in Canada and the study area in particular: private capital and the state have had a relatively accommodative – though by no means conflict free – relationship to each other over the last 70 years. Where capital has lost out (e.g. in manufacturing), the government of the day has pointed to global forces beyond their control (in the creation of NAFTA; in forging a new trade pact with the EU; in facilitating their entry into other markets; in pursuing resource extraction for the Asian market). The same may be said for labour, with government stepping in with re-training support for the unemployed and so on.

I now turn to the resilience perspective, showing, among other things, how potential environmental tipping points were detected in the 1960s and how this ultimately influenced a change in trajectory.

7.7 Step 4: Resilience

An overall message from the critical political economy analysis is that things change. Canada in 2014 is different from Canada in 1994, and considerably different from Canada in 1974. This concept of change complements resilience scholarship – with its descriptors such as 'unknowns', 'uncertainties', and 'turbulence' – because resilience tells us that all socio-ecological systems are dynamic, and therefore we can be certain that change is inevitable. It can help us prepare for, and perhaps avoid, the increasing environmental vulnerabilities that are a consequence of human actions (Walker and Salt, 2012). Study Participants identified a number of issues that they deem important in the Niagara Escarpment Plan area. While multiple issues emerged (increasing population, urban expansion, infrastructure being built across protected areas within the Niagara Escarpment, monster homes), a common concern is clearly the aggregate industry and the way that the planning system is used and manipulated (through the appeal process) to further the industry's interests (see Chapter 5). A complete resilience assessment would include examining all of these issues, and the multiple layers of actors involved in the system of interest. As pointed out in Chapter 2, one would thoroughly answer questions such as "How is the particular system embedded in other systems and how do they affect one another?"; "What systems seem resilient and why?"; "Can any tipping points be determined?"; "In the given situation: where in the adaptive cycle is the system?"; and "What information is lacking?". Given the immensity of completing a resilience assessment, this section strictly focuses on the aggregate industry, given the importance that Study Participants gave to it, as a touchstone of what is right and wrong at the rural-urban fringe. While the aggregate industry is highlighted, it is important to remember that the aggregate industry does not exist on its own. As apparent from the critical political economy assessment, socio-ecological systems encompass multiple layers and systems that all interact and impact one another. The combination – or smorgasbord – of multiple systems interact in various and often unpredictable ways. For simplicity, I focus on one single aspect of it, and never intend for the reader to interpret that the system is immune to other systems – across time and space.

7.7.1　　Interaction of multiple systems

The Niagara Escarpment case shows that the economy heavily relies on aggregate industry extraction of non-renewable resources that are "a prominent and special geological feature of Ontario, the 450-million-year-old forested ridge of fossil-rich dolostone" (Niagara Escarpment Commission, 2012). Study participants pointed to the fact that Ontario's aggregate industry is a significant contributor to the economy and its resources are used to construct "roads, sidewalks, sewers, subway tunnels and airports, as well as homes, offices, hospitals, schools and shopping centres. On average, Ontarians use about 14 tonnes of aggregate per person per year" (The Ontario Aggregate Resources Corporation, 2012). Table 13 provides an example of typical amounts of aggregates used in various construction projects in Southern Ontario (Ontario Ministry of Natural Resources, 2010).

Tonnes of aggregates	Usage
18,000 tonnes	Per kilometre of a 2 lane highway in Southern Ontario
250 tonnes	185 m^2 (2,000 sq. ft.) house
114,000 tonnes	Per kilometre of a subway line

Table 13: Amount of aggregate required for typical construction projects in Southern Ontario (Ontario Ministry of Natural Resources, 2010).

Ontario planning policies support using local sources for all development projects (Patano and Sandberg, 2005). In fact, Ontario's Provincial Policy Statement states: "As much of the *mineral aggregate resources* as is realistically possible shall be made available as close to markets as possible. Demonstration of need for *mineral aggregate resources*, including any type of supply/demand analysis, shall not be required, notwithstanding the availability, designation or licensing for extraction of *mineral aggregate resources* locally or elsewhere " (Ontario Ministry of Natural Resources, 2010). So, aggregates are used extensively in development projects, are significant contributors to economic development, and policy supports using aggregate sources that are close to markets.

The Greater Toronto Area has consumed the largest portion of the total aggregate produced across Ontario (Ontario Ministry of Natural Resources, 2010).[115] This is important because the Greater Toronto Area (which includes portions of the Niagara Escarpment) obtains half of its material from surrounding areas, such as areas within the Niagara Escarpment Plan area (Ontario Ministry of Natural Resources, 2010). When we consider the impacts of the aggregate industry, then, there is more to be concerned with than the digging of gravel. The aggregate industry's growth is symbolic of the other forms of growth (e.g. urban projects, building highways, etc.) that impact the integrity of ecological systems, air quality, water security, etc. Ultimately, how we build (and expand) cities determines the trajectory of climate change.

Table 14 shows the overall production and licences granted on both private and Crown land in Ontario from 1998 to 2012. Figure 27 provides a graphical depiction of aggregate use, showing usage over time.[116]

Year	Overall Production (in million tonnes)	# of licenses for pits and quarries on private land	# of permits on Crown land
1998	146	2798	3160
1999	157	2807	2909
2000	171	2799	2963
2001	167	2787	3100
2002	165	2776	3215
2003	165	2782	3232
2004	173	2752	3314
2005	174	2741	3390
2006	179	2795	3473
2007	173	3764	3361
2008	167	3762	3199
2009	153	3762	3038
2010	166	3748	2964
2011	159	3729	2868
2012	152	3721	2712

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[115]   Interestingly, consumption per capita is less in the Greater Golden Horseshoe compared to other areas in Ontario, especially the northern areas (due to more aggregate being used in road construction due to the impact of more extreme climate conditions on roads) (Ontario Ministry of Natural Resources, 2010).
[116]   I relied on yearly reports from the Ontario Aggregate Resources Corporation for these data. I was not able to obtain such statistical data for just the Niagara Escarpment Biosphere Reserve area.

Table 14: Production of aggregates in Ontario, 1998-2012 (Ontario Aggregate Resources Corporation, 1998-2010).
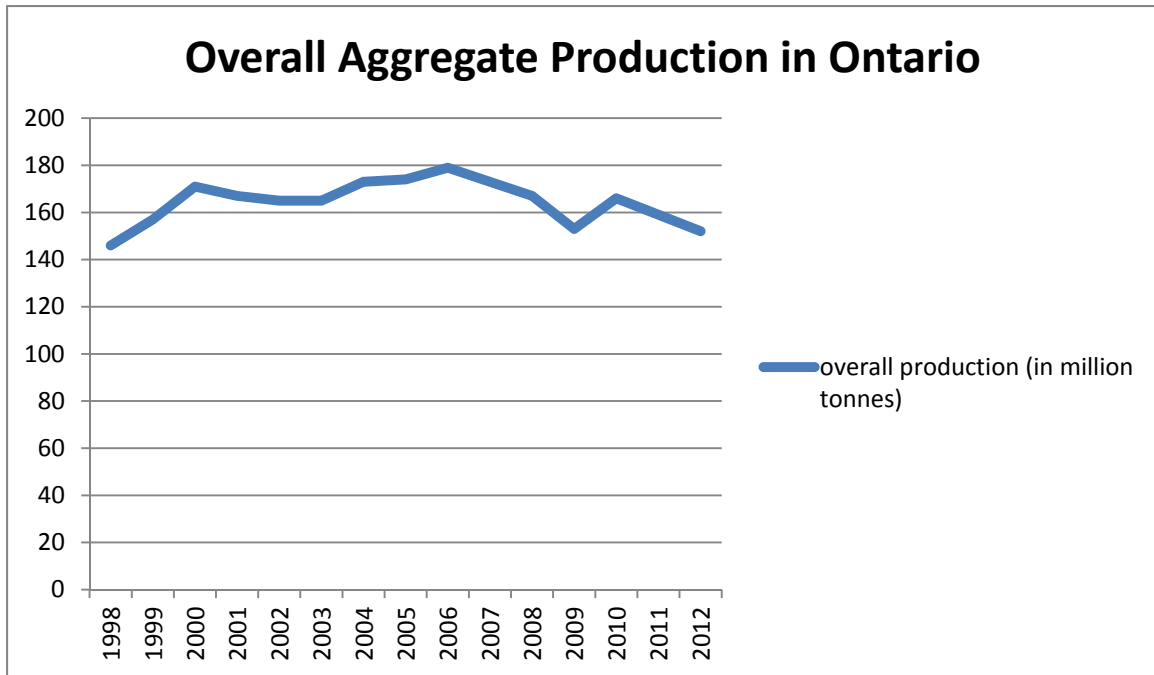
Figure 27: Overall aggregate production in Ontario 1998-2012 (created with data from Ontario Aggregate Resources Corporation, 1998-2012).

The figure shows that overall aggregate production in Ontario increased between 1998 and 2006, and then waned from 2007 to 2009 (likely due to the economic recession). From 2010 until 2012 production has fluctuated. The data also show that the number of licences for pits and quarries on private land has increased while the number of permits on Crown land has decreased, despite production levels remaining the same. A number of study participants were asked what this suggests and the response was similar (Study Participants #1, 3, 7, 8, 14). Essentially, farmers are selling their land to aggregates mining companies. In the Niagara Escarpment area, the Natural and Protected Designations within the Niagara Escarpment Plan forbid mineral resource extraction altogether while the Rural Designated area allows for mineral extraction only through a plan amendment. This has been the case since 1995 when changes to the Aggregate Resources Act opened the Niagara

Escarpment Plan area to extraction. The companies often achieve their requested plan amendment because they use the "close to market" argument when they go to the Ontario Municipal Board. The aggregate companies argue that it is better economically (and environmentally) for production to occur close to the user. The companies have been buying land from farmers near the major aggregates markets and "banking" it for many years. This is why there is a decrease in Crown land permits being granted and an increase in licences for private land. At the same time, however:

> *It will be hard to get an accurate answer regarding production from*
> *the industry. They smoke and mirror it from each other as well as us.*
> *There is much more licensed and available for the future than the*
> *industry lets on (Study Participant #14).*

7.7.2 Co-existing factors creating change

An example from the Niagara Escarpment case of multiple factors co-existing that may result in change in the overall social-ecological system is the relationship between population growth and aggregate consumption. From 2001 until 2011 the population of all of the municipalities that are a part of the Niagara Escarpment Plan area grew by 12.5% to 1,313,000 people (2011 Canada census) (Niagara Escarpment Commission, 2012). The City of Hamilton experienced the largest growth at 40% to 520,000 people, the City of Burlington grew over 13%, and the Town of Milton experienced the greatest percentage increase in population at 168% (Niagara Escarpment Commission, 2012). In 2006 the population of the Greater Golden Horseshoe was 8.4 million people and it is expected to reach 11.5 million people by 2031 (Ministry of Infrastructure, 2013). Most of the growth (it is projected at 75%) will occur in the Greater Toronto Area and Hamilton while outlying areas (including the Niagara region) will make up the remainder (Ontario Ministry of Natural Resources, 2010) (see Figure 28). The population within the boundaries of the Niagara Escarpment Biosphere Reserve also grew between 2002 and 2011 by 60% to approximately 200,000 people (Niagara Escarpment Commission, 2012). Furthermore, the number of new households built in Ontario will outpace the population growth (Ontario Ministry of Natural Resources, 2010). In other words, there will be fewer people living in each dwelling (Ontario Ministry of Natural Resources, 2010). This is important because even more aggregates will be required to support this population growth: Ontario's Ministry of Natural Resources (2010, p. 71) reports that "this growth will generate the need for

aggregate for construction work and other applications – on average about 186 million tonnes per year, above the levels of the past 20 years".[117]
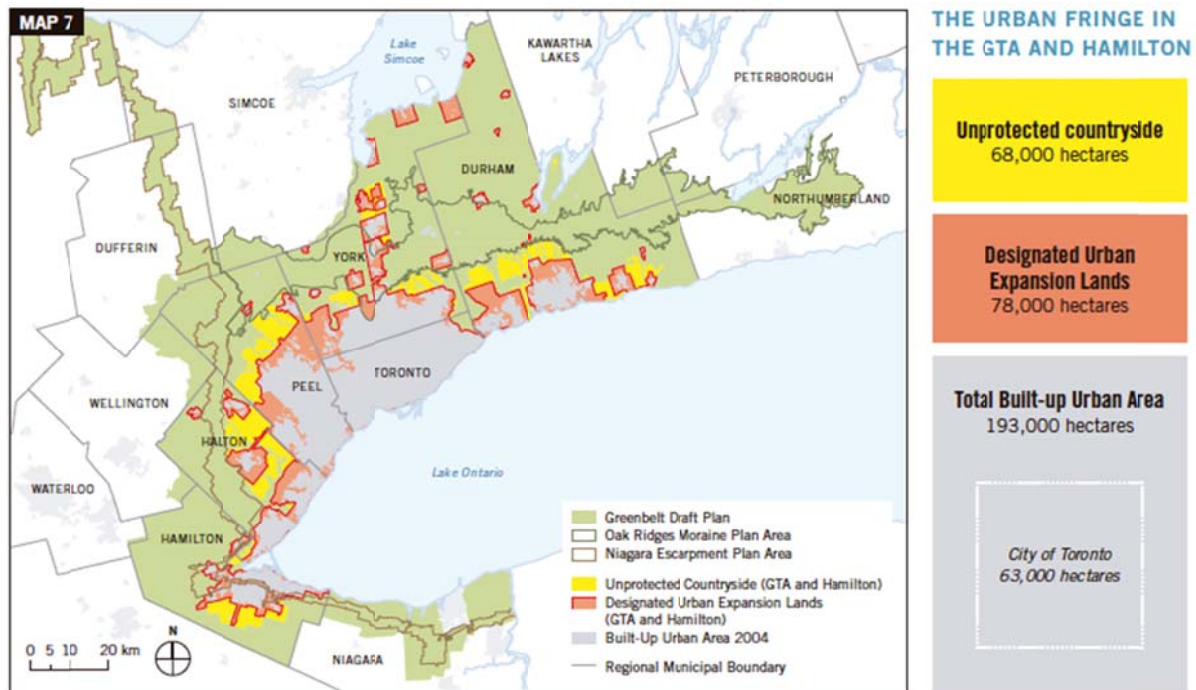
Figure 28: Unprotected countryside and designated urban expansion lands in the Greater Toronto Area and Hamilton (Neptis Foundation, 2005 p. 8)

Another example of how multiple factors can co-exist to create a change in a system includes the numerous activities that contribute to the growing stressors on the Niagara Escarpment ecosystem. These include population increase, associated consumption demands including that for more housing, other infrastructure demands for transformation and power lines crossing the Escarpment, monster homes, and the continuing or rising demands for aggregates for many of these activities. Resilience scholarship encourages us to examine the multitude of factors and systems that will ultimately push an ecological system beyond its resilience capacity. Study participants also identified how the aggregate industry's activities (which are impacted by the other factors listed above) will impact

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[117]   This is presuming that there are no improvements in the efficiency of aggregates use.

water supply in the region. Resilience thinking furthermore encourages us to consider capacity limits and associated population/consumption/infrastructure expansion limits.

Ultimately, the population within and surrounding the Niagara Escarpment Plan area increased considerably over a ten-year period and will continue to increase. More people driving through the escarpment, building homes and supporting infrastructure within it; more businesses developed to support these extra people; and more "close to market" non-renewable aggregate resource extraction to support the infrastructure, will place even more stress on the environment. For instance, it is expected that 1.7 million new dwelling units will be built in the Greater Golden Horseshoe area by 2031 (Ontario Ministry of Natural Resources, 2010).

Resilience literature gives us insight into the fact that at some point in time the aggregate resources will, along with other interacting factors, create a change in the overall social-ecological system of the Niagara Escarpment.

The economic system that relies on aggregates appears to be very resilient. However, this growth-oriented system counters goals of preserving the ecosystems that are required for human survival. It is as if one adaptive cycle is proving to be very resilient (the economic system that relies on aggregate resources) at the expense of another system (the ecological system). Resilience scholarship encourages us to consider how interacting systems will result in a change. Resilience does not tell us when this change will happen or exactly what will occur (although there are plenty of researchers – climatologists, engineers, planners, economists – who create remarkable models that attempt to precisely determine unwanted change).

Population within the Greater Golden Horseshoe is expected to increase significantly in the next 20 years. The aggregate industry is a significant contributor to the development and construction industries. But the amount of aggregate is finite and there are negative knock-on impacts from continuous mining (such as the impact of mining activities on water supply, as mentioned by study participants), as well as the dramatic increases in population (and related consumption of resources) both in and around the escarpment. In the context of this study, the aggregate industry was consistently regarded by environmental critics as emblematic of unsustainable development, facilitated by shortsighted politicians, profit-oriented developers and so on. The language of 'tipping points' and 'points of no return' was consistently used in conversation with study participants. However, the evidence to prove that local ecosystems and wider (escarpment wide) social-ecological-systems are 'threatened' or 'approaching tipping points' is lacking. Resilience analysis encourages us

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to set perceptions within systematic frameworks for empirical assessment, and to set local issues (that are divisive and serious) within wider and interrelated social-ecological-systems. Through resilience analysis, not only is the environment brought to the forefront of analysis and linked to social systems (that are embedded within it), assumptions can be tested through empirical analysis. Making decisions based only or mainly upon opinion set and expressed within the context of a constellation of social forces will yield only partial insights. Resilience thinking is therefore a necessary addition to planning and decision-making.

7.8 Conclusion

Land-use practices in Southern Ontario reflect the changing dynamics of Canada's political economy in a post-World War II world. Ultimately, the critical political economy assessment demonstrates that during the domination of the historic bloc organised around capitalist industrialization there were and continue to be counter-hegemonic forces animated by the negative environmental and social consequences of economic development (in both its Keynesian and more neoliberal forms). It was exactly these forces that resulted in the passing of the Niagara Escarpment Planning and Development Act. This analysis also shows how peaks in public concern for environmental issues parallel economic peaks. The peaks in public concern were also ended by economic recessions. Therefore, the conditions that allowed for the Niagara Escarpment Planning and Development Act to arise are the result of a particular array of social forces, forms of state, and world orders at various moments in time. Each actor's access to particular material capabilities, ideas, and institutions determined the power structures that shaped these forces. Put differently, the right people, social forces, events and time all emerged to bring about the conditions for the Niagara Escarpment Planning and Development Act to surface. While one might be pessimistic about present trajectories, this analysis demonstrates that one need not be fatalistic about the exercise of power, for the constellation of social forces changes over time as ideas, material capabilities and institutions also change.

The resilience assessment demonstrates how multiple systems interact, and how the result of this interaction creates pressure on environmental systems. Rising population, increased pressure on resources in the Niagara Escarpment, and expected needs in the future signal added pressure on already stressed resources. Empirical evidence of the impact of this pressure on ecological systems would be a significant advantage to planners.

The thesis now proceeds with Chapter 8, where I discuss the findings from Chapters 4, 5, 6 and 7 before concluding the dissertation in Chapter 9.

Chapter 8

Discussion

8.1 Introduction

As stated previously, the primary goal of this thesis is to understand decision-making processes at the rural-urban fringe. The case studies reveal that decision-making processes are highly impacted by a politics of capitalist development (in either property development or resource extraction, in these cases). The influence of promises of economic development and/or return on investment has a considerable influence on planning outcomes (especially because plans can be altered and promises of economic development opportunities are attractive to politicians). The analysis demonstrates that even acts and plans with the strongest legal frameworks are never completely secure because of the influence that developers have on political decision-making processes.

For consistency and comparative purposes, this discussion of the findings from the analysis of the South African and Canadian case studies in Chapters 4-7 is once again structured using the lens of problem-solving theories (governance and management) and critical theory (political economy and resilience). I begin with the problem-solving theories, and discuss main findings in both cases as they pertain to governance and management. Next, I group critical political economy and resilience under the overarching theme of critical theory and discuss the main findings of both cases accordingly.

8.2 Problem-solving theories

8.2.1 Governance and management

Problem-solving theories such as "good governance" and (natural resource) management stake their claims to key concepts such as stakeholder participation and (adaptive) co-management. Current planning theories also heavily emphasize the importance of participation: for decisions to have public acceptance and positive sustainability effects, 'ownership' of the process is a must.

In Chapter 2, I defined governance as including a wide variety of stakeholders across multiple institutional settings as they steer processes towards outcomes that are socially and environmentally responsible (Olsson et al., 2008; Rhodes, 1996). A key component of participatory governance is expanding accepted civil participation beyond standard procedures of representative democracy (Newman et al., 2004). Problem-solving theories such as those most notably found in the governance

literature claim that participatory democracy, especially at the local level, is essential to achieving "good", accountable governance (Devas and Delay, 2000). The claim is that if citizens are engaged, then outcomes will result in better environmental and social outcomes (Cornwall, 2008).[118] Collaborative governance indicates that citizens have a larger role in shaping policy.[119]

8.2.1.1 Participation, collaboration, legislation

An overall theme that emerged from the interviews in both case studies is that legislated policies and plans, even if they must go through a periodic review process, are critical for the enforcement of plans and the quality of the plan substance. This fact is very apparent in the Canadian case, and dominated the reasons why the Niagara Escarpment Plan and Niagara Escarpment Commission are viewed as successful, especially in slowing down[120] urban sprawl. It is interesting to note that neither the Gertler Report (this was the initial study of the Niagara Escarpment that eventually led to the Niagara Escarpment Planning and Development Act) nor the Niagara Escarpment Planning and Development Act incorporated collaborative processes in their formation. According to Whitelaw et al. (2008 p. 806):

> Neither the Gertler study nor the government process that led to the
> Act involved collaborative activities with stakeholders…Although
> the Gertler process involved public consultation along with 61
> interviews with key informants, it did not include any formal
> collaborative processes that brought stakeholders together. Rather,
> the study was led and prepared by experts… Even though NE
> [Niagara Escarpment] EMOs [Environmental Movement
> Organizations] were not involved beyond consultation, the
> movement supported Gertler's proposals and were recognised by the
> government as a significant base of political support for
> establishment of a new regime.

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[118]   While the assumption is usually that participation is a fundamental component of democracy, Robins et al. (2008) argue: "If participation is seen, instead, as a contingent outcome of political struggle, produced through complex struggles, networks and practices of political agency, this would draw attention to forms of "strategic non-participation" as a political strategy.

[119]   Sherry Arnstein's (1969) ladder of participation would place collaborative governance (where citizens are, in fact, empowered in determining the direction of outcomes) on rungs 6-8 (partnership delegated power, citizen control).

[120]   A main point that emerged out of my research is that, in the opinions of the study participants, primarily urban sprawl can be slowed down rather than prevented completely.

The South African case incorporated participatory processes with individuals who live in the core area.[121] Yet, it also shows the difficulty and frustration that exists when enforceable plans and policies are not in place (as shown by the debate over where the urban edge was in the Jamestown case. Planners felt the edge was legislated but developers claimed it was a de facto and moveable edge). Planners in both case study areas strive to apply plans consistently and uniformly, especially in the transition (or rural-urban fringe) areas where land uses vary.[122] Developers will challenge plans where policy is weakest or most unclear, most often citing economic development opportunities as the core reason why their applications must be approved. Plans become vulnerable due in part to temptations of jobs, revenue and so on for municipalities. Thus they are subject to change because legislation and policy get reviewed, amended, etc. For example, a change in political power could potentially dismantle the governance structure of the Niagara Escarpment Commission.[123] Canadian study participants have a perception that a Progressive Conservative government would be more likely to support development objectives while the New Democratic Party and Liberal Party are more likely to support environmental sustainability efforts.

It is because of the above points that positive change requires public ownership of the plan. Study participants in the Niagara Escarpment case strongly feel that public support, meaning more than NIMBYism, is critical to protection of valuable environmental systems, and the overall goals of the plans. Governance literature advocates the participation of multiple stakeholders in order to achieve accountable, equitable governance. The Coalition on the Niagara Escarpment is an example of an organization that does just this because it brings multiple groups from civil society together to advocate for environmental sustainability within the Escarpment area. The premise is that there is strength in numbers; actors may have limited power individually but collectively they are strong since they may pool resources (fiscal and otherwise) to challenge undesirable development applications.

The Coalition of the Niagara Escarpment came about during the time that the Niagara Escarpment Plan was being developed. It was formed when the Preliminary Proposals for the Niagara Escarpment Plan were being challenged. Environmental groups, including the Preservation of

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[121]   It is important to note that the forms of participation never reached Arnstein's rungs 6-8 described as "citizen power".

[122]   Planners in the Niagara Escarpment identify the area termed "transition area" by UNESCO Biosphere Reserve terminology as being the rural-urban fringe area.

[123]   Admittedly this is the extreme example and some feel it is less likely than incremental adjustments and exceptions, perhaps influenced by a set of new Niagara Escarpment Commission appointees with weaker commitments to stewardship objectives.

Agricultural Lands Society, did not get organized in time to support these initial proposals and thanks to "distorted coverage in the media and a right wing propaganda campaign" (Study Participant #22), the Ontario Government cut the Niagara Escarpment Plan area by two-thirds. Stephen Lewis and Mel Swart[124] had started the Preservation of the Agricultural Lands Society and understood how civil society can serve the interests of particular groups of people. So, they worked with Lynn Mac Millian, who was appalled that no one stood up to those who did not support the Preliminary Proposals for the Niagara Escarpment Plan.[125] The Coalition on the Niagara Escarpment was formed in 1978, with five organizations and ten individual members. That year it helped stop a proposed executive retreat centre in Caledon and was responsible for getting the Niagara Escarpment Commission meetings open to the general public. Today it has 30 member organizations.[126]

Representatives from the Coalition of the Niagara Escarpment (Study Participant #16) that currently their involvement in planning is driven by needs to respond to development pressure. According to one interviewee, the organization is at the planning table, or in the courtroom and in some cases both.[127] Study Participant #16 also told me that the organization has continued this fight "because of its members (both groups and individuals) who wish for the natural features to be preserved for the enjoyment of future generations".

Despite the fact that the participatory governance and management literatures promote multi-dimensional approaches to decision-making processes, some decision-makers and planners in the Canadian case feel that since planning involves a technical component, not all issues need to be subject to consultation with the broader public as doing so simply adds bureaucracy to an already burdened, lengthy and expensive process. This is not to say that they do not believe in participatory

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[124]   Stephen Lewis was Leader of the New Democrat Party from 1971 until 1975. Mel Swart served in the Legislative Assembly of Ontario as a New Democrat from 1975 to 1988.
[125]   See http://www.escarpment.org/_files/file.php?fileid=fileJYXhTrEVQb&filename=file_Bacher.pdf for a summary of the conditions that led to the Coalition of the Niagara Escarpment to be formed.
[126]   See http://www.niagaraescarpment.org/index.php?option=com_content&view=article&id=17&Itemid=23 for more information about the history of the Coalition on the Niagara Escarpment.
[127]   A Coalition of the Niagara Escarpment representative told me that the organization has "had its share of ups and downs. Right now Canadian Prime Minister Stephen Harper's personal hate for science research and environmentalists is having an income impact on CONE [the Coalition of the Niagara Escarpment]. He is using the CRA [Canadian Revenue Agency] to harass us. Some of our groups have had their charitable status revoked. I have been personally audited two times in the past 8 years. Nothing was found wrong either time".

processes. On the contrary, they feel that it is an important part of planning processes, but they feel that there are aspects that should be left to technical experts.

I asked planners who work for the Niagara Escarpment Commission how they felt about the fact that some people I interviewed believed that the public does not have to be consulted on every matter within the planning process. One planner said that involving the public as early in the process as possible is more efficient in the long run because this way people will be able to make informed decisions sooner, thereby making the process more efficient and effective.

This is what one of the planners stated in response to my query:

> My answer would be that it depends on what is being considered. Broad questions of future policy direction or land use change in a major land use review would trigger public participation. Matters which are focused on individual lands or specific policies that do not have broad application would not in my view necessarily need public involvement. The line between the two is not always that clear but when in doubt consult (Planner).

> We have an obligation to represent the public interest…Obtaining the public's views at various stages in a planning process can actually assist in avoiding lengthy hearings as the public is made aware of the basis for a recommended planning application or policy decision…The public we encounter are intelligent and engaged and often technically knowledgeable (or prepared to retain experts who are) and so making the argument that some matters should be left to "technical experts" could be problematic. Where consulting the public may not be appropriate is a situation where the member of the public cannot demonstrate their connection to the matter at hand. They live miles away from the subject lands but are claiming some impact or expressing general philosophical disagreement to what is being proposed (Planner).

8.2.1.2 Transparency, accountability, trust

Both cases demonstrate how a lack of transparency in implementing governing structures can lead to distrust and miscommunication. Various stakeholders generally mistrust one another in Canada; this mistrust is most apparent in relationships between environmental groups and the aggregate industry. Lack of trust is also a massive barrier in the South African case due to a history of Apartheid, broken promises, and stereotypes. It is important that people who represent various groups participate in planning processes (for instance, representatives from environmental groups, rate-payers associations, and government officials). Various interest groups bring different perspectives, knowledge and values

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to discussions. It is perceived that the Niagara Escarpment case is relatively successful in this area, but there are still improvements that can be made. For instance, in both case studies it emerged that appeal processes benefit those with more resources (financial and otherwise). Yet despite these barriers to participation, it is undeniable that the process matters in both areas. The Canadian case revealed that even if someone does not obtain the result that he or she desired, individuals are more appeased if the process is followed and is transparent. Problems arise when it appears that other factors (introduced either by politicians or by business) diverge from the process and ultimately impact the final outcome. Within the planning process of the Jamestown case, developers and politicians may "sell" a development to the local community in order to obtain support. There are several instances in the study area where a community is told that it will receive money through a trust but long after the development is approved, the community does not receive promised funds. The process is followed according to the law, but promises made go unfulfilled. After years of inequality realized through the Apartheid system, the importance placed on accountable, democratic processes in South Africa cannot be overemphasized. There continues to be room for improvement from both case study areas (albeit on different scales). It must also be noted that simply because a process is followed, it does not mean that the outcome is fair or just. Despite what the literature says, as evident in the South African case, sometimes outcomes only favour those with some form of formal political or economic power. Furthermore, some individuals simply do not have the education or even confidence to participate in planning processes.

8.2.1.3 Order at the fringe?

The response was mixed when I asked study participants in South Africa whether or not the rural-urban fringe could be considered as its own demarcated area and managed in an adaptive co-management manner. Planners and those with technical expertise tended to feel that the idea would not work and it would be a costly process. However, participants were more enthusiastic when I presented the idea during public talks in South Africa. The idea of planning a shared, common vision within the rural-urban fringe was pleasing for them; however, many also felt that those with power would not participate. They felt that those who needed to be in the room the most (from their perspective), meaning those who impact outcomes, would have no interest in participating in such forums. Furthermore, such arrangements would have to be backed up with the rule of law. Study participants from both case study areas all support participatory processes; however, we see from the

success of the Niagara Escarpment Planning and Development Act that simply allowing participation is not enough: it won't get everything you want. Robust laws and management structures are also required.

I also asked whether or not it would be beneficial for stakeholders to collaboratively envision various scenarios for the area, ultimately taking ownership of the plan. However, once again, it was perceived that it likely would not occur because of the lack of resources to actually carry out the scenario building exercise or to implement the results through incorporation of formal plans (time, expertise, and money). This is an important point because as we saw in Chapter 7, in the 1970s in the Niagara Escarpment case, resources were available to implement the Niagara Escarpment Planning and Development Act, and time was also available (shown by the fact that it took 18 years for the Niagara Escarpment Plan to emerge). Currently the challenges are complicated by a neoliberal system that values efficiency and timeliness.

A similar management problem that emerged in both areas is that a lack of human capacity and technical expertise within planning departments exists, albeit on a different scale. South Africa is in dire need of technical expertise within public sector planning. Canada has public sector funding limitations that have detrimentally impacted the capacity of the Niagara Escarpment Commission to evaluate or monitor developments to ensure they occur as decided in the approval process. The need for more enforcers of the plan is essential in both areas. In Canada there is one enforcement officer in charge of policing the entire Niagara Escarpment Planning area. There is no enforcement officer in the South African case area. Enforcement is essential to stop those who do whatever they want to do despite laws and agreements. For instance, there is a problem with people who disregard Niagara Escarpment Commission rules and approval processes and simply do what they want (such as building a garage in the core area because their house sits on the edge) considering any fines (if they are caught) all part of the development application process.

8.2.1.4 The value of Biosphere Reserve status

All of the planners that I interviewed in both areas understand and appreciate the value of having UNESCO Biosphere Reserve status. The Niagara Escarpment region has been a Biosphere Reserve for much longer than the Cape Winelands area, but the key factor that leads to Biosphere Reserve success in this region is the fact that the Niagara Escarpment Plan came before the Biosphere Reserve designation. The Niagara Escarpment Plan essentially legislated the type of planning that UNESCO's

Man and Biosphere Reserve programme advocates. Biosphere Reserve status is used primarily as a marketing device in the Canadian setting, and draws attention to the Southern Ontario region. The Cape Winelands only recently became designated and a secretariat has been formed. The challenge for the Cape Winelands will be to get a legislated plan for the area, as there is currently a wide array of conflicting perspectives on how land should be managed. Furthermore, both cases reveal that maintaining Biosphere Reserve status requires capacity and financing. In both cases, the 'environment' is regarded as a special interest, or one interest among many competing interests all equally legitimate (including the interests of developers). Some Study Participants (#3, 6, 11) in Canada view the Biosphere Reserve as a marketing tool. Thus, the environment is not seen as an overarching context within which we all exist and wherein our activities must recognize limits. Biosphere Reserve status is recognition of special effort and commitment to serve both stewardship and sustainable livelihoods objectives in an identified area. The recognition helps make the area marketable, but the recognition rests on the substance of the special effort. According to Dennis Moss Partnership, there is real potential value of Biosphere Reserve status in contributing to sustainable practice:

> Biosphere Reserves provide a framework for the creation of partnerships for knowledge sharing, research, monitoring, education, training, and participatory decision-making (Dennis Moss Partnership, 2012).

In Canada, implementation is embedded in the Niagara Escarpment Planning and Development Act and the Niagara Escarpment Plan. In South Africa, the Cape Winelands Biosphere Reserve Spatial Development Plan is not legally enforced. Yet it is still viewed as valuable because it signifies something special and unique about the area, and can draw people (tourists especially) to the area. It is also valuable because – as shown in the Canadian case – NGOs, including environmental groups, promote the Biosphere Reserve status to the greater public when trying to stop a particular development (for instance a quarry) in the Niagara Escarpment. Having the UNESCO Biosphere Reserve status convinces people from the broader public that the area is unique; therefore, they may want to join an NGO to support the protection of the Escarpment (civil society relies on a large number of people joining together, to demonstrate to decision-makers, including politicians, that a particular viewpoint is shared amongst many).

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8.2.1.5 Political and economic influence and power

Reviewing the cases from a governance perspective sheds light onto the fact that power plays a significant role in the planning process, therefore conforming to findings from research conducted elsewhere (see Pieterse, 2003; Flyvbjerg, 2007). Clearly the dominant theme that emerged from the South African case is that power (political and economic) has historically determined outcomes. In the South African case, planners most often feel powerless as the market and politicians dictate the direction of urban growth, despite their vision of where the Municipality should grow.

The ability that those with power and money have to influence the planning system is significant in both cases. This is a common theme that emerged in Canada, especially with regards to the aggregate industry, and in South Africa, especially in wine estate development deliberations. The appeal process, although structured differently in each area, is similar in that those with multiple forms of capacity (fiscal and expertise) have the stamina, resources, and motivation to see it to an outcome that is favourable to them (meaning until they are successful). Since the approval process (and the appeal process) is long and costly, wealthy applicants in both countries are likely to stay the course until the end.

8.2.1.6 The global in the local

Governance and management literatures place an emphasis on the importance of building social capital, particularly in socially fragmented societies like South Africa (Putnam, 1995; Carter and Castillo, 2011). However, this is made more difficult where the changing force of the built environment reflects on influx of foreign capital and ownership. Both the Canadian and South African case study areas also have a significant percentage of land owned by foreigners (or as business partners). This impacts the significance that owners place on local landscapes (for instance, they may not have the same personal attachment to a place and its people as those who live in the area). Furthermore, wealthy individuals are often drawn to the pristine landscapes that UNESCO's Biosphere Reserves offer. This leads to Winelands gated communities with "gentlemen estates" in the South African setting and "monster homes" in the Canadian setting. Study participants in both cases claim that there are many who are unhappy with these types of developments. Rural dwellers who live in more modest housing feel that there should be limits to housing size as large estate houses interrupt the nature experience and drive up property taxes. Furthermore, there is a perception that the wealthy homeowners are removed from their neighbours and they change community dynamics. For

instance, in the 1950s and 1960s, people were more likely to be completely embedded in their local community (they lived, worked and socialized in their local community). Now, individuals may live in a rural community but their footprint is much wider as it stretches across scale (for example, they may live in the Niagara Escarpment but work and socialize in downtown Toronto). This decreases engagement and ultimately reduces the ties that these people will have to the local community. Hence, an individual being situated in various geographical scales fragments local community integration.[128]

There is no policy on the monster homes or gentlemen's estates in either area. There is a perception that the character of small rural villages changes as land prices escalate and elite classes of people move in. This leads to a lack of integration in the South Africa case, despite post-Apartheid goals. We also see a spatial division between wealthy and lower income classes in Canada. Therefore both case studies show how the influx of wealthy individuals to the area brings about changes in the surrounding community (malls are built to accommodate the wealthy, private health clinics appear to service the upper class) and those from the area (perhaps from a multi-generational family) move to other communities. This adheres to what Scott et al. (2013) have stated about how individuals with urban ways of living can influence rural dwellers in rural-urban fringe spaces. In Canada, low-income people move to cities where there are services available to them. In South Africa, low-income groups settle near the wealthy communities in order to service them. This settling on the outskirts of built up areas typically occurs on the edge of a township, and simply reproduces the Apartheid spatial patterns. These pockets of wealth also encourage informal settlements in South Africa because low-skilled workers move to these areas for employment opportunities, even if existing housing is not available, thereby complicating land use planning in places like Jamestown.

8.2.1.7 (Unequal) capitalist economic development

Both cases show how the nature of capitalist economic development (whether it is in the form of developers lobbying politicians and government officials to change an aspect of the plan to suit their needs or a wealthy individual whose private housing development changes the nature of surrounding communities) has a profound impact on land-use planning (because plans can be altered, reviewed, or

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[128]   For example, in the Cape Winelands Biosphere Reserve there are absentee wine farm owners (Italian multinationals, for example); holiday home owners (from all over South Africa and the world) who spend only a few weeks a year in areas such as Jamestown and Kylemore; residents of Greater Stellenbosch Municipality who work in Cape Town or Bellville or Somerset West. The same may be said for the Niagara Escarpment Biosphere Reserve area.

because plans do not restrict activities favoured by the wealthy). As shown in Chapter 5 above, the nature of capitalist accumulation in Southern Ontario has shifted dramatically away from (locally rooted) manufacturing to (financial and other) services. Studies have shown that this global dynamic accounts for the increasing wealth gap among the so-called "1%" and everyone else.[129] Currently, the richest are getting richer and the income gap is increasing between economic classes. The Canadian Centre for Policy Alternatives (2013, p.5) states: "based on individual tax data, the top 1% in Canada accounted for 32% of all income growth in the decade 1997–2007…It is four times the gain during a period of similar growth in the 1960s, and almost double the gains accruing to the top 1% during the Roaring Twenties. We are in uncharted territory economically." In international inequality ratings, Canada has gone from 14th to 22nd place from the mid 1990s to present day (Canadian Centre for Policy Alternatives, 2013). During the same period, "15 of 34 OECD nations reduced inequality" (Canadian Centre for Policy Alternatives, 2013, p. 2).

This growing wealth gap manifests itself spatially as the richest live removed from other income groups (the diminishing middle class[130] and lower-income individuals)[131]. Therefore, the nature of growth pressures change, in that the demand for resources used to support the lifestyle of the wealthiest also increases. A critical political economy analysis allows us to understand economic dynamics in a robust manner, thus providing insight into how this can impact land use planning.

8.2.1.8 Political will

Referring to solutions, study participants, in line with problem-solving theory, discussed the critical need for political will, meaning politicians must back the pertinent plans, and fight for social and environmental sustainability according to what the plan says. Broader goals that should be in the plan, such as social, economic and environmental sustainability, or the "triple bottom line", must have political support. Some of the people that I interviewed for the Canadian case discussed what the role of government is (is it intrusive to individual freedom or an actor for the public good?). This is an

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[129] See the insightful series of essays in Leo Panitch and Colin Leys, eds.,2004 The Empire Reloaded (Halifax: Fernwood Books).
[130] The Canadian Centre for Policy Alternatives (2013, p. 4) states that those earning between $30,000 and $60,000 "what could be termed the 'middle class' — continues to decline. It needs to be noted that this class is above the middle. That is because, by 2010, over 50% of Canadians earned less than $30,000, a slightly larger share of the working population than in the mid 1970s in inflation-adjusted terms".
[131] The Centre for Urban and Community Studies at the University of Toronto is conducting research showing how the wealth divide is changing Canadian spatial structure. See http://neighbourhoodchange.ca for more information.

ongoing ideological debate that currently impacts the Canadian political landscape (see Chapter 6). In South Africa, government is expected to defend the marginalized, so they must be at once pro development to create jobs and anti-development to prevent dispossession. This is not only contradictory, but also clearly a difficult task within the present context of the neoliberal historic bloc (see Chapter 6).

8.3 Critical theory

8.3.1 Critical political economy

8.3.1.1 State Forms, Social Forces, World Orders

As discussed above, a major theme that emerged in both case study areas is that strong legislation is essential for the goals of a plan to be implemented. Strong law is essential if one wishes to protect an urban edge or a portion of land for conservation purposes. The critical political economy analysis that I conducted in Chapter 7 shows that the Niagara Escarpment Planning and Development Act and the Niagara Escarpment Plan (which Canadian planners and environmentalists claim are critical for protection of the core area) emerged during the heyday of the Keynesian Welfarist state form, and the rise of environmentalism globally. At that particular time, the state had more autonomy and thereby political leaders were better able to act on initiatives that, in this case, the public requested. As Chapter 6 shows, up until 1994 the state was also at the centre of power in South Africa but it was centering all of its resources on protecting and furthering Apartheid. A completely different social, economic and political context in South Africa existed that ignored the needs and desires of the entire non-white public; thereby creating a negative socio-spatial foundation that hinders progressive development today. Analysing both cases by looking at the historic blocs that have existed throughout time and the constellation of social forces that influenced these historic blocs provides insight into the conditions that allowed for particular outcomes. For instance, one may criticize South Africa for not having a legislated plan that protects the Cape Winelands Biosphere Reserve like the one that is in place in the Canadian case, but a Coxian analysis reveals a favourable set of factors, actors, and social forces – local and global – that led to the Niagara Escarpment Act and Plan; a constellation that is absent today.[132]

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[132]   The Greenbelt Act (2005) and the Greenbelt Plan (2005) were passed when a different constellation of social forces existed.

This is critical to consider because the problem-solving literatures of governance and management view issues such as power imbalances in appeal processes (in both case studies) and would simply conclude that the governance or management structure must be improved. However, as shown in Chapter 6, there are macro structures in place today, both in Canada and South Africa, that make managing or governing a way out of a problem difficult, if not impossible; hence the persistence of good legislation and participatory processes in South Africa but with little "goal attainment" as stated in the plan.

A Coxian analysis shows us how, particularly in the Canadian case, the state and private sector have had a particularly close relationship throughout the post-World War II period. Progressive legislation was particularly realized during the post-war "global boom" period, with pockets of progressive environmental legislation emerging in response to particular local and global pressures.

The case studies also show that it took from 1967 (the year studies began which identified a need to protect the Niagara Escarpment) until 1985 for the Niagara Escarpment Plan to be legislated. That is 18 years of court cases, public hearings, debates and political issues that continue to hold processes to ransom. South Africa has only been a democratic society since Apartheid ended in 1994. While problem-solving theories suggest that creating new structures takes time, a critical political economy analysis shows that it likely takes more than time. It takes the emergence of a new constellation of social forces to form a historic bloc that is conducive to progressive environmental and social change. Even so, outcomes are not always fair to all actors (as the Canadian case shows). What the two cases also show is that while the historic bloc in place during the 1945-early 1980s period was conducive to progressive Canadian legislation, it facilitated retrogressive South African legislation. The neoliberal historic bloc that emerged through the course of the 1980s and is with us still today, makes social reorganization in support of the poor in South Africa very difficult, while it supports the aims of developers and the dynamics of urban sprawl in both cases. In Canada, support for the dynamics of urban sprawl has declined and to a considerable extent been decreased in Ontario – hence growth management planning, the Places to Grow and Greenbelt Acts, etc. The shift is incomplete (neglecting the rural estates issues, for example) and mostly still accommodating growth rather than imagining hard limits. But old style sprawl is mostly out of favour and unlikely to regain it. Currently, capitalist property developers have considerable power and can thereby influence whether plans and acts are amended, altered, etc. This is a significant factor that causes the unequal playing field that many study participants in the Niagara Escarpment case perceive as existing in

decision-making processes. It is furthermore one of the reasons why plans and acts are never 100% secure.

8.3.1.2 Dynamic tension

But simply realizing the structural bases of power (See Section 8.3.1.1) leaves one powerless. There are essentially two decisions to make, then. The first would be overturning whoever holds the centre of power within the constellation of social forces. The second is relying on collaborative governance and management structures to attempt to obtain desired outcomes. Such a conclusion illustrates the dynamic tension that exists between problem-solving and critical theories. For a scholar such as Carl Death (2006; 2010; 2013) option two is a useful, perhaps even necessary, part of the path to option one. Certainly based on the evidence presented in this thesis, option one has no promise without plausible strategies for pushing the desired change.[133]

A Coxian analysis has also indicated that currently the powers of the market in South Africa are much stronger than current planning policies (that can be altered and amended). Furthermore, the powers of economic interests do not allow for a stricter type of land-use planning that may be necessary for environmentally sustainable and socially equitable outcomes. We now turn to resilience to see how historic blocs and constellation of social forces impact environmental systems.

8.3.2 Resilience

Resilience literature encourages us, among other things, to understand the interconnections between "systems". Applied to the case studies, one system may centre on the market at a particular scale and another system may centre on the environment at a particular scale. In the Jamestown case, the market system may facilitate a gated community being developed, but this will also have effects on the environment-centered system. Systems outside of the actual Jamestown area affect outcomes locally. For instance, the influx of people to Cape Town affects the surrounding region as more people seek housing; the presence of corporate headquarters in the town of Stellenbosch impacts local housing prices; the beauty of UNESCO Biosphere Reserves like the Niagara Escarpment and the Cape Winelands attracts wealthy people, thus increasing the likelihood of rural gentrification; and

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[133] Critical theorists often argue for "clinical politics" (pragmatic) not "cynical politics" (fatalist) in the face of seemingly immutable global power structures. For Cox (1981 in Cox with Sinclair, 1996, p. 90), critical theory 'contains an element of utopianism ... but its utopianism is constrained by its comprehension of historical processes. It must reject improbable alternatives just as it rejects the permanency of the existing order. In this way critical theory can be a guide to strategic action for bringing about an alternative order'.

promises that government makes to supply houses for low-income people affect how and where crown land is developed. The Niagara Escarpment case shows how legislation made by different government departments impacts local outcomes (for instance, the Greenbelt Plan may impact where and how people settle elsewhere in the Greater Golden Horseshoe, with consequential effects on land values, gentrification and the class(es) of people living in a particular area).

8.3.2.1 Resilient processes

This study reveals that planning *processes* in both cases have been resilient. But this does not mean that the resulting decisions have desirable effects. It does not mean that outcomes are fair, just, or best for desirable environmental outcomes, as both cases reveal. In South Africa the legislated processes are followed, and yet the market still decides development patterns, much to the chagrin of public sector planners. In both cases, the process is followed according to the law.

With that being said, study participants in the Canadian case unanimously agree that the Niagara Escarpment is successful because even with its flaws in power dynamics, there would be much more development in the area if the Niagara Escarpment Commission and the Niagara Escarpment Plan did not exist.[134] Still, it is a constant struggle for those who wish to maintain the integrity of the land and resources (including for the planners who protect the plan). They continue to operate within the restrictions of the law by following the process, yet sometimes have to climb mountains throughout it, in order to reach the overall goal of environmental and social sustainability.

Past experience can be influential as is shown by the fact that present day decision-makers are impacted by what happened in the past when considering development applications, as shown in the South African case. As the De Zalze 2 application shows, decision-makers primarily consider the merits of the application, such as whether the proposed area is located within the urban edge. But, they are also influenced by recollections of past misdeeds by developers and planning firms, ultimately impacting current and therefore future development applications (whether they consciously realize it or not is another matter). The planning firm's client may be completely unaware of why their application is regarded so negatively. The resilience literature helps one see the big picture with regard to the impact of certain decisions, but it cannot determine the direction of those decisions. Resilience connects the impact of human activity and consumption patterns to ecological systems.

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[134]   However, this view stands in contrast to Winfield (2012) who states that the Niagara Escarpment Commission really only facilitates development rather than defends the natural environment; for these reasons, he says, many people think it should be disbanded.

Specifically, it tells us that if human activity continues in a particular, unsustainable manner, then the social-ecological system may reach a tipping point. Both case studies reveal that current development patterns are highly resilient. This "resilience" has given rise to often acrimonious and strong opinions regarding the various actors in the study areas. The aggregate industry is a touchstone in the Canadian case; gated communities are at the heart of most South African debates regarding development and social-ecological system tipping points.

8.3.2.2 Challenge and opportunity

How, or even whether, to interrupt this resilience, or encourage the trajectory of the system into a new, different tipping point is especially challenging given the scale and diversity of development patterns. For instance, in just the rural-urban fringe area of Jamestown, we see informal settlements, wineries, a gated winery/golf club/housing estate community, a commercial area, a middle class neighbourhood, and a gated retirement community/health clinic. This diversity of activities can both enhance the resilience of the existing system (by providing a range of opportunities for developers and consequent back up options if one type of initiative faces barriers) and undermine it (by providing many entry points for opposition by diverse communities of the currently disadvantaged). People who live in Jamestown or De Zalze likely travel outside of the area for work (they may work in Cape Town or the Town of Stellenbosch), thereby changing the socio-economic dynamics of a historically rural community while putting more of it under concrete. Aggregates mined in the Niagara Escarpment are used in construction projects in the Greater Golden Horseshoe, and Asian property investors who believe that Toronto is a lucrative market perhaps fund some of these projects. Ultimately, the actors are not always positioned locally, or embedded locally and this has considerable impact on rural-urban fringe dynamics and outcomes. Furthermore, the changing larger economic landscapes draw both Biosphere Reserve areas into a global system, thereby potentially threatening or undermining sustainability at the local level. As shown in Chapters 6 and 7; however, global and other larger scale connections also introduce opportunities for positive local change or at least for defending what is locally valuable. Most obviously the Biosphere Reserve program is a global level creation that has in both cases brought local gains.[135]

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[135]   While the South African case seems like a case of "lock-in" economics; critical theory argues against such models of path dependency (see Martin, 2010 for an overview). Power manifests itself in many forms across different spatial and temporal scale – so things do change. Just not as easily as getting your governance indicators "right".

As demonstrated in the last section, the gap between rich and poor is widening and this is reflected spatially. Resilience thinking helps us to recognize that this system (even though it is highly resilient) will eventually change. I suppose that humans are left with the choice either to wait for the system to tip on its own (which could potentially lead to an environmental and societal catastrophic event), or to initiate change towards equity and sustainability earlier in the process, thereby potentially encouraging the result to be less damaging.

In Chapter 7 we saw that in Ontario, aggregates are used extensively in development projects and are significant contributors to economic development, and that the industry and provincial policy support using aggregate sources that are close to markets. Furthermore, the Niagara Escarpment and surrounding areas are increasing in population, meaning that more aggregates will be used in the future.

Clearly, the aggregate resources will reach a tipping point since they are non-renewable. It is less clear; however, as to whether the surrounding ecological systems will as well, and if so, when. Nevertheless, a resilience analysis encourages us to ask better questions and to collect better data so that opinions (however strongly held) can be made malleable by facts. At the same time, as I mentioned above, the current economic system is extremely resilient and it relies on further degradation of natural resources. Resilience tells us that these two adaptive cycles are not compatible – that the resilience of one system (the economic system) relies on the vulnerability of another system (in the Jamestown and Niagara Escarpment cases, this is the environment).

Finally we can see from activities in both cases that resilience thinking, far from being the framework that drives decisions, is rather a position taken by particular stakeholders, among a panoply of stakeholders who all regard the environment (in the Niagara Escarpment and the Cape Winelands) as a resource and therefore as an economic good subject to political decisions.

8.1 Conclusion

This chapter reviewed the findings from Chapters 4-7. I discussed the findings through the analytical lenses provided by problem-solving (governance and management) and critical (critical political economy and resilience) theories. Beginning with the problem-solving theories, I summarized key findings of both case studies. Dominate governance and management learning includes the importance of strong legislation in planning processes. Participation, collaboration, and trust between stakeholders were also noted as being beneficial to fair outcomes. However, some feel that the level

of engagement should vary depending on the project goals. Both areas would benefit from an increase in funding for enforcement officers to ensure that people are adhering to development restrictions. A review of governance and management also indicates that power plays a considerable role in planning and development processes. The critical political economy analysis has shown that the constellation of social forces changes over time, thereby opening 'windows of opportunity' for progressive policy and legislation to emerge. In the Canadian case, it may be seen that the welfare-nationalist state gave rise both to rapid economic development (and the continuing dynamics of sprawl) and to meaningful, progressive environmental legislation. Given the particular array of social forces in the Greater Golden Horseshoe, this legislation remains robust despite the rise of the neoliberal state form. In contrast, in the South African case, despite progressive policy, the post-Apartheid constellation of social forces remains wedded to practices that promote sprawl, some exhibiting disturbing race-space characteristics, primarily due to the desire for employment and accelerated economic growth.

The resilience analysis suggests that the ecological consequences of sprawl at the rural-urban fringe may be more negative in the South African case – given the particular history of settlement within an environment less resilient under the pressures of Western-style economic development (i.e. seasonal rainfall, highly erodible soils, already significantly degraded environments) – than in the Canadian case. It also suggests that widespread poverty in the South African case exacerbates social-ecological system vulnerabilities. However, the resilience analysis also suggests that there is great need for more and better information regarding social-ecological system dynamics and that these must be folded into decision-making processes, particularly in the context of climate change. In particular, the continuing arguments between environmentalists and developers regarding the consequences of the aggregate industry in the Greater Golden Horseshoe seem not only to be based on inadequate information regarding the overall impact of aggregate mining in the Greater Golden Horseshoe, but to distract analysts from a more concentrated focus on an overall assessment of social-ecological system vulnerabilities despite progressive legislation.

In the next Chapter, I discuss the conceptual and theoretical contributions of this research, research limitations and areas for future study, revisit the research questions, and conclude the dissertation.

Chapter 9

Conclusion

9.1 Introduction

The thesis has utilized both problem solving and critical theoretical approaches to examine planning dynamics within rural-urban fringe areas in two UNESCO Biosphere Reserves: Jamestown, within the Cape Winelands, South Africa; and the southern portion of the Niagara Escarpment, Canada. This chapter discusses the main objectives that I set out to achieve in the beginning of the dissertation before summarizing what is to be learned from this thesis.

In Chapter 1, I explained why it is important, on a practical level, to examine decision-making processes in rural-urban fringe areas. Cities are expanding, and this urban expansion means that social systems are being disrupted, and critical ecosystems that are essential for agricultural areas, and human survival, are being altered. Rural-urban fringe areas are highly susceptible to these changes because this is where multiple actors with varying, often conflicting, perspectives emerge. These areas are vulnerable because they often attract individuals with development interests that results in land use change activities that bring stress on local ecosystems. As was demonstrated in both case studies, rural-urban fringe actors can include aggregates mining corporations, leisure and wine businesses, property developers for the elite, low-income people who service homes on golf estates, environmentalists, farmers, and people whose families have simply lived in the area for generations. Land is more than something to be developed or to serve transient human desire. Besides the ecological contribution of resources, land is a base for valued social and cultural qualities and a portal for human emotion. Rural-urban fringe areas are also places of opportunity for meeting new or newly recognized needs and aspirations. There is therefore an opportunity cost if all or some of these lands are allocated to purposes that do not address these needs and aspirations.

Since what happens in rural-urban fringe areas ultimately determines the development or lack of development patterns in areas that are identified as valuable in some form (both case study areas obtained UNESCO Biosphere Reserve status), it is important to examine how and why planning decision-making processes and outcomes occur. Therefore, this thesis intended to understand and explain decision-making processes at the rural-urban fringe through the creation and application of an analytical framework. The next section discusses these contributions in more depth.

9.2 Core research contributions

This thesis makes two main contributions. First, it makes a substantive contribution that addresses the issue of understanding decision-making processes within rural-urban fringe spaces, with a particular focus on two case studies. The second is a theoretical contribution, whereby I developed and applied an analytical framework (Figure 5) for understanding (and possibly shaping) decision-making processes within rural-urban fringe areas.

Substantively, we have seen that government policy notwithstanding, decision-making within the rural-urban fringe is primarily determined by economic development and 'return on investment' priorities. In the Jamestown case, the private sector has often determined the direction of development patterns, much to the frustration of municipal planners. The developers are able to sell their ideas to the government and communities because of the dire economic realities for the poor majority. In the Niagara Escarpment case, Niagara Escarpment Commission planners and environmental organizations such as Coalition of the Niagara Escarpment are constantly battling aggregate companies that use arguments centered on economic development benefits and "close to market" economic advantages as reasons why the Niagara Escarpment Plan needs to be amended, etc. to allow for approval of new or expanded industrial activities. Monitoring mining activity was also flagged as a major concern because it is felt that companies ignore the law, and mine in places where they should not. With cuts to the number of staff employed within the Niagara Escarpment Commission, this is difficult to prove.

Ultimately, plans can be amended and the amendment process can be initiated and influenced by these large corporate developers. The result, as the South African case shows, may be class division manifested spatially. This also occurs in the Niagara Escarpment, where the proliferating construction of monster homes is contributing to rural gentrification.

I set this thesis within the bodies of several interrelated literatures. The planning theory literature showed how planning continues to be primarily a rational, and linear process, despite the fact that there are various collaborative models that could be drawn from (Grant, 2008). The literature also maintains that more studies are required that incorporate complex systems and resilience into planning theory and practice because these concepts address the non-linearity of planning realities (Wilkinson, 2011). Complex systems and resilience literature alleges that complex problems can no longer be solved via linear decision-making processes and they must be viewed across time and scale to capture interactive dynamics, in light of surprise events and tipping points. Viewing planning

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issues within the rural-urban fringe using resilience as part of a more holistic framework for understanding promotes a multidimensional perspective, perhaps allowing one to plan and/or respond appropriately in times of surprise. However, while resilience provides a more rigorous analysis it does not provide insight into why particular outcomes emerge. This is why I turned to critical political economy and the form that is most associated with the writings of Robert Cox (1987). Critical political economy helps locate current and particular issues and challenges within historical time and social space, showing most clearly the interlinked socio-economic character of the issue at hand. While critical political economy points out the constellation of social forces and hegemonic blocs that emerge at particular periods in time, it is overly anthropocentric. Therefore it benefits from the addition of resilience thinking, which sets humanity within the biosphere and considers humans and human community as one variable impacting social-ecological systems, from the local to global level. This combination is useful for planning practice because planners operate in the now, decisions get made on an often time-sensitive basis and often staff shortages decrease the resources to deal with numerous demands. Therefore, critically analyzing problems may be considered a luxury.

Governance and management literatures were reviewed and characterized as 'problem-solving' approaches and/or theories. In order to understand decision-making factors that determine whether land is protected or developed, one must have a clear understanding of dominant governance and management approaches as they currently exist (e.g. top-down, expert-oriented, co-opted by business) so as to change them (e.g. to more participatory, inclusive, adaptive, reflexive forms).

The combination of these four literatures (political economy, resilience, governance and management) formed the analytical framework to be applied in rural-urban fringe areas. When I applied this framework to the Jamestown and Niagara Escarpment cases, a number of findings emerged. Despite participatory and collaborative governance and management approaches to choose from, decision-making processes in both case study areas are primarily linear. The public has multiple opportunities to participate (not collaborate) in decision-making processes in both cases. However, pressure from deep-pocketed developers and mining companies can influence decision-makers to alter even the most sophisticated plans and laws. This is not to say that civil society (including environmental groups) is not engaged. On the contrary, they are often extremely active in decision-making processes (as seen by the Coalition of the Niagara Escarpment's involvement in the Niagara Escarpment). However, it seems that such organizations are often forced to play a game that the capitalist developer's/mining companies initiate particularly in a context of economic downturn/ crisis

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where the 'jobs and revenue now' narrative predominates. It is a constant battle for such groups, as well as for planners who work for the Niagara Escarpment Commission, who wish to protect and implement the plan, to do so.

We saw from the critical political economy analysis that for the past seventy years Canada and South Africa have been in various states of their own forms of change. Despite taking different paths to the current social and economic states, the destination is shaped by the same theme: both are currently in a historic bloc shaped by neoliberalism, with the private sector joining the state within the centre of the constellation of social forces. The capacity for the private sector to impact political decision-making processes are considerable, especially during moments of economic vulnerability.

Furthermore, the past seventy years have been marked by greater consumption, meaning that consumer demand drives private sector behaviour and vice versa. This is important because the private sector does not operate on its own; indeed it responds to consumer wants and works very hard to raise, manipulate and direct these wants. These consumer wants require resources and land, and hence the cycle of ecological depletion continues.

Ultimately, the results of this study confirm what I wrote in the first paragraph of Chapter 2: "This thesis is ultimately about change, including changes that are deliberate and directly influenced by people; changes that are the anticipated and bearable; and changes that are unanticipated and undesirable consequences of human endeavour". Upon closer reflection it seems also to be about the resilience of some (regrettable) arrangements and practices.

As I conclude the thesis, I am able to offer more insight into the purpose of the thesis, which is to understand the factors that influence planning decision-making processes in the rural-urban fringe? Ultimately, the thesis shows how political and economic change has impacted decision-making processes in both case study areas, and how these areas continue to be impacted by historical decisions. The thesis furthermore shows how the final component of the decision-making framework, resilience, is useful for capturing this change. Resilience helped us understand change patterns and served to remind us that natural resources are not finite.

9.2.1 Toward better decision-making at the rural-urban fringe?

We have seen that the current historic bloc, shaped by ideologies of economic development, has tremendous impact on the type of development that occurs in rural-urban fringe areas. In South Africa, real estate and leisure companies have enormous influence on whether a development is

approved or rejected in rural-urban fringe areas. We also saw how developers use arguments of

economic development to obtain buy-in from other actors and as primary grounds for asserting that

the government should approve their development application (even if it entails amending or altering

existing plans). In the Niagara Escarpment case, we saw how mining companies use arguments based

on economic development gains and "close to market" advantages as the primary reason why the

Niagara Escarpment Plan should be amended to their advantage.

We also saw how the economics of land activity has altered who can afford to live in both

case study areas. Ultimately, the main theme that emerged from both case studies is that the biggest

threat to security of ecosystems is a persistent and orthodox form of economic development. Of

course there are actors involved who try to balance these objectives but if it were not for this

consumption-based economic development that requires constant growth, then organizations such as

the Coalition on the Niagara Escarpment would have significantly different battles to fight.

Furthermore, looking at the case studies through a very rudimentary resilience perspective has

indicated that current realities will change. The path that we are on is very resilient, but not

sustainable. Resilience literature tells us if we continue on the same trajectory, a change will occur

that will tip one or more elements of the social-ecological system into an undesirable state.

Alternatively, human action may be taken to prevent collapse.[136]

Therefore, a key pre-requisite towards creating decisions more in line with stated goals would

be the emergence of an historic bloc that fully internalizes the environmental costs of production.

This is different from the current historic bloc, which places capitalist driven consumption of

resources as the foundation for a stable and prosperous society.

Also, as we have seen from both cases, the constellation of social forces ultimately shapes the

historic bloc (Cox, 1981). A specific constellation of social forces emerged to allow for the Niagara

Escarpment Planning and Development Act to originate while the Keynesian Welfarist state form

dominated the Western World Order at the time; it must be remembered that this same form

facilitated Apartheid in South Africa. Therefore, future change would rely on a certain constellation

of social forces coming together at a time that is conducive to decisions that are more socially

equitable and environmentally sustainable. As the Niagara Escarpment case study shows, if the right

constellation of social forces (environmental groups, a government that responds to pressures of an

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[136]   It is interesting to note the resilience of the Bitterroot Valley of Southwestern Montana despite the
seemingly endless number of factors pointing toward collapse (Diamond, 2005). I note this one example here
because it so much reminds me of the dynamics in the case studies examined here.

electorate that values environmental initiatives) emerges, then legislation may get passed to protect certain areas of land and demand more sustainable forms of urban design.

Coxian critical political economy says that material capabilities, ideas and institutions create a framework for action. These include social forms, forms of state and world order. It is the unique combination of these six factors that come together that allow for a particular outcome to emerge. The Keynesian Welfarist State, stable economy, public interest in environmental issues occurred at a time that prompted the initial study that ultimately resulted in the Niagara Escarpment Planning and Development Act. The actors involved had the material capabilities, ideas, and institutions to shape the power structures that formed the dominant structures.

Both case studies show us that strong legislation is critical to outcomes that are better for nature and all individuals (not just the most powerful). In the Niagara Escarpment case, strong legislation was repeatedly cited as the reason why the core area has been protected as long as it has. In South Africa, planners stated that difficulty enforcing plans due to political and economic factors was a major barrier to preventing urban sprawl. Both cases also showed that legislation and plans could change. The legislation in the Niagara Escarpment was able to arise because of the constellation of social forces coming together at a specific period in time (the environmental movement was gaining momentum, a number of NGOs and environmental groups were concerned, as was the general public, the state was at the centre of power, thereby having significant power in supporting the Niagara Escarpment Planning and Development Act, and capital was not yet 'freed' from its national context (see Chapters 6 and 7)). In South Africa, even though early steps were taken to prepare for applying for Biosphere Reserve status, nothing could be done until Apartheid ended and sanctions against South Africa were lifted. The constellation of social forces had to come together to form a particular historic bloc to allow for the conditions to arise. Moving forward, a new constellation of social forces must interact so that power can be distributed equally and so that more sustainable outcomes emerge. As shown in Chapter 6; however, the prospects of this happening are slim at best.

Both case studies show that the amendment and appeal processes typically deliver sub-optimal results for those who participate with fewer resources. Within the current historic bloc, change can occur (although perhaps not dramatic change), by altering the governance and management structures that exist. The theoretical literature states that collaborative governance and management techniques are best suited for optimal social and environmental outcomes. However,

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these techniques have not been used in either case study area. Conducting a scenario planning exercise or bringing all stakeholders together (who have an interest in the rural-urban fringe) to play a game like rufopoly[137] (a game based on monopoly aimed at showing different actors new ways of looking at the rural-urban fringe, and the different perspectives that people have about it) would perhaps work very well in other rural-urban fringe areas; but these activities are not equivalent to 'citizen empowerment' (Arnstein, 1969).

9.2.2 Towards a theoretical framework for better decision-making at the rural-urban fringe

The evidence presented in this thesis suggests that decision-making for outcomes in line with stated goals at the rural-urban fringe requires six conditions to be in place: sufficient economic resources; adequate knowledge; forgiving time scale; capable state; robust legal structure; and a favorable global context (Table 15). These factors are derived from the analysis of the two case studies in combination with insights from the literature, and have been confirmed by study participants through interviews and in follow up exercises such as presentations made by the author in the study areas. I now turn to a brief discussion of each.

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[137]   See Scott (2013) for a full explanation of rufopoly.

Necessary Condition	Empirical Observation
1) Sufficient economic resources all around.	Niagara: early days yes, less so today. South Africa: no; municipalities under pressure
2) Adequate knowledge of a particular type (to maximize decision choice).	Resilience: human dependent on nature, limits to growth Critical political economy: history, change, constellation of forces
3) Forgiving time scale.	Niagara: yes, 1973-1985 South Africa: no, jobs now
4) Capable state able to see beyond "rate of return" analysis toward greater social good.	1945-1985: Keynesian Welfarist (Niagara: positive, South Africa: negative) 1985-today: neoliberal (South Africa: negative, Niagara: positives and negatives)
5) Robust governance (policies, laws, institutions) and management structures (appeals, feedback mechanisms).	Niagara: yes South Africa: no
6) Favourable global context (historic bloc)	1945-85: Keynesianism and 'global boom' 1985-present: Neoliberalism and boom-bust cycles

Table 15: Theoretical Framework: six conditions for environmentally sustainable and equitable outcomes at the rural-urban fringe

9.2.2.1 Sufficient economic resources all around

The private sector's tactic of using promises of economic growth benefits to secure approvals for new undertakings may be more or less important depending on the particular historical and socio-economic context. Canada was in a period of manufacturing-led economic growth when the Niagara Escarpment Planning and Development Act was first developed. This is not the case today, and this means that when developers make claims and promises of economic development, this gives them significant power in planning processes (as witnessed by what the study participants in the Niagara Escarpment area have stated about the pressure that the aggregates mining companies exert in planning processes). In South Africa, the wealth created during the post-war boom period was primarily used to construct the Apartheid system whose legacies remain so problematic today (Shaw, 1983; Swatuk, 1998). Revenue generation is a serious issue in South Africa today, and this reality when combined with the mobility of capital, undermines politicians' ability to insist that new developments help to reduce income gaps and other inequities. Therefore, the economic argument that developers make is very tempting for decision-makers. When the economy is suffering,

developers can make promises of jobs and/or contributions to municipal funds (through increased taxes, etc.) and this is attractive to decision-makers.

9.2.2.2 Adequate knowledge of a particular type

In this thesis, I have argued that the insights to be garnered from critical political economy and resilience widen decision choice by helping decision makers see issues in a new way. Environmentalism emerged at a particular point in time and continues to force policy-makers to think differently about the range of choices facing them as well as the consequences of particular decisions. Today, the narrative around 'climate change' seems to be an insufficient check on development practices, possibly because of the character of the existing historic bloc (see below). Critical political economy provides a particular perspective that concentrates attention usefully on the distribution of power and influence among actual and potential participants in decision-making processes. Most importantly, the focus is on 'state forms' and not 'states', so introducing history and change into the framework (see Chapter 2). 'Power' here is represented as a constellation of social forces (ideas, material production, institutions), broadening our perspective such that we can peer into the 'black box' of power to see how it is arrayed so that we can perhaps strategize about how to rearrange it. Resilience thinking presents us with, among other things, a way of seeing the dynamic influences of inter-connections and inter-relationships among people, places and things through its conceptualization of social-ecological-systems. It also introduces the notion of 'tipping points', clearly a politically charged term, but one that nevertheless has crept into the language of policy, so adding to our ability to understand the full consequences of decisions. It also enhances our awareness of both the risks of and openings for significant change.

9.2.2.3 A forgiving time scale

As shown in this thesis, legislation and formal plan approval– good or bad – takes time. In the Niagara Escarpment case it took from 1973 until 1985 for the Niagara Escarpment Plan to receive final approval. In South Africa, the focus is on the immediacy of needed jobs, so if a company can promise economic advantages to an economically depressed area, this may interrupt planning devoted to the goals of sustainability. In the Niagara case, the need to protect the environment was nowhere near a crisis stage. This allowed more time for normal politics to play out and allowed civil society groups to become more effectively involved. In the South Africa case, every decision seems to be

made in the context of crisis, particularly where economic growth, jobs and revenue generation for cash-strapped municipalities is concerned. Such a frame closes the window on discussion and considered choice.

9.2.2.4 A capable state

Between 1945 and 1985, there was a strong state in place in Canada (with sufficient resources, a broad time frame, and new ideas about environmentalism), which allowed for the Niagara Escarpment Planning and Development Act to get passed. In South Africa during the Apartheid era, the state did not have the greater social good as a focus. From 1985 until today we see that the private sector dominates the constellation of social forces in both Canada and South Africa; therefore "rate of return" is a primary focus. Some would argue that if the economic factors are looked after then everyone in society would ultimately benefit while others are less concerned with the greater social good and are primarily concerned with generating wealth for a particular group of people. This is having mixed results in both Canada and South Africa as some people are benefiting economically while others are not. The logic behind the "trickle-down" theory of poverty reduction depends on infinite growth and does not address inequity. In a world of limited biospheric capacity and unacceptable (and dangerous) inequity, "trickle down" cannot work. As we move toward greater income and related gaps in both South Africa and Canada, the likelihood of a capable state emerging to deal effectively with these issues will require careful strategic action on the part of social forces outside the state, committed leadership within the state, and at least triple-E bottom line buy in from key elements of the private sector (such as Spier, in South Africa; see Chapter 6); in other words a creative coalition to rearrange the existing constellation of social forces along a progressive trajectory.

9.2.2.5 Robust governance and management structures

Generally robust governance and management structure are in place in the Niagara Escarpment case and were cited as a major reason why the core area within the Niagara Escarpment Plan has enjoyed largely effective protection. An area for improvement in the Niagara Escarpment case would be feedback because study participants stated that weak monitoring of the Niagara Escarpment Plan effects and compliance is a significant flaw in the planning process. In South Africa some of the planning laws go back to the Apartheid era (for instance, one of the most important pieces of

legislation for planning in the Western Cape is the Land Use Planning Ordinance (Ordinance 15 of 1985)). We also saw in Chapter 4 how difficult it is for planners to get plans legislated in South Africa. Better entrenchment and enforcement of plans that aim for sustainability and social equity are required.

9.2.2.6 A favourable global context

During the entire time that the Niagara Escarpment planning process was underway (ultimately leading to the Niagara Escarpment Plan and Development Act), a Keynesian economic system and a long economic boom cycle were in place. This meant that the state had a strong role in the constellation of social forces both locally and globally. The resulting legislation has survived the turmoil of the last thirty years. However, under today's hegemonic neoliberal world order, the private sector plays a much stronger role and shares the centre of power with the state. With that said, concern about the impacts of unsustainable development and climate change is very much part of the global dialogue. Companies must therefore be somewhat accountable for their development actions. Nonetheless, the present system is anything but conducive to creative and progressive legislation, both in Canada and South Africa.

Are these all necessary conditions? Put differently, could we have better-for-all outcomes at the rural-urban fringe with only four or five of these conditions present? While it is difficult to say this with absolute certainty, based on the evidence of this thesis, it seems that all six conditions are necessary. It seems likely that the six are mutually supporting and that the absence of any one could drive decision-making down a bad road.

9.3 Research limitations and areas for future study

This thesis provides insights into some of the necessary factors that one must consider when conducting a resilience assessment as part of the analytical framework. It is therefore indicative rather than definitive in this regard. This may be an opportunity for future research – to apply a complete resilience assessment based on an existing model. The same may be said for a critical political economy analysis. Ideally, one would have a complete picture of the constellation of social forces in a society, the material/ideational/institutional forms and expressions of their power, and how these shape historic blocs within a state form and are in turn impacted by these same actors, forces and

factors at a global level. Mapping this social landscape in any study area is, in my view, a worthwhile area of future research.

An obvious and, in my opinion, important area for further study is the application of the framework, in light of the six conditions highlighted above, comparatively in other settings. Particularly, are there areas where decision-making in the rural-urban fringe has led to better-for-all outcomes through, for example, participatory governance and adaptive co-management arrangements in spite of weak economic conditions or an unfavorable global political and/or economic environment? Such a project could involve designing scenario plans for rural-urban fringe areas like Jamestown, including various stakeholders and actors in the process so that ownership of the plan would surface. However, funding would be required to undertake this endeavour, and as already mentioned, financial resources in places similar to Jamestown are limited. Ultimately, the rural-urban fringe is a location where new, innovative forms of governance and management can be tested, in order to determine whether certain models can lead to more socially and environmentally resilient outcomes.

A key point raised in this thesis is the impact changing forms of capital accumulation have had on the study areas, in particular the Niagara Escarpment and Greater Golden Horseshoe. An interesting hypothesis to pursue is that the rise of services, in particular finance capital, in Southern Ontario has led to (1) the push for monster homes along the Niagara Escarpment; (2) the loss of social capital as local economic processes are supplanted by virtual ones whose beneficiaries can live and work anywhere; so (3) a fragmenting of community perspectives and approaches to "development" in the study area; and therefore (4) continuing dominance of the economic development process in the escarpment by those tight circles of actors (developers; construction) able to present a "united front".

9.4 Research questions revisited

1) What factors influence planning decision-making processes in the rural-urban fringe?

I have already answered this in Section 9.2 above, where six conditions are identified and briefly discussed. The presence or absence of any of the six conditions will push a decision outcome in one direction or another. To be slightly more specific, in areas that are considered highly desirable (for example, as in the case studies presented in this thesis, they are acknowledged as UNESCO Biosphere Reserves and/or they are in close proximity to major metropolitan areas), development of

land in whatever form is currently most significantly affected by reliance on and commitment to capitalist economic growth. For instance, developers (including mining companies) often rely on the argument that economic benefits will spread to the greater public as a primary reason why plans should be amended to allow for development proposals to be approved.

Furthermore, as we have seen from the critical political economy analysis, the constellation of social forces and historic bloc that emerges has a profound impact on the acts and plans that are passed, and the type of development that is allowed. As we saw in Chapter 7, it was a particular set of circumstances – the right actors, coming together at the right time, with the state at the centre of power, with specific global economic and environmental ideologies emerging – that allowed for the Niagara Escarpment Planning and Development Act to originate.

2) What insights emerge from the application of an analytical framework that includes governance and management (problem-solving theories) and critical political economy and resilience (critical theories)?

Combining problem-solving and critical theories provides a much more thorough understanding of decision-making processes in rural-urban fringe areas. Problem-solving theories assist with understanding how things *are*, and suggest various methods of working within existing realities. Critical theories provide deeper understanding into forms and origins of power, and how historical patterns have shaped and continue to shape outcomes. Power is one of the key factors that influences planning outcomes. But simply acknowledging that power impacts planning is not enough. The specific actors that emerge at a particular period in time, how they interact, and what is important to them are some of the key factors that will help situate a planning context appropriately. Other factors such as broader economic and political ideas, structures and practices furthermore help define power arrangements. It is useful to conduct a critical political economy analysis in order to obtain a better understanding of why and how particular patterns emerge. Doing so will assist when establishing the most effective governance and management structure within a planning area, be it local, regional or national. Critical theory also encourages one to recognize that decisions occur across time and scale, and one must recognize the interconnectedness of all systems, given tipping points and "surprise".

3) What, if any, generalizations can we draw from the two comparative cases, such that better land-use planning decisions may be made in the future, within the contexts of (i) each specific case study; (ii) at the rural-urban fringe in general?

Both cases demonstrate that planning processes are not perfect, even when the proper legislation is in place. Since plans can be changed and economic growth considerably drives decision-making, there will always be people who challenge goals of environmental protection. At the same time, both cases indicate that, in time, things change. Constellations of social forces change, resulting in new conditions that allow for environmentally sustainable and socially equitable outcomes. This message of change can be applied to rural-urban fringe areas everywhere.

4) How does having UNESCO Biosphere Reserve status influence planning decisions in the rural-urban fringe?

Acquiring UNESCO Biosphere Reserve status provides valuable clout and marketability to an area. However, more important than having the UNESCO Biosphere Reserve status is having the planning legislation to enforce the Biosphere Reserve principles, which centre on joint pursuit of ecological stewardship, sustainable livelihoods and learning from the experience. Biosphere Reserve status conveys no legal authority. The public may nonetheless use Biosphere Reserve status (as the Niagara Escarpment case shows) as a reason why development should be avoided. While planners insist that the Biosphere Reserve status means little, the plan holds the power (the Niagara Escarpment Plan came before the Biosphere Reserve status and is the reason why the Niagara Escarpment was able to obtain Biosphere Reserve status); politicians may not realize that there is no legislative power to having Biosphere Reserve status. In South Africa, most study participants feel that the Biosphere Reserve is extremely valuable. What is clear from the case studies is that Biosphere Reserve status is an aspect of local and global power: it has institutional form, it is a compelling idea; but it lacks the material capability to give it real impact. There is potential power in the Biosphere Reserve status, but it is as yet unrealized in the study areas.

9.5 Conclusion

Rural-urban fringe areas are complex. This complexity is a result of multiple land uses (from industrial and commercial to estate housing and farms), and multiple interests and ideas about how land should be used. Development in rural-urban fringe areas can lead to ecosystem degradation and social problems such as decreased quality of life (UN-Habitat, 2013).

In this thesis I have researched the decision-making processes in rural-urban fringe areas of the Cape Winelands and the Niagara Escarpment, two areas that are UNESCO Biosphere Reserves. In both case studies, we have seen that economic development is often regarded as more important than environmental sustainability goals, especially during times of economic downturn. The study shows that legislation matters, and that the processes used to maintain that legislation are as, if not more, important than the process in arriving at the legislation itself – transparency, accountability and participation are indispensible elements of good governance and management.

However, similar processes can result in very different practices. This is because planning processes are embedded in historically derived political and economic realities that shape all human activity. These activities are, in turn, impacted by natural systems, hence the need to interrelate the insights of critical political economy and resilience, if the goal is to create more environmentally sustainable and socially equitable systems. The four-step analytical framework provided a systematic way of understanding local and contemporary conditions in relation to actors, forces and factors at broader spatial and temporal scales; it also provided the insights necessary to shape a theory of sustainability at the rural-urban fringe. Stated specifically: decision-making for environmentally sustainable and socially equitable outcomes at the rural-urban fringe requires six conditions to be in place: sufficient economic resources; adequate knowledge; forgiving time scale; capable state; robust legal structure; and a favorable global context.

Ultimately, this research shows that decision-making processes in rural-urban fringe areas are part of a wider system, marked by change. Factors that are well outside of the rural-urban fringe area will influence what occurs at the local level. All systems are interconnected – social, ecological, political, economic and environmental. Given the fact that all of these systems influence land-use decisions in rural urban fringe areas, as planners we must understand that even somewhat small, unnoticeable changes to one system can result in large changes to the entire system. Hence, the importance of a perspective that combines the strengths of approaches not normally considered together: problem-solving and critical theory.

Appendix A
History of Planning Theory

Rational planning

        Rational Comprehensive Model

             Communicative

          Incrementalism

            Advocacy Planning

                       Transactive

                           Collaborative

                   Smart Growth[138]

                     New Urbanism

1900	1950	1960	1970	1980	1990	2000

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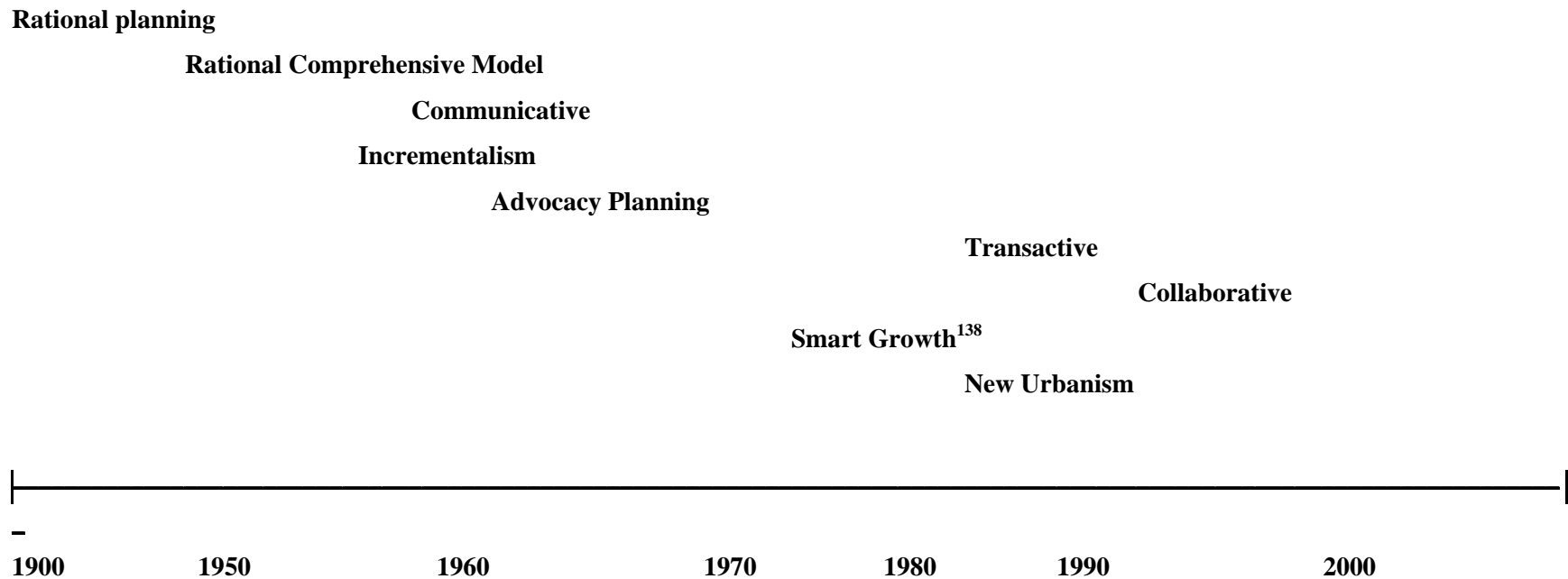
[138]   The official "birth" of Smart Growth varies from scholar to scholar. Some say that it started in the 1960s with another movement in the 1970s and 1980s. It clearly has escalated since the 1990s.

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Appendix B

Key characteristics of problem-solving, critical and resilience approaches

	Problem Solving	Critical	Resilience
Type	Liberal	Neo-Marxist	Mixed
Precursors	Smith, Ricardo	Marx, Gramsci	Leopold
Contemporaries	Friedman/Sachs	Cox, Dalby, Mittleman	Holling
Examples	World Bank, UNDP Human Development Report	World social forum Socialist register (York University)	Resilience Alliance
Focus	Individual (people; state)	Structures (Classes; Social Movements; States)	Systems (many; differ in scales)
Change	Progress Linear Negotiated Learning/Networks/Trust	Dialectical Conflict Struggle	Mixed; tipping points; adaptive cycle
Politics and Economics	Separate but impact each other	Fundamentally linked	Aspect of panarchy
Dominant unit of analysis	Individual/State	Social forces; Social relations	Social-ecological-systems (to be defined)
Philosophy	Anthropocentric	Anthropocentric	Ecocentric
States	Hierarchical Developed/developing	Forms change over time	Mixed
Dominant Actors	Individual/Interest Groups	Social forces	Social-ecological-systems
Globalization	Natural expansion of markets Extension of democracy	Driven by interests of dominant actors	Plurality

Appendix C

Legal Framework for decision-making on land use issues in South Africa

Government Document	Description
No. 31 of 2004: National Environmental Management: Protected Areas Amendment Act, 2004.	Amends National Environment Management: Protected Areas Amendment Act 2003 for inclusion of issues related to national parks and marine protected areas.
National Environmental Management: Biodiversity Act	The management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act (NEMA) 1998; protection of specific species; sustainable use of indigenous biological resources; addresses benefits derived from bio-prospecting; establishes South African National Biodiversity Institute.
No. 8 of 2004: National Environmental Management Amendment Act, 2004.	Amends NEMA, 1998; alters definitions and authorizations; registers environmental practitioners; incidentals.
No. 13 of 2005: Intergovernmental Relations Framework Act, 2005	Establishes a framework for all spheres of government to promote and facilitate intergovernmental relations; gives procedures for dealing with intergovernmental disputes.
No. 62 of 2008: National Environmental Management Amendment Act, 2008.	Amends NEMA, 1998 to address a wide range of issues related to prospecting, mining, exploration, production or related activities; including governance and financial provisions.
No. 44 of 2008: National Environment Laws Amendment Act, 2008.	Amends various Acts in preparation for Section 60 of the National Environmental Management: Air Quality Act, 2004; authorizes designated bodies to approve environmental management inspectors (who are also regarded as peace officers); provides a penalty for environmental compliance offences; amends the National Environmental Management: Air Quality Act, 2004.
No. 15 of 2009: National Environmental Management: Protected Areas Amendment Act, 2009.	Assigns and lists National Parks, special nature reserves, and heritage sites. Also addresses air travel above such sites.
No. 14 of 2009: National Environmental Laws Amendment Act, 2009.	Amends multiple previous Acts, alters penalties and grants more power to courts, impacts the process and requirements of environmental

	management inspectors; addresses broad issues such as dealing with escaped animals, genetically modified organisms, hunting and bio-prospecting. Also discusses establishment of Biodiversity Management Plan.
No. 7 of 2011: Local Government: Municipal Systems Amendment Act, 2011.	Amends the Local Government: Municipal Systems Act, 2000. Alters governance mechanisms within local government, as well as issues related to performance evaluation and employment.
Rural Development and Land Reform General Amendment Act, 2011	Amends various laws under the administration of the Minister of Rural Development and Land Reform. Clarifies definitions.
Spatial Planning and Land Use Management Bill	Allows for a framework for spatial planning and land use management; specifies the relationship between the spatial planning and the land use management system and other kinds of planning, including issues related to it.
National Environmental Laws Amendment Bill	Amends NEMA, 1998; grants power to Minister to decide on a broad range of issues related to development. Also addresses waste management issues and issues pertaining to fines for environmental damage.
White Paper on Spatial Management and Land Use Management (2001).	"Provides policy perspectives and anticipates land use legislation to enable a structured process." Discusses "practical ways" in which South Africa can create a form of integrated planning for sustainable management of land resources, in order to meet Chapter 10 of Agenda 21. States that each municipality must develop a Spatial Development Framework, and requires that components of this framework must be a 'strategic environmental assessment'.
Environmental Management Policy White Paper (1998)	The government's national policy on environmental management, setting the vision, principles, strategic goals and objectives and regulatory approaches that government will use for environmental management in South Africa. Key components include: development must be sustainable so that the needs of the present generation are met without compromising the ability of future generations to meet their needs, environmental justice must occur so divisive environmental impacts are not distributed in a manner which will unfairly discriminate. There must be equitable access to environmental

	resources, benefits and services to meet basic human needs.
Environmental Conservation Act, 1998 (Act No. 73 of 1998)	
Reconstruction and Development Programme, 1994	
National Planning Commission – Diagnostic Overview (2011)	Identifies and examines the main challenges confronting South Africa to allow for rigorous discussion required for consensus on solutions. The diagnostic provides the basis for a plan as opposed to being a plan. South Africa needs an informed discussion about the major issues confronting the nation.
National Development Plan – Vision for 2030 (2011)	Sets South Africa's vision for 2030, its key challenges and purposes.
NO. 67 OF 1995: Development Facilitation Act, 1995.	Introduces "extraordinary measures to facilitate and speed up the implementation of reconstruction and development programmes and projects in relation to land"; discusses general principles governing land development, including the establishment of a Development and Planning Commission for the purpose of advising the government on policy and laws concerning land development at national and provincial levels;
No. 3 of 1995: Town and Regional Planners Amendment Act, 1995	Amends the Town and Regional Planners Act, 1984. Allows for appointment of members of the South African Council for Town and Regional Planners; registration of town and regional planners, town and regional planners in training and town and regional planning technicians.
No. 2 of 1995: Land Administration Act, 1995.	Delegates powers and administrators to deal with laws regarding land matters to the provinces; allows for uniform land legislation to be created.
Constitution of the Republic of South Africa, 1996	
No. 117 of 1998: Local Government: Municipal Structures Act. 1998.	Addresses with the construction and formation of municipal governments, including functions and powers between municipal "categories" and deals with internal systems and structures such as electoral systems.
No. 107 of 1998: National Environmental Management Act (NEMA), 1998.	To provide for co-operative, environmental governance by establishing principles for decision-making on matters affecting the environment, institutions that will promote co-

	operative governance and procedures for coordinating environmental functions exercised by organs of state. The principles of NEMA state that environmental management must place people and their needs at the forefront of its concern and holds polluters and those responsible for damaging the environment responsible for the costs incurred through damages and reparations caused by their actions. It requires that every national and provincial department to prepare an environmental implementation plan every four years.
Act 27 of 1998: Local Government: Municipal Demarcation Act.	To provide for criteria and procedures for the determination of municipal boundaries by an independent authority; and to provide for matters connected thereto.
No. 43 of 2000: Council for the Built Environment Act, 2000.	To provide for the establishment of a juristic person to be known as the Council for the Built Environment; to provide for the composition, functions, powers, assets, rights, duties and financing of such a council; and to provide for matters connected therewith.
No. 33 of 2000: Local Government: Municipal Structures Amendment Act, 2000.	To amend the Local Government: Municipal Structures Act, 1998, so as to further regulate the contents of notices establishing municipalities; to further regulate transitional measures when existing municipalities are disestablished and new municipalities established; to further regulate the determination of the number of councilors; to determine the provisions from which a municipality may be exempted; to determine the date on which the first term of municipalities end; and to further regulate the transitional arrangements; and to provide for matters connected therewith.
No. 32. Of 2000: Local Government: Municipal Systems Act 2000	"To provide for the core principles, mechanisms and processes that are necessary to enable municipalities to move progressively towards the social and economic upliftment of local communities", including all issues related to achieve this. Addresses the functioning, governance and management of local government.
No. 31 of 2004: National Environmental Management: Protected Areas Amendment Act, 2004.	Amends the National Environmental Management: Protected Areas Act, 2003. Deals for issues related to national parks and marine protected areas.

No. 56 of 2002: National Environmental Management Amendment Act, 2002.	Amends NEMA, 1998. Restricts activities that will have detrimental effect on the environment.
No. 36 of 2002: Planning Profession Act, 2002.	Deals with all issues pertinent to professional planners and allows for "the establishment of the South African Council for Planners as a juristic person"
No. 20 of 2002: Local Government: Municipal Structures Amendment Act, 2002.	Amends the Local Government: Municipal Structures Act, 1998. Deals with issues pertaining to politics of various parties such as "enabling a member of a municipal council to become a member of another party whilst retaining membership of that council"; allow parties to merge.
No. 57 of 2003: National Environmental Management: Protected Areas Act, 2003.	Protects and conserves ecologically viable areas, including the management of the areas according to national standards. Allows for a national register of all national, provincial and local protected areas. Requires intergovernmental co-operation and public consultation in matters regarding protected areas.
No. 1 of 2003: Local Government: Municipal Structures Amendment Act, 2003.	Amends the Local Government: Municipal Structures Act, 1998. This is in regards to changes in members of executive committees and mayors.
"Breaking New Ground"	Comprehensive plan for social housing delivery.
Urban Development Framework, 1996	Aims to "promote a consistent urban development policy approach for effective urban reconstruction and development, to guide development policies, strategies and actions of all stakeholders in the urban development process and to steer them towards the achievement of a collective vision." (Province of Western Cape, 1996). Aims for the development of environmentally sustainable cities/towns by the year 2020, highlighting the need for the "promotion of open space and efficient land-use planning for the sake of the environment. It also recognizes the need for the control of pollution and effective waste management if sustainable cities and towns are to be achieved" (CSIR, 2001).
Act No. 6 of 1998	Allows for the Western Cape Provincial Government to acquire immovable property and dispose of land which vests in it.
Western Cape Planning and Development Act, 1999. (No. 7 of 1999) http://www.capegateway.gov.za/Text/2003/devp lannign_act_7of1999.pdf	"To replace racially based planning and development legislation; to establish a system for development planning in the province and consolidate legislation in the Province pertaining

	to provincial planning, regional planning and development and urban and rural development into one law, including broad range of issues and activities pertaining to it.
Land Use Planning Ordinance (15/1985)	To regulate land use planning. Covers structure plans, zoning schemes, division of land, planning advisory board and general provisions. Western Cape is in the process of preparing new legislation to address the challenge and give effect to sustainable development more efficiently (DMP, 2012).
Western Cape Land Use Planning Ordinance, 1985, Amendment Act (Act 6 of 2003)	To amend the Land Use Planning Ordinance, 1985 (Ordinance 15 of 1985), Extends the period during which owners of land may exercise land use rights by18 years.
Western Cape Land Use Planning Ordinance, 1985, Amendment Act (Act 2 of 2004)	Amends the Land Use Planning Ordinance, 1985 (Ordinance 15 of 1985). Extends the period during which owners of land may exercise land use rights by 19 years.
Intergovernmental Relations Framework Act, 2005 (Act 13 of 2005)	Establishes a framework for the national government, provincial governments and local governments to promote and facilitate intergovernmental relations, including mechanisms and procedures to facilitate dispute resolution.
Western Cape Planning and Development Amendment Bill	Amends the Western Cape Planning and Development Act, 1999 (Act 7 of 1999). Alters definitions; clarifies features such as IDPs from Spatial and Development Frameworks; amends issues relating to land development management and the planning review board.
Western Cape Government Environmental Impact Assessment Regulations (EIA) 21 April 2006	Regulates procedures and criteria as they described in Chapter 5 of the Act regarding environmental authorisation. Lays out the process criteria, etc. of an Environmental Impact Assessment.
Growth and Development Strategy (GDS): Green Paper 2007	Prerequisite to the iKapa GDS.
Green Paper Settlement Framework for the Western Cape Province1 October 2003	Analyzes existing settlement patterns; suggests principles for future urban settlement patterns; broadly guides spatial planning and sets guidelines for the management of settlement from a provincial perspective, including policy principles for the future growth and development of individual towns and cities in the Province.
IKapa Growth and Development Strategy (GDS)	The policy framework of the iKapa GDS is

	"nested within a complex interplay of national, provincial and local policy-making processes". Contextualizes national imperatives according to various government documents and grounds them within the Western Cape realities. Guides municipal and district planning processes, guides intergovernmental relations; informs plans and investment priorities of the provincial departments, national departments and state-owned enterprises operating in the Western Cape; informs non-government stakeholders and gives clear insight into development objectives, priorities and outcomes; remedies the spatial and socio-economic legacy of Apartheid.
Western Cape Land Use Planning Bill 2012 Explanatory Memorandum15 February 2012	Establishes a system for provincial spatial planning and development management in the Province and includes all issues that pertain accordingly.
Department of Environmental Affairs and Development Planning (Western Cape Government)	"Responds to the need for a modernized and efficient system of land use planning which facilitates sustainable development in the Province. It seeks to establish a planning framework that places emphasis on the effective integration of planning activities across the provincial and municipal governments so as to facilitate appropriate development. The Bill was also necessitated by a rapidly changing legal framework surrounding land use planning."
Provincial Urban Edge Guideline December 2005	Urban edge guidelines, to implement the Western Cape Provincial Spatial and Development Frameworks growth management policies.
Guidelines for Environmental Management Plans June 2005	These environmental guidelines are meant to improve the efficiency, effectiveness and quality of environmental assessment and management processes.
Guidelines for Involving Specialists in Environmental Impact Assessment Processes 2005	Provides standards for those involved in Environmental Impact Assessment process.
Guidelines for Resort Developments in the Western Cape, 2005	These guidelines serve to provide such for the assessment of applications for the zoning and development of resorts in the Province of the Western Cape.
Guidelines on Biodiversity Offsets, 2007	"The concept of 'biodiversity offsets' is relatively new, and there is no standard method to determine an appropriate biodiversity offset. The most often cited definition of biodiversity offsets is

	"conservation actions intended to compensate for the residual, unavoidable harm to biodiversity caused by development projects, so as to aspire to no net loss of biodiversity. Before developers contemplate offsets, they should have first sought to avoid and minimize harm to biodiversity" (ten Kate et al 2004)."
Informal Settlements Handbook, 2003	This handbook has been produced to help local authorities understand and address the issues presented by the growth and increasing density of informal settlements in the Province.
Inter-Government Relations Policy and Legislation (IGR), 2005	Establishes a framework for the national, provincial and local governments to promote and facilitate intergovernmental relations, including issues related to it, like processes for dealing with intergovernmental disputes.
Department of Environmental Affairs and Development Planning: Annual Performance Plan 2012/2013	This outlines ten strategic objectives for the next five years. One in which the Provincial Department leads, called "Mainstreaming Sustainable and Optimizing Resource-use Efficiency" is meant to integrate sustainability and resource-use efficiency into the activities of all departments. Six key policy priorities were identified to ensure that the purpose of the strategic objective is realized.
Department of Human Settlements: Annual Performance Plan 2012/2013	Focuses on putting "measures in place to further support the outcomes stated in Strategic Objective 6, 'Developing Integrated and Sustainable Human Settlements', as adopted by the Provincial Government of the Western Cape in 2011". Focus areas include: "increased support to local government, improved internal systems for project administration and reviewing provincial policy where appropriate".
National Spatial Development Perspective (NSDP) (2006)	The original NSDP (2003) is an "overarching framework to encourage interaction and coordination between departments and spheres of government. It provides the methodological tools and principles to make government decisions on infrastructure investment and development spending more focused." The Provincial Spatial and Development Frameworks (2006) provides a framework for the "future development of the national space economy and recommends mechanisms to bring about optimum alignment between infrastructure investment and

	development programmes within localities".
White Paper on Local Government (1998)	Establishes the basis for a new developmental local government system, which is "committed to working with citizens, groups and communities to create sustainable human settlements which provide for a decent quality of life and meet the social, economic and material needs of communities in a holistic way". Suggests integrated approach to service delivery that takes into account economic and social impacts of service provision. It highlights the need to make efficient and effective use of public resources to ensure universal access to affordable and sustainable services. Takes into account both financial and environmental sustainability.
National Framework for Sustainable Development	
Constitution of the Western Cape	
Provincial Spatial Development Framework (Provincial Spatial and Development Framework)	"The purpose of the Provincial Spatial and Development Framework is to: Be the spatial expression of the Provincial Growth and Development Strategy (PGDS). Guide (metropolitan, district and local) municipal integrated development plans (IDPs) and spatial development frameworks (Spatial and Development Frameworks) and provincial and municipal framework plans (i.e. sub-Spatial Development Framework spatial plans). Help prioritize and align investment and infrastructure plans of other provincial departments, as well as national departments' and parastatals' plans and programmes in the Province. Provide clear signals to the private sector about desired development directions. Increase predictability in the development environment, for example by establishing no-go, conditional and "go" areas for development and redress the spatial legacy of Apartheid."
Western Cape Climate Change Strategy Action Plan	Province's climate change strategy, with particular focus on vulnerable communities and economic sectors. Aims to carry on Western Cape's status as a "relatively low greenhouse gas emitter by reducing the provincial carbon footprint, even in the face of economic growth".

Western Cape Sustainable Development Implementation Plan	At the Sustainable Development Conference hosted by Department of Environmental Affairs and Development Planning (18 -22 June 2005, Cape Town), government and stakeholders set out this declaration of sustainable development for the Western Cape and how to implement priority actions.
Cape Winelands Environmental Management Framework (EMF)	The EMF is a new plan that will inform the Spatial Development Framework. It "analyses the environmental features of an area, identifies areas that are environmentally sensitive and provides guidelines about where certain activities should or should not take place. While Spatial and Development Frameworks typically consider what land is available for certain developments, the EMF will provide information on what land is suitable for certain types of development".
Cape Winelands Integrated Development Framework (WIDF) (2000)	The five-year IDP is situated in the context of a long-term District Growth and Development Strategy; focuses on six priorities for the 2012/13 – 2016/17 term of office.
Cape Winelands Spatial Development Framework	
Stellenbosch Municipality Spatial Development Framework	
Biosphere Reserve Spatial Development Framework	

Western Cape Spatial Development Framework (2011)

The purpose of the Provincial Spatial Development Framework includes (Department of Environmental Affairs and Development Planning, 2011):

1) Be the spatial expression of the Provincial Growth and Development Strategy (PGDS).

2) Guide (metropolitan, district and local) municipal integrated development plans (IDPs) and spatial development frameworks (Spatial and Development Frameworks) and provincial and municipal framework plans (i.e. sub-Spatial Development Framework spatial plans).

3) Help prioritise and align investment and infrastructure plans of other provincial departments, as well as national departments' and parastatals' plans and programmes in the Province.

4) Provide clear signals to the private sector about desired development directions.

5) Increase predictability in the development environment, for example by establishing no-go, conditional and "go" areas for development and redress the spatial legacy of Apartheid.

Appendix D
Jamestown/De Zalze Spatial Development Plan

The information presented here was directly obtained from Stellenbosch Municipality's SPF (Stellenbosch Municipality, 2012, p. 58-60).

3.10. JAMESTOWN/DE ZALZE

JAMESTOWN/DE ZALZE PROPOSALS

JAMESTOWN/DE ZALZE ANALYSIS

Strategic location	• Straddling the R44.
Description	• A disjointed semi-rural settlement on the outskirts of Stellenbosch town consisting of three isolated components: a historic Rhenish mission village (Jamestown), an out of town shopping centre (Stellenbosch Square) and an upmarket golf estate (De Zalze).
Advantages	• Rural character • Hospital and health functions
Challenges	• The three components are not integrated at all due to the high-speed R44 and walling off of De Zalze. • Jamestown residents need access to viable economic space that gives them opportunities for SMMEs and employment. • The Blaauwklippen River is Critically Endangered as a result of poor agricultural and urban development along its banks.
Opportunities	• Opportunity to implement low income housing on commonage land to the south. • Small scale commercial and retail activities could be catered for along De Zalze's frontage with the R44 (e.g. a farm stall or market for emerging businesses).
Constraints	• The R 44 bisects the node.
Future lateral growth direction	• Southerly expansion to accommodate RDP, social and gap housing.
Development areas	• A portion of municipal land on which the airfield stands as well as the land holding at the entrance to Technopark has potential to be used for social and gap housing. • Vacant land in Jamestown can be further consolidated. • Further research is required to assess the long term costs and benefits of developments that convert productive agricultural land into new suburbs.
Roads and transport	• The extent to which the R44's cross-sections can be amended to make it less of a barrier to pedestrians and cyclists should be investigated. • The impact of traffic generated by each of the three components should be undertaken.
Water ☹	• Bulk infrastructure required, e.g. reservoir and feeder pipes.
Sewage ☹	• No capacity at Stellenbosch WWTW.
Electricity	• Area supplied by Eskom. Capacity to be confirmed by Eskom.
Solid Waste ☺	• Stellenbosch landfill site is at capacity. A new cell is under construction to create airspace up to 2017. Additional landfill sites are urgently required to meet demand after 2017.

Rivers and conservation zones	• Fresh water ecologists to demarcate 10 to 30m setbacks from the banks of rivers and furrows within which no new development (other than roads, paths, landscaping or street side trading) or ploughing may occur. • Particular care needs to be given to Jamestown's interface with the Blaauwklippen River.

Infrastructure capacity is rated as follows, based on the assumption of conventional technologies (i.e. those that do not explicitly aim to minimise demand for services):
☺ Adequate capacity to meet development needs for the next 5 years (2012-2017)
☹ Insufficient capacity can be overcome with development contributions within the next 5 years (2012-2017)
☹ Insufficient capacity cannot be overcome without additional budget within the next 5 years (2012-2017)

Appendix E
Cape Winelands Biosphere Reserve Plans

Principles of managing conservation and "conservation worthy" systems (Cape Winelands, 2009):

1. The mutual relationships and linkages between land units must be understood and applied when delimiting and managing these units. This implies that a system of ecological corridors needs to be created, linking statutory and/or de facto nature areas.
2. The protected nature area system should, wherever possible, transect the bioregions from low to high elevation and through terrestrial, freshwater and marine areas, wetlands, rivers, forests, and other ecosystem types, as well as the full range of climate, soil types, geology, etc.
3. The conservation worthy units should be large enough to provide functional habitat for the indigenous organisms that inhabit them. Where necessary, they should be rehabilitated and critical 'keystone' species should be re-introduced. They should also be large enough to support natural disturbance regimes such as natural wildfires, floods, and storms that play a critical role in their dynamics. In order to provide evolutionary continuity, such disturbance regimes should either occur naturally, or be carefully mimicked through management intervention techniques.
4. The system should include representation from all levels of biodiversity, including populations, species, and landscapes.
5. It should include terrestrial, freshwater, and marine ecosystems.
6. The system should be managed in a way that honours long-standing, benign uses by local people for whom the system should include places of spiritual and cultural renewal.
7. The conservation worthy units should as far as possible be protected by appropriate buffer areas.

Purpose of the Cape Winelands Biosphere Reserve Spatial Development Plan (Cape Winelands Spatial and Development Plan)

1. Detail the spatial implications of the Biosphere Reserve.
2. Provide a detailed land use plan that gives effect to the key the objectives of the Biosphere Reserve: development, conservation and logistical support.
3. Serve as a spatial and strategic plan that would support Local Economic Development (LED) in the Biosphere Reserve.
4. Describe strategies, proposals and guidelines for the future spatial development in the Biosphere Reserve, including: development objectives, proposals for land reform, urban renewal, social integration, environmental planning and management and urban design.
5. Provide a framework for the establishment of a dedicated and autonomous management entity for the Biosphere Reserve, the preparation of a dedicated management plan for the Biosphere Reserve, facilitate international recognition and support for the Biosphere Reserve as a macro terrestrial ecosystem that is of global importance.
6. The Spatial and Development Plan facilitates planning and land-use management with specific reference to the following: Alignment of the existing land-use planning guidelines with the biosphere zoning principles and promote the adoption of these throughout the Biosphere Reserve, facilitate cross-boundary co-operation and co-ordination between the municipalities that form part of the Biosphere Reserve with regard to issues that are of mutual interest, provide a coherent framework for the sustainable use of natural in order to enhance the key economic sectors of the district (agriculture, development and tourism, promoting the comparative and competitive economic advantages of the area), provide a basis for the eradication of poverty and inequality as the core obstacle to a stable and prosperous future in the various areas.

Characteristics of Bioregional Planning

1. Adaptive management: Bioregional programs are operated on an experimental basis, from which lessons may be drawn from experience to respond appropriately.
2. Biotic viability: Bioregional management programs embrace regions large enough to include the habitats and ecosystem functions and processes needed to make biotic communities and populations ecologically viable in the long-term. These regions must be able to accommodate migratory patterns, anticipate nature's time cycles and absorb the impacts of global change.
3. Co-operative skills development: Communities and public and private organisations, together, must locate and mobilise the skills, knowledge, and information needed to manage the area.

4. Economic sustainability: The maintenance of livelihoods and the economic wellbeing of people living and working within the bioregion, including those in industry, and especially in the matrix, must be encouraged.

5. Full involvement of stakeholders: All parties who can affect or benefit from the resources in the region should be fully involved in planning and managing the bioregional program. Of primary importance in this regard, is building the local capacity to participate in, negotiate, and perform the various tasks involved.

6. Institutional integration: Alliances between institutions are to be forged to close gaps, minimize overlap and make management and investment in the region more efficient.

7. International co-operation: Because some ecosystems cross international boundaries and, in some cases, extend globally along animal migration routes or along venues where endangered species are traded, international co-operation agreements for debate, and mechanisms for joint research, information management and investments must be part of the biodiversity management program. The Man and Biosphere Reserve Program is particularly suited to this purpose.

8. Leadership and management: The leadership to establish bioregional programs may come from public agencies, or from the community of residents and resource users. The tasks of convening stakeholders, preparing and negotiating vision statements, and planning and implementing agreed-upon activities can be shared co-operatively between public and private entities, or be fully community based.

9. Reliable and comprehensive information: All stakeholders must have at their disposal the critical information needed to facilitate biodiversity management. GIS technology is to be used to help stakeholders envision their region and its distinctive features clearly. GIS will help them to model options and scenarios for the future. This bioregional information system (BIS) program assembles a comprehensive and ecosystem-level GIS consisting of biophysical, social, economic, and cultural databases.

10. Research and monitoring: Research and inquiries should focus on people environment interactions, the development of innovative methods for managing natural resources, and the long-term monitoring of environmental factors and the impact of management practices.

11. Restoration: Where the viability of some habitats or ecological functions have been impaired upon through excessive or inappropriate use, these areas are to be rehabilitated.

12. Social acceptance: Any proposals for changes in the way of life and livelihoods of the residents and local peoples, including indigenous communities, need to be acceptable to them. All stakeholders warrant the opportunity to participate in program management and implementation.

13. Structure of interrelated cores, corridors and matrices: These programs include core nature areas that feature representative samples of the region's characteristic biodiversity. Ideally such sites, which may already be designated as protected areas, should be linked by corridors of natural or restored natural plant cover to permit migration and adaptation to global change. Both the core sites and corridors should be nested within a matrix of mixed land uses and ownership patterns.

14. Use of knowledge: Scientific, local and traditional knowledge should be employed in planning and management activities. Biology, anthropology, economics, engineering and other related fields are to be tapped. Such knowledge helps stakeholders and program managers to anticipate nature's long and short cycles and to track global change (Miller, 1996, quoted directly from Cape Winelands, 2009, p. 60).

Appendix F
Niagara Escarpment Planning Legislation

Provincial Policy Statement (PPS) (2005)

The PPP (2005) guides land use decisions within the Province of Ontario. It "sets the policy foundation for appropriate development while protecting resources of provincial interest, public health and safety, and the quality of the natural environment....support[ing] improved land use planning and management" (Government of Ontario, 2005, p.1). It is meant to be read with as collective policies, stating that "a decision-maker should read all of the relevant policies as if they are specifically cross-referenced with each other...while these cross-references do not take away from the need to read the [PPS] as a whole" (Government of Ontario, 2005, p. 1). A key component within the PPS is that it propones to support a long-term, integrated approach and comprehensive planning approach, "recognizing linkages among policy areas" (Government of Ontario, 2005, p. 1). It indicates that it may be complemented by provincial plans or by "locally-generated policies regarding matters of municipal interest" (Government of Ontario, 2005, p.1).

Places to Grow Act (2005)

The Places to Grow Act was developed to strategically and rationally plan to "accommodate future population growth, support economic prosperity and achieve a high quality of life for all Ontarians" (Government of Ontario, 2005, p. 1). The Places to Grow Act (2005) is based on the premise that "identifying where and how growth should occur will support improved global competitiveness, sustain the natural environment and provide clarity for the purpose of infrastructure investments...[while] recognize[ing] that an integrated and coordinated approach to making decisions about growth across all levels of government will contribute to maximizing the value of public investments" (Government of Ontario, 2005). The Places to Grow Act (2005) also delineates potential contents of a growth plan and describes governance features of the plan. It serves four purposes (2005, c. 13, s. 1.):

1. To enable decisions about growth to be made in ways that sustain a robust economy, build strong communities and promote a healthy environment and a culture of conservation;

2. to promote a rational and balanced approach to decisions about growth that builds on community priorities, strengths and opportunities and makes efficient use of infrastructure;
3. to enable planning for growth in a manner that reflects a broad geographical perspective and is integrated across natural and municipal boundaries;
4. to ensure that a long-term vision and long-term goals guide decision-making about growth and provide for the co-ordination of growth policies among all levels of government.

Places to Grow: Growth Plan for the Greater Golden Horseshoe (2006)

The Places to Grow Plan derives its authority from the Places to Grow Act (2005) and consists of policies, schedules, definitions and appendices to inform growth management decision-making and development to 2031 (Ontario Ministry of Public Infrastructure Renewal, 2005). It guides decision-making surrounding transportation, infrastructure, planning, land-use planning, urban form, housing, natural heritage and resource protection – "in the interest of promoting economic prosperity" (Ontario Ministry of Public Infrastructure Renewal, 2005, p.6). It is cognizant of the fact that Ontario and the Greater Golden Horseshoe face significant challenges for growing and sustaining its economy including:

- Increasing numbers of automobiles are traveling over longer distances, costing Ontario up to $5 billion in lost GDP each year
- Public transit is difficult to initiate in sprawling communities, making it difficult to manage traffic congestion
- Future economic opportunities are being limited by the conversion of employment lands from their original use.
- "New infrastructure is being built to service lower-density areas, while existing infrastructure in the older parts of...communities remains underutilized"
- Urban sprawl is contributing to the destruction of the natural environment, air quality, water resources, agricultural land and "other natural resources that are critical to the future economy"
- There is currently an infrastructure deficit due to accumulated neglect and insignificant investment(Ontario Ministry of Public Infrastructure Renewal, 2006, p. 7-8).

These challenges to be addressed via the Growth Plan in the following ways:

"Direct growth to built-up areas where capacity exists to best accommodate the expected population and employment growth, while providing strict criteria for settlement area boundary expansions; promote transit-supportive densities and a healthy mix of residential and employment land uses; preserve employment areas for future economic opportunities; identify and support a transportation system that links urban growth centres through an extensive multi-modal system anchored by efficient public transit, together with highway systems for moving people and goods; plan for community infrastructure to support growth; ensure sustainable water and wastewater services are available to support future growth; identify natural systems and prime agricultural areas, and enhance the conservation of these valuable resources; support the protection and conservation of water, energy, air and cultural heritage, as well as integrated approached to waste management" (Ontario Ministry of Public Infrastructure Renewal, 2006, p. 8).

The Greenbelt Act (2005)

In addition to other areas, the Greenbelt Act (2005) includes all areas covered by the Niagara Escarpment Plan. It "enables the creation of a Greenbelt Plan to protect about 1.8 million acres of environmentally sensitive and agricultural land in the Golden Horseshoe from urban development and sprawl" (Ontario Ministry of Municipal Affairs and Housing, 2012) . Encompassing all of the Niagara Escarpment, includes "and builds on" about 800,000 acres of land (Ontario Municipal Affairs and Housing, 2012). In 2005, the Minister appointed a Greenbelt Council which is situated to provide consult on administrative matters and to guide the government on issues related to the Greenbelt Act (such as implementation of the plan, performance measures and the 10-year review of the plan) (Ontario Ministry of Municipal Affairs and Housing, 2012). The Act delineates the geographical boundaries of the Greenbelt, as well as outlining its governance principles.

Greenbelt Plan (2005)

The Greenbelt Plan, as a "cornerstone" of Ontario's Greater Golden Horseshoe Growth Plan, "identifies where urbanization should not occur in order to provide permanent protection to the agricultural land base and the ecological features and functions occurring on this landscape" (Ontario Ministry of Municipal Affairs and Housing, 2005). The Greenbelt Plan provides for permanent agricultural and environmental protection, recognizes natural resources, and supports recreation and tourism uses that may contribute to the enhancement of the agricultural and rural economy. There are

five main goals of the Greenbelt Plan that includes agricultural protection; environmental protection; culture, recreation and tourism; support for settlement areas (meaning supporting a strong rural economy while also "sustaining the character of the countryside and rural communities"); infrastructure and natural resources (includes support for infrastructure, protecting renewable and non-renewable natural resources, and provides for the availability and sustainable use of those resources) (Ontario Ministry of Municipal Affairs and Housing, 2005). The Plan consists of five sections that are outlined below.

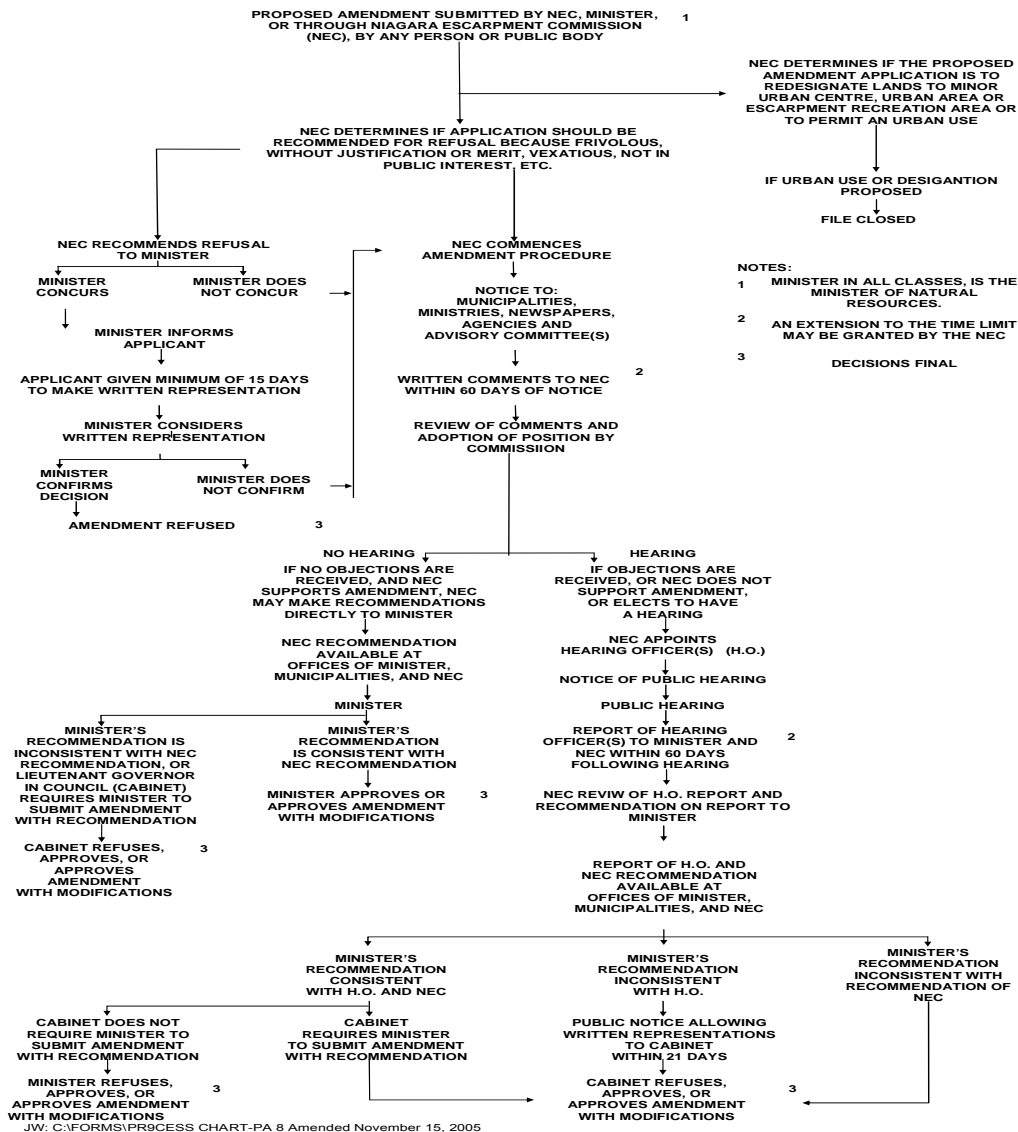| Section	Contents
1.0 Introduction	Describes context, visions and goals, legislative authority, and how Plan should be applied.
2.0 Greenbelt Plan	Describes land governed by the Greenbelt Plan (Niagara Escarpment Plan, Oakridges Moraine, Parkway Belt West, and Protected Countryside Areas) and describes how they are affected by the Plan).
3.0 Geographic Specific Policies in the Protected Area	Sets out three key policy areas: Agricultural system – consists of prime agricultural areas and rural areas, which are delineated by municipal official plans, and it identifies specialty crop areas (in which the boundaries are identified by the Plan). Natural system – Natural Heritage System (which acts as an overlay on Prime Agricultural Areas and/or rural areas identified in municipal plans), Water Resource System, and key natural heritage features and key hydrological features. Settlement Areas – Towns/villages/hamlets. The Plan defers to municipal plans for the detailed delineation of settlement boundaries. Municipal plans continue to govern land use within settlements that existed prior to the development of the Plan. All proposed expansions since the Plan came into effect must conform to the Plan. The Plan also discusses policies regarding parkland, open space, and trails.
4.0 General Policies in the Protected Countryside	General policies that are based on non-agricultural uses, recreation and tourism uses, infrastructure, natural resource uses, cultural heritage resources, existing uses, lot creation.
5.0 Implementation	Describes status and effect of the plan, plan implementation, how plan is positioned within

	broader planning system, boundary interpretation, review and amendment process, monitoring performance, the Greenbelt Council.

Appendix G
Niagara Escarpment Plan Amendment Process

DATE: November 15, 2005

THE NIAGARA ESCARPMENT PLAN AMENDMENT PROCESS
(Niagara Escarpment Planning and Development Act, as amended February 2005)

PROPOSED AMENDMENT SUBMITTED BY NEC, MINISTER, OR THROUGH NIAGARA ESCARPMENT COMMISSION (NEC), BY ANY PERSON OR PUBLIC BODY   1

NEC DETERMINES IF THE PROPOSED AMENDMENT APPLICATION IS TO REDESIGNATE LANDS TO MINOR URBAN CENTRE, URBAN AREA OR ESCARPMENT RECREATION AREA OR TO PERMIT AN URBAN USE

IF URBAN USE OR DESIGANTION PROPOSED

FILE CLOSED

NEC DETERMINES IF APPLICATION SHOULD BE RECOMMENDED FOR REFUSAL BECAUSE FRIVOLOUS, WITHOUT JUSTIFICATION OR MERIT, VEXATIOUS, NOT IN PUBLIC INTEREST, ETC.

NOTES:

1   MINISTER IN ALL CLASSES, IS THE MINISTER OF NATURAL RESOURCES.

2   AN EXTENSION TO THE TIME LIMIT MAY BE GRANTED BY THE NEC

3   DECISIONS FINAL

NEC RECOMMENDS REFUSAL TO MINISTER

NEC COMMENCES AMENDMENT PROCEDURE

MINISTER CONCURS   MINISTER DOES NOT CONCUR

NOTICE TO: MUNICIPALITIES, MINISTRIES, NEWSPAPERS, AGENCIES AND ADVISORY COMMITTEE(S)

MINISTER INFORMS APPLICANT

APPLICANT GIVEN MINIMUM OF 15 DAYS TO MAKE WRITTEN REPRESENTATION

WRITTEN COMMENTS TO NEC WITHIN 60 DAYS OF NOTICE   2

MINISTER CONSIDERS WRITTEN REPRESENTATION

REVIEW OF COMMENTS AND ADOPTION OF POSITION BY COMMISSIION

MINISTER CONFIRMS DECISION   MINISTER DOES NOT CONFIRM

AMENDMENT REFUSED   3

NO HEARING
IF NO OBJECTIONS ARE RECEIVED, AND NEC SUPPORTS AMENDMENT, NEC MAY MAKE RECOMMENDATIONS DIRECTLY TO MINISTER

HEARING
IF OBJECTIONS ARE RECEIVED, OR NEC DOES NOT SUPPORT AMENDMENT, OR ELECTS TO HAVE A HEARING

NEC RECOMMENDATION AVAILABLE AT OFFICES OF MINISTER, MUNICIPALITIES, AND NEC

NEC APPOINTS HEARING OFFICER(S) (H.O.)

NOTICE OF PUBLIC HEARING

MINISTER

PUBLIC HEARING

MINISTER'S RECOMMENDATION IS INCONSISTENT WITH NEC RECOMMENDATION, OR LIEUTENANT GOVERNOR IN COUNCIL (CABINET) REQUIRES MINISTER TO SUBMIT AMENDMENT WITH RECOMMENDATION

MINISTER'S RECOMMENDATION IS CONSISTENT WITH NEC RECOMMENDATION

REPORT OF HEARING OFFICER(S) TO MINISTER AND NEC WITHIN 60 DAYS FOLLOWING HEARING   2

MINISTER APPROVES OR APPROVES AMENDMENT WITH MODIFICATIONS   3

NEC REVIW OF H.O. REPORT AND RECOMMENDATION ON REPORT TO MINISTER

CABINET REFUSES, APPROVES, OR APPROVES AMENDMENT WITH MODIFICATIONS   3

REPORT OF H.O. AND NEC RECOMMENDATION AVAILABLE AT OFFICES OF MINISTER, MUNICIPALITIES, AND NEC

MINISTER'S RECOMMENDATION CONSISTENT WITH H.O. AND NEC

MINISTER'S RECOMMENDATION INCONSISTENT WITH H.O.

MINISTER'S RECOMMENDATION INCONSISTENT WITH RECOMMENDATION OF NEC

CABINET DOES NOT REQUIRE MINISTER TO SUBMIT AMENDMENT WITH RECOMMENDATION

CABINET REQUIRES MINISTER TO SUBMIT AMENDMENT WITH RECOMMENDATION

PUBLIC NOTICE ALLOWING WRITTEN REPRESENTATIONS TO CABINET WITHIN 21 DAYS

MINISTER REFUSES, APPROVES, OR APPROVES AMENDMENT WITH MODIFICATIONS   3

CABINET REFUSES, APPROVES, OR APPROVES AMENDMENT WITH MODIFICATIONS   3

JW: C:\FORMS\PR9CESS CHART-PA 8 Amended November 15, 2005

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