Regulatory Dynamics, Institutional Cohesiveness, and Regional Sustainability

By

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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.

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Abstract

It is generally acknowledged that economic activity continues apace and at the expense of social and ecological integrity while the course of economic development remains far from any approximation of sustainability. Few would dispute the fact that since 1992 little has been accomplished in practical terms to meet Agenda 21 objectives. Many would agree that Agenda 21-inspired local visions and goals have not translated into actual local change in part because of the complex and the multi-faceted nature of the issues involved.

Policy work on ecological modernization and sustainability needs to be explicit on the question of scale and the role of governments. The central challenge for policy makers, action takers, and researchers is to determine the appropriate territorial (physical, social, economic, and political) scale at and through which government power needs to be deployed to effect transition to sustainable modes of regulation. This question is particularly relevant given the current discourse on regionalization / globalization.

Adopting a "post-disciplinary" approach this thesis examines how institutional inter-relations shape the outcome of plans to meet policy objectives on sustainable development at the local (municipality) scale. In-depth analysis of interview and secondary data reveals that numerous factors "regulate" what occurs at local and other scales in relation to sustainable development. The contribution of this thesis is twofold. First, the regulationist and institutionalist approaches are combined and extended into the ecological realm to analyze the conflicts and incompatibilities that influence sustainability policy implementation. Second, the implications of the findings generated through this analysis are explored for policy development and future research.

<u>Acknowledgements</u>

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Chapter 1: Introduction

> *Today our societies seem less, not more, sustainable than 1992. During a period marked by global economic growth and wealth creation, the gap between the rich and the poor in most countries has become wider. International development assistance has declined, its effectiveness still taxed by costly centralized bureaucracy. More than one billion people still do not have access to safe drinking water. Three billion do not have access to proper sanitation. On the environmental front, in spite of local actions to reduce greenhouse gas emissions, most countries are not achieving the [UN Framework Convention on Climate Change] Kyoto Protocol targets, [and] the accelerated pace of global species decline continues.*
> G.N. Padayachee, Chair and J. Brugmann, Secretary General of the International Council for Local Environmental Initiatives (ICLEI 2000)

> *The [Kyoto] accord is a wealth transfer scheme between developed and developing nations. And it's been couched and clothed in some kind of environmental movement. [The accord is] the dumbest-assed thing I've heard in a long time.*
> Bob Peterson, Imperial Oil CEO (Nguyen 2002)

1.1 Introduction

Agenda 21 was published amid much hope and hype in 1992 to provide a multi-scale[1], multi-system[2] vision of sustainable development along with some implementation suggestions. The document consists of four sections collectively containing a total of forty chapters on various aspects of sustainable development, quoted famously from the Brundtland Commission's report as "…development that meets the needs of the present

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[1] Agenda 21 makes numerous references to geographic, social, economic, and political domains, as systems or scales. "Scale" may be geographic, organizational, strategic, discursive, and "constructed" through struggles of actors, movements, and institutions to influence locational structure, territorial extension, and qualitative organization (Brenner 1998:460). See chapter 3 for further discussion.
[2] "Multi-system" is used throughout this thesis to refer to an integrated whole comprising social, economic, and ecological systems. The terms "socio-ecological" or "socio-economic" are used in this thesis to refer to "social and ecological" or "social and economic" rather than references to composite "in-between" systems comprising parts of more than one system. There are good arguments for using composite systems notations to reflect real-life complexities. This thesis recognizes multi-system complexities but does not explicitly employ composite systems concepts in the analysis.

without compromising the ability of future generations to meet their own needs" (WCED 1987). Issues raised in Agenda 21 are of course not new. Agenda 21 is significant because it has captured the attention of stakeholders representing a wide range of interests and characteristics, from the weak to the powerful. However, it is generally acknowledged that economic activity continues apace and at the expense of social and ecological integrity while the course of economic development remains far from any approximation of sustainability. Few would dispute the fact that in the intervening years little has been accomplished in practical terms to meet Agenda 21 objectives. Many would agree that Agenda 21-inspired local visions and goals have not translated into actual local change in part because of the complex and the multi-faceted nature of the issues involved.

Increased interdependencies at the global and other scales, inherent to varying degrees in all definitions of sustainable development, necessitate specifying the context of study and the scale[3] of analysis in research on sustainability. This research explores the underlying tensions between the desire (expressed formally through "Regional Official Plans") to attain sustainable development at the local (jurisdictional) scale and the factors that have thus far contributed to maintaining the (unsustainable) status quo. The rationale for selecting the regional municipal scale for this study is recognition of moves by national governments to devolve administrative functions to lower, mainly regional or municipal levels of government and the resultant changes in the Canadian federal system of governance.[4] Since institutions can both facilitate and curtail local sustainability initiatives, this research will assess the appropriateness of the current institutional arrangements and relationships to the task of promoting and facilitating local sustainability initiatives. The context for local action on sustainability is supra-local, necessitating an appreciation of the important links between the local and the supra-local factors, including institutions, that affect attaining sustainability. The global, continental, national, provincial, and local contexts of sustainability are briefly reviewed in chapter 2 to help lay the broader context for this research.

1.2 From Precise Definitions to a Broad Vision of Sustainability

Since the publication of *Our Common Future* (WCED, 1987) the concept of "sustainable development" or "sustainability" has emerged as equitable integration of social, economic, and ecological priorities (Gibson, 2001) at all scales from local to global, over the long haul. Complexities in planning, administration, markets, traditions and choices, and their interrelations necessitate in-depth research into various foundations and

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[3] "Scale" here refers simultaneously to geographic, social, economic, and political arenas.
[4] Under the current federal system in Canada, provinces such as Ontario have increasingly devolved responsibilities for the social services and economic development to second-tier regional municipalities. Increased autonomy of regional governments, championed in Agenda 21 and combined with direct encouragement from such institutions as the Federation of Canadian Municipalities, the International Council for Local Environmental Initiatives, and the federal and provincial government departments has resulted in a proliferation of "independent" policy statements on sustainable development issued by regional municipalities across Canada.

practices of governance[5] at every scale in order to inform policy and action centred on attaining this integration. The impetus for this research originates from Hawken's (1993) assertion that sustainable development requires "sustainable human communities [that] act like natural ones, living within a natural ebb and flow of energy from the sun and plants.... redesigning all industrial, residential, and transportation systems so that everything we use springs easily from the earth and returns back to it" (Hawken, 1993:xv). An elaborate articulation of this vision seems to inform Atkinson's (1991) "Principles of Political Ecology" (table 1) while a more grounded, all encompassing set of principles for sustainability is offered through Gibson's (2001) "General Sustainability Principles" (table 2).

Sustainable development is a multi-scale, multi-system concept. That is, a "locale", whether defined in terms of a watershed, bioregion, jurisdiction, socio-economy, or political system cannot singularly achieve a steady state consistent with sustainable development as described above. In the unlikely event that this occurs, other (unsustainable) scales will continuously undermine its stability because scales are subject to the "expansion / compression" tendencies of capital movement toward maximized surplus value.[6] It is also important to recognize that geographical scales, e.g., "the region", are socially constructed rather than ontologically pre-given (Brenner 1998:460).[7] Similarly an "in equilibrium", steady state economy not compatible with ecological or social sustainability is continuously under threat from the multiplicity of social and ecological factors that regulate what occurs in those domains as economic activity surely does.

Table 1. Paramount Positions of Political Ecology

- Exponential population growth globally places increasing pressure on the finite resource base.
- In developed countries current economic processes increase pressure per individual on the resource base while depriving the rest of the world's population of basic needs. This problem is exacerbated by exponential population growth.
- The trajectory of resource use is such that it increases pressure on resources and the environment per unit of output.
- Renewable natural resources are being overexploited while non-renewables are mined out at ever increasing rates necessitating drastic future reversals of economic growth and inevitable human misery.
- Overexhaustion of renewable and non-renewable natural resources is compounded by increasingly sophisticated wastes as by-products of social production and consumption processes, e.g., nuclear waste.
- Institutions must undergo radical changes in terms of structure, political organization, and lifestyle effecting not only changes in patterns of production and consumption but also the way in which the society works, such that social decision-making process is coherent to the source of the problems.
- The needed institutional change is radical in outlook based on holistic ethics.
- By definition, radical change means going beyond the existing operations of government. It is therefore necessary to initiate a new political and social – even ethical – movement aimed at establishing a basis for the changes being called for.

Source: Adopted from Atkinson (1991)

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[5] "Governance" in this case may be defined as "strategic and goal-oriented activity". Such strategies and activities may be regulatory and contribute to the stabilization of economic growth by instituting a stable regime of accumulation, or they may be anti-regulatory (Goodwin and Painter 1997:26).

[6] This is an expression of Harvey's (1989) "time-space compression".

[7] "Scale" is more fully discussed in chapter 3.

The question of where one would start to institute "sustainable human communities" and what the implications are in terms of policy, action, or research are really functions of one's geographical, social, economic, and political positioning. Regardless of the starting point, the orientation for sustainability endeavours must by definition be multi-system, multi-scale, and integrative. Focusing on economic issues, e.g., the current obsession with all things competitive and directed at safeguarding the bottom line and "shareholder interests", will not do much for the sustainability of the total system. Taking action on social issues and persuading governments to part with concessions to remedy undesirable social situations will not necessarily fix the causes for many social issues, often created by failures in the economic system. Similarly, maintenance and advancement of ecological integrity cannot be realistically accomplished in isolation from the social and economic domains as what occurs in each of these domains often has quite significant implications for ecological integrity: ecosystems "contain" the economic and social systems. The most suitable approach to simultaneously tackle this intertwined mass of issues is perhaps to sketch out a set of sustainability principles broad enough to nurture creativity and innovation and specific enough to allow assessment of policies that shape the course of economic development.

At this more practical level Gibson (2001) offers a set of seven general sustainability principles to guide decision-making (table 2). Focusing on environmental assessment he further argues that processes and practices need to be adjusted to "force and facilitate application of these principles in the planning and approval of projects, activities, plans, programmes, policies and other undertakings likely to affect prospects for sustainability" (page 44). Despite the focus on environmental assessment these principles could be easily adopted as they are, or in adapted form, for application to other decision-making arenas, including endeavours at the regional municipality scale to attain higher degrees of sustainability. Adoption to some degree of these principles at the formal policy level is discernable in the two Official Plans reviewed for this research (see chapter 5).

Table 2. General Sustainability Principles

- **Integrity:** build human-ecological relations to maintain the integrity of biophysical systems in order to maintain the irreplaceable life support functions upon which human well-being depends.
- **Sufficiency and opportunity:** ensure that everyone has enough for a decent life and that everyone has opportunity to seek improvements in ways that do not compromise future generations' possibilities for sufficiency and opportunity.
- **Equity:** ensure that sufficiency and effective choices for all are pursued in ways that reduce dangerous gaps in sufficiency and opportunity (and health, security, social recognition, political influence, etc.) between the rich and the poor.
- **Efficiency:** reduce overall material and energy demands and other stresses on socio-ecological systems.
- **Democracy and civility:** build our capacity to apply sustainability principles through a better informed and better integrated package of administrative, market, customary and personal decision making practices.
- **Precaution:** respect uncertainty, avoid even poorly understood risks of serious or irreversible damage to the foundations for sustainability, design for surprise, and manage for adaptation.
- **Immediate and long-term integration:** apply all principles of sustainability at once, seeking mutually supportive benefits.

Source: Gibson (2001)

The issue of scale compounds the multi-system complexity implied in tables 1 and 2. The local and supra-local physical, social, political, and economic scales are not mutually exclusive over time and space. Interdependencies and interconnectedness between scales and systems necessitate "scalar" and "post-disciplinary"[8] approaches to sustainability in policy making, action taking, and academic research. Because of multi-system complexity, web-like scalar interconnectedness, interdependencies, and the enormity of issues involved, defining the research scope in scholarly work on sustainable development and how it fits into the larger multi-system, multi-scale context is of utmost importance. The following sections sketch out the context for this research. The description of the research scope, method, and the inevitable limitations are provided in chapter 4.

1.3 Regionalization, Globalization, and Sustainable Development

Two views, essentially the two sides of the same coin, hold that nation-states are becoming increasingly powerless on matters of social and economic policy while regionalized economies, large and small, and transnational corporations are becoming directly embedded in a globalized economy. The bulk of the literature on "learning" (organizations, regions, and economies) is premised on a globalist vision of the future of capitalist development. The conceptual premise for this research holds the minority position that the reports on the demise of the nation-state are premature and perhaps exaggerated – globalization, at least insofar as it means the liberalization of the labour and capital markets, is not inevitable.

Globalization has been described by some as neo-liberalist prophecy bolstered by a crisis of (and a backlash against) the Keynesian mode of regulation (Jessop 1990a; Jessop et al. 1993). Globalization, insofar as it means a general disintegration of Keynesian national economies, has created numerous socio-economic and ecological problems by exacerbating uneven economic development within (as well as between) nations. Globalization, thus interpreted, has important implications for the practical validity of policy objectives on sustainable development at the local level of government. Because of globalization, local governments are increasingly under pressure to "trade" welfare and equity for jobs, often seen as created by investment lured in through a liberalized local regulatory framework. As a result, there is often a tension between on-paper policy objectives for "sustainable development" and actual outcomes of local economic development strategies. This theme is explored further in the pages that follow.

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[8] Bob Jessop has described "post-disciplinary" as scholarly approaches that reject the legitimacy of boundaries set by disciplines. According to Sayer (1999:5), "Post-disciplinary studies emerge when scholars forget about disciplines and whether ideas can be identified with any particular one; they identify with learning rather than with disciplines. They follow ideas and connections wherever they lead instead of following them only as far as the border of their discipline. It doesn't mean dilettantism or eclecticism, ending up doing a lot of things badly. It differs from those things precisely because it requires us to follow connections. One can still study a coherent group of phenomena, in fact since one is not dividing it up and selecting out elements appropriate to a particular discipline, it can be more coherent than disciplinary studies".

Quite apart from various ambiguities associated with the term "sustainable development" and conflicting debates on how and in which sphere(s) of life to attain it, there remains a further fundamental difficulty. As the main analytical tool, neo-classical economics has come under increasing criticism for inadequacy in identifying pathways to social, ecological, and economic sustainability. The narrow scope and the unrealistic assumptions of neo-classical economics have thus far rendered some well-meaning scholars ill-equipped to deal with the "non-economic" (particularly the political and the ecological) issues. Neo-classical economics is oblivious to spatial and temporal considerations and incapable of adequately encompassing learning (Hodgson, 1996:1941). Attempts to spatialize and temporalize neo-classical economics by "supplementing" it with regulation theory (cf. Cooke and Morgan 1998) or "institutionalism" (cf. Williamson 1994) in order to study the dynamics of socio-economic change are unlikely to provide adequate insights for sustainability, in part because neo-classical economics assumes that preferences are fixed and fixed preference implies no learning (Hodgson 1994, 1996).

Reliance on neo-classical economics as the main analytical tool for studying contemporary regional economic development has led to viewing regional success only in terms of increased "competitiveness" and "innovation" without due attention to the social, cultural, political, or ecological components of regional economic development. This weakness is prevalent even when there is allusion to the "regulationist" and "institutionalist" approaches in explaining new phenomena, e.g., industrial or nation-state agglomeration.[9] The full potentials of these approaches are more likely to be realized in analytical frameworks sensitive to spatial and temporal considerations and capable of integrating socio-political and ecological considerations into economic analysis. This requires going beyond the (conceptually) limited confines of neo-classical economics. The potential for breaking out of the neo-classical economics hold will be explored in light of learning from some new or emerging fields of study in chapter 3.

Despite the limitations imposed by the neo-classical framework, a shift of focus is discernible in the literature on regional economic development in the post-Fordist / globalization context. In addition to economic factors, the new focus emphasizes the importance of social and cultural factors (i.e., intense levels of inter-firm collaboration, a strong sense of common industrial purpose, social consensus, extensive institutional support for local business, and structures encouraging innovation, skill formation, and the circulation of ideas) for the growth of new industrial agglomerations (Amin and Thrift, 1994). However, this body of literature remains oblivious to the importance attached to the (natural) environment in writings on organizations, regions, and economies over the last few years. In addition, the study of social and cultural factors and learning seems to be removed from the wider, i.e., beyond the "network", issues of equity and social cohesion. This research is in part an attempt to place economic activity in its socio-ecological context.

The premise for this thesis holds that "the environment" can and must assume a central place in the analysis of regional economic development since it uniquely cuts across

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[9] See, for example, Cooke and Morgan (1998).

modern society's conventional polarities and boundaries forming diverse partnerships and goal-oriented alliances. Much of the environmental literature focusing on the role of industry is about the very same collaborative local arrangements that commentators on regional economic development describe and prescribe. "The local" is as central to sustainable development and environmental literatures as to regional economic development literature including various studies of "learning regions". Cooperation, collaborative arrangements, partnership, and integration of diverse activities based on a shared vision of ecological sustainability form the central focus for much of the literature on industrial ecology, ecological economics, and ecological modernization theory. Where these fields are weak, i.e., in the social, cultural, and political arenas, the "learning region" literature offers potential strength.

The new regionalist notion of "learning regions" and the new interest in the role of institutions in emerging systems of governance (Young 1994) need to be re-examined in three interrelated contexts of liberalized world trade, the dominant neo-liberal politics associated with the current regime of accumulation, and the socio-ecological implications of the current world economic trajectory. It is at best misleading to suggest, as some new regionalists do, that the so-called "learning" organizations or regions are *the* form in the post-Fordist era, or that institutions and their inter-relations have effectively completed a move from govern*ment* to govern*ance*.[10] If governance were defined as "the exercise of authority and control by governments, private sector interests, and other non-governmental organizations" (Francis 1994), then one could conclude that there has always been governance, only now it is exercised more through institutions other than formal governments. In terms of research, the importance of scale in the analysis of regional economic development and the socio-ecological contexts of economic activity needs to be explicitly recognized and addressed. Social, economic, and ecological systems generate numerous inter-related factors that "regulate" the accumulation regimes at different scales. To this end this thesis develops and applies an analytical framework for studying the sustainability of regionalized economic activity.

1.4 Theoretical Approach and Research Problem

Establishing a sustainable regime of accumulation requires radical structural change (Hudson and Weaver 1997) at all scales from the current mode of production and consumption to one that integrates social and economic well-being with ecological requirements. The blueprints drawn up for this change by the proponents of industrial ecology (cf. Graedel and Allenby 1995), ecological modernization theory (cf. Gouldson and Murphy 1998), and "eco-Keynesian mode of regulation" (Hudson and Weaver 1997) place the industrial system in its larger ecological context.[11] Economic development policies drawing on industrial ecology principles have been adopted and to some extent operationalized at the local (jurisdictional) scale in Canada and the United States through efforts to establish "Eco-Industrial Parks". When fully functional, an Eco-Industrial Park is a system of planned materials and energy exchanges that seeks to minimize the

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[10] The expression "from govern*ment* to govern*ance*" is borrowed from Jessop (1994).

[11] Note should be made that these propositions focus primarily on "the environment", not to be confused with "sustainability" or "sustainable development" as described in tables 1 and 2 in this chapter.

consumption of energy and raw materials, minimize waste, and build sustainable economic, ecological, and social relationships (Côté and Cohen-Rosenthal 1998).

Similarly, since the mid 1980s there has been increasing interest by policy-makers in ecological modernization as a "foresighted and preventive type of environmental policy" (Lundqvist 2000). This interest is particularly evident in the Netherlands' "National Environmental Policy Plans" (Murphy 2000). In addition, discourse on ecological modernization forms the basis of the European Union's environmental policies (Pepper 1999). Implicitly, the industrial ecology and ecological modernization theory literatures assume presence of institutional inter-relations that facilitate movement from ecologically destructive modes of production (and consumption) to ecologically benign or beneficial ones. The premise for this research is that the sustainability of these inter-relations depends on "institutional cohesiveness" (see chapter 3) which is constituted as a result of institutional persistence, a base of tacit and codified knowledge, institutional flexibility, innovative capacity, extended trust and reciprocity, and consolidation of a sense of inclusiveness (Amin and Thrift 1994:14-15) around a unified strategic direction, e.g., ecological modernization or, in a more general sense, sustainable development.

The interplays between sets of institutional cohesiveness (focused on sustainability) at the sub-national (state / provincial and municipal[12]), national, and supra-national (e.g., NAFTA or the European Union) governance scales and their policy implications remain insufficiently explored, however. Focusing on the "local" scale of governance, this thesis is the first phase or "building block" of a research project to develop a profile for these scalar interplays and examine their role in the attainment of sustainable development. The analytical framework of this thesis draws mainly on "institutionalism" (cf. Hodgson 1994a) and "regulation theory" (cf. Jessop 1990a) (see chapter 3 for details and discussion). In addition, this thesis draws attention to the importance of "scale" (Brenner 1998) in studies of governance of socio-economic spaces.

1.5 Research Goal

The goal for this thesis is to document, assess, and elaborate on the evolution and dynamics of institutional inter-relations associated with the formation of policy and sustenance of programmes to attain sustainable development at the regional municipality scale. Specifically, this research

> *examines how institutional inter-relations shape the outcome of plans to meet policy objectives on sustainable development at the local (municipality) scale*

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[12] In Ontario, first-tier "area municipalities" may refer to single townships, towns, or cities while second-tier "regional municipalities" refer to conglomerations of area municipalities. The "local scale", "region" (unless otherwise described), and "municipality" in this thesis refer to second-tier regional municipalities. Chapter 5 provides further specific details on area and regional municipalities.

Given the "institutionalist" orientation of this research, attention is paid to such issues as "path dependency",[13] "cumulative causation",[14] and "lock-in"[15] (Hodgson, 1994), necessitating a focus on the "evolutionary" aspect of economic activity as manifested the trajectory of economic development and reflected in inter-relations between individuals at large, between individuals within organizations and institutions, and between organizations and institutions at the societal level.[16]

1.6 Research Design

Focusing on Canada and drawing on secondary data sources, assessment is made of the extent to which sustainability principles have been adopted at the continental, national, provincial, and municipal scales. A literature review is used to develop a method for assessing institutional inter-relations. Data are collected from a variety of sources including qualitative and quantitative analyses of historical documents, reports and secondary data, and qualitative analysis of semi-structured interviews with key institutional informants. The analyses of data from the interviews and secondary data sources are "converged" to generate findings from the multiple sources of evidence. As part of this converging exercise, attempt was made during each interview to engage the interviewee in a discussion of the findings from the review and analysis of secondary data (chapters 2 and 5).

1.7 Research Objectives

To attain the research goal, this thesis

- develops a framework to assess institutional cohesiveness;
- develops research tools and applies the research framework to empirical cases;
- articulates and elaborates on the implications of the findings for
    - policy and action; and
    - future research.

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[13] Path dependency may be described as "dependence on initial conditions" (after Arthur 1990), or a recurring emergence of initial conditions, resulting in relative permanency (Hodgson 1988; 1993, 1999a) of particular habits / customs and institutional forms.

[14] Cumulative causation is closely associated with the better-known economic concept, the "multiplier effect". Cumulative causation is thus defined as the unfolding of events connected with a change in the economy (Myrdal 1957) due to the appearance of a new enterprise which may be private, e.g., a factory, or public, e.g., a government institution or a public-private partnership.

[15] "Lock-in" and its relationship with path dependency and cumulative causation is best demonstrated in an example from Liebowitz and Margolis (1995):

> The archetypal case of path dependence has been, of course, the configuration of the typewriter keyboard. …the standard "QWERTY" keyboard arrangement is dramatically inferior to an arrangement offered by August Dvorak, but we are locked into the inferior arrangement by a coordination failure: No one trains on the Dvorak keyboard because Dvorak machines are hard to find, and Dvorak machines are hard to find because no one trains on Dvorak keyboards. The process is said to be path dependent in that the timing of the adoption of QWERTY, and not its efficiency, explains its survival (Liebowtiz and Margolis 1995:210).

[16] These "levels" of inter-relations are drawn from Jessop (1997). Chapter 3 provides additional details and a discussion of these levels. In chapter 6 an interpretation of these levels is used to analyze field data.

1.8 Research Methods

Adopting a case study approach, this research focuses on the Regional Municipalities of Waterloo and Hamilton-Wentworth in southwestern Ontario. Adapted from "institutional thickness"[17], the concept of "institutional cohesiveness"[18] was developed in preparation for this research to investigate the governance implications of local (municipality level) sustainable development policy statements and initiatives. The Region of Waterloo was selected because of close proximity to the University of Waterloo and my place of residence. In addition, involvement in the development work on the Waterloo Industrial Network for Sustainability (WINS) provided a unique opportunity to utilize my privileged access to individuals with intimate knowledge of governance issues in the Waterloo Region, particularly with regards to organizations and institutions in the Kitchener-Waterloo area. Like Hamilton-Wentworth, the Region of Waterloo is endowed with substantial industrial, agricultural, and educational sectors and has had a formal (policy) commitment to sustainable development since 1994. Both Regions share the challenge of reconciling rapid economic growth with socio-ecological requirements of sustainability.

The intent of this research was not to carry out a comparative case study analysis of these two Regions. The first rationale for selecting two regions was to increase diversity in the key informant pool and to draw on a wider range of experiences. However, while extending the breadth of the research area increased the diversity of responses, it inevitably affected the depth of analysis in each case. The two regions were compared whenever such comparison offered the potential of enriching the analysis and adding additional insights. The second rationale for adding Hamilton-Wentworth to the study was the fact that the Regional Municipality, until amalgamation into the "new" City of Hamilton in 2001, had been viewed as one of the most successful case examples of implementing local Agenda 21. It was felt that adding Hamilton-Wentworth to this study would provide additional insights. Steps taken to meet the research objectives were as follows:

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[17] "Institutional thickness" refers to the intense and integrated interaction among institutions contributing to the success (or failure) of regional economic development strategies (Schmitz, 1993). Institutional thickness is based on a tradition of collective rather than sectional or individual representation (Kosonen 1997). As such, institutional thickness is said to play a central role in how socio-economic and political systems evolve over time (Amin and Thrift 1994; Amin 1999a; Agarwal 1991; Fox 1996; Francis 1996; Heller 1991; Moser 1996; Putnam 1993). Institutional thickness leads to institutional persistence, increased base of tacit and codified knowledge, institutional flexibility, increased innovative capacity, extended trust and reciprocity, and consolidation of a sense of inclusiveness (Amin and Thrift 1994). The scale for institutional thickness is sub-national / local while the application is relational (allowing comparisons). See chapter 3 for further details and discussion.

[18] "Institutional cohesiveness" widens the scope of inquiry and focuses on the "common purpose" which may be action (or inaction) on such multi-scalar issues as sustainability, elimination of world poverty, addressing race and gender inequity, or prevention of terrorism. As such, institutional cohesiveness is strategic. (I am indebted to Susan Robertson [University of Bristol], for forcing me to articulate the differences between "thickness" and "cohesiveness").

- review literature on regional studies (focusing on "learning regions"), "institutionalism", evolutionary economics, ecological modernization theory, regulation theory, and "implementation analysis";
- review secondary data;
- develop analytical framework;
- develop research tool to conduct field study;
- collect and analyze field and secondary data; and
- generate findings and elaborate on implications.

Institutional cohesiveness was examined based on analyses of key informant input and secondary data from the two regional municipalities of Waterloo and Hamilton-Wentworth and other sources.

1.9 Outline of Chapters

Chapter 2 critically examines policy commitments to sustainable development by formal governance institutions. The intent in chapter 2 is to "connect the dots" between the mode of regulation at the local scale and the supra-local factors that play regulatory roles at the local scale. Chapter 2 also provides the policy background for this research.

Chapter 3 is a critical review of selected literatures on "learning", "institutionalism", evolutionary economics, ecological modernization theory, regulation theory, and "implementation analysis" to draw attention to the complex and inter-related contexts that must underlie studies of regional economic development. These contexts are identified as globalization, the neo-liberal mode of regulation, the politics of new regionalism, "scale", and context specificity. Following this review, the "regulatory" role of the environment is explored and discussed to conclude the need for a post-disciplinary approach to examine "institutional cohesiveness" in relation to sustainable development.

Having established a conceptual framework in chapter 3, chapter 4 provides an overview of methods in social scientific research in order to develop the rationale for adopting "mixed-method integrated design" as research methodology. The research approach is described within a "framework for studying sustainable development", followed by a method to examine "institutional cohesiveness" at the local municipality scale. The remainder of chapter 4 elaborates on the research goal, objectives, fieldwork methods, and the limitations associated with this research strategy. The interview questions are relegated to the appendix section.

Chapter 5 provides the regional profiles of the two case studies. The economic geography of each regional municipality is briefly discussed followed by syntheses of the Region of Waterloo's *Regional Official Policies Plan (1998),* and the Region of Hamilton-Wentworth's *Official Plan (1998).* A comparison of the regional profiles highlights the differences between the two regional municipalities and explores the potential outcomes of the current economic trajectories. The two Official Plans are then assessed against the Federation of Canadian Municipalities' (FCM) "Guiding Principles" to gain appreciation

of how well, or badly, the Official Plans meet sustainability objectives as articulated by FCM.

Chapters 6 and 7 constitute a two-part analysis of the interview data. The focus for the analyses in these chapters is to understand how multi-scale system dynamics and barriers shape inter-relations at the local and other scales. A central aspect of these inter-relations is trust, or lack of trust, at the social, institutional, and societal levels of embeddedness. Chapter 6 introduces the context and its various elements for understanding regional sustainability while chapter 7 identifies the manifestation of these elements as barriers to attaining sustainable development. Chapters 6 and 7 collectively demonstrate that inter-relations at each scale within the local – supra-local spectrum, have their own dynamics and generate their own set of barriers while being continually modified and "regulated" by the dynamics and the barriers of other, usually higher, scales. Chapter 6 provides a sense of how the interviewees viewed sustainable development at a conceptual level and how these views influenced the interviewees' expectations of sustainable development. Chapter 7 identifies five "barrier categories" that undermine attainment of sustainability at the local municipality scale. The barrier categories are then used to re-interpret secondary data findings on obstacles to sustainability at the local municipality scale. Chapter 7 also elaborates on the strategic and institutional implications of these findings.

Chapter 8 concludes this thesis by elaborating on the findings reported in chapters 2, 5, 6, and 7. Implications of for broad theory, action, and policy are discussed followed by an articulation for future research work utilizing the methodology developed for this thesis.

Chapter 2: Policy Context

Consultants and businesses, and governments alike have bastardized the term [sustainable development] in the greater good of whitewashing. We all know what sustainable development means… In the federal government, every department has been charged with creating its own sustainable development plan but when you look at the results, it's not true sustainable development …. No one pushes hard enough… and the powers-that-be will continue to talk about visioning, incremental changes, and so on and do precious little.
(Industrial peak organization key informant 2001).

If, for example, the strategy of the automobile industry is to bring China up to the levels of the United States in car ownership then it hardly needs emphasizing that the environmental risks are huge. And even that wing of capitalism that acknowledges that something called "sustainability" has importance, judges sustainability as much in terms of continuous capital accumulation as it does in terms of socio-ecological well-being.
(Harvey 1998:12)

2.1 Introduction

The intent in this chapter is to "connect the dots" between events at the local scale and the supra-local factors that may have a bearing on what happens at the local scale. Statements on sustainable development by institutions promoting global trade are briefly discussed followed by a description and discussion of policy commitments to sustainability at the continental scale. Canadian federal policy on sustainable development is explored through policy statements adopted and actions taken by selected government institutions. Particular scrutiny is awarded to policy statements and actions of the Ontario provincial government in light of the aggressively neo-liberal approach of the Progressive Conservatives elected to office in 1995 and maintaining a majority government at the time of writing (summer 2002). In addition to government institutions four quasi-government institutions, the Commission of Environmental Cooperation (CEC), the International Council for Local Environmental Initiatives (ICLEI), the Federation of Canadian Municipalities (FCM), and the Association of Municipalities of Ontario (AMO) are examined for their policies on sustainability and their roles in facilitating the advancement of sustainable development objectives at the international, national, provincial, and municipal scales. This chapter ends with a discussion of the significance of the interactions between government and quasi-government institutions reviewed to explore the governance implications of attaining sustainability at the local scale.

2.2 Global Context

On November 14, 2001, trade ministers from 142 countries struck a deal to launch a new round of world trade negotiations. The resultant ministerial statement "strongly reaffirmed [the ministers'] commitment to the objectives of sustainable development" stating that "acting for the protection of the environment and the promotion of sustainable development can and must be mutually supportive". According to the declaration, the World Trade Organization (WTO) will not prevent any country from taking measures for the protection of human, animal, and plant life, or of the health of the environment at levels it considers "appropriate", as long as these measures are not used as "arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade" (ENS 2001a). WTO will "continue to cooperate with the United Nations Environment Programme and other international environmental and developmental organizations in the lead-up to the World Summit on Sustainable Development in 2002". The declaration comes fast on the heels of concerns raised by internationally important persons in the aftermath of Seattle 2000 including such luminaries as Alan Greenspan, the president of the US Federal Reserve Bank who reportedly said, "societies cannot succeed when significant sectors [E/NGOs] perceive their functioning to be unjust" (Ramonet 2001).

The WTO declaration commits the members to negotiate new rules to address subsidies to the fishing industry, for example, which according to the World Wide Fund for Nature are destined to deplete the world's fish stocks. Other environmental groups such as Greenpeace remain sceptical of the WTO declaration, however.[19] The scepticism exists in part because of the multi-scale, multi-system contestations associated with the liberalized world trade agenda promoted and pursued by such bodies as the WTO. To win confidence of critics and opponents, the sceptics argue, the WTO must revise and redefine its position in relation to environmental protection and the objectives of the International Monetary Fund and the World Bank.[20] Continued failure to address these fundamental relational questions is often manifested in contradictory language of WTO declarations on the importance of studying the relationship between trade rules and the environment while bullishly maintaining that WTO rules will not change to accommodate revision and redefinition of these relationships. This is of particular concern given the protests in Seattle, Quebec City, and Genoa against free world trade and its association with the negative social, economic, and environmental impacts in jurisdictions around the world.

The contradiction between WTO declarations and trade policies nurtures similar contradictions between policy statements and action on sustainability within an

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[19] See "Ministerial Declaration", available at: [http://www.wto.org/english/thewto_e/], accessed February 11, 2002; "Greenpeace Comments and Annotations on the Draft Doha Ministerial Declaration", available at: [http://www.greenpeaceusa.org/media/press_releases/], accessed February 11, 2002; and "Stop overfishing or fishing will be over, warns WWF's new campaign", World Wide Fund for Nature press release at: [http://passport.panda.org/stopoverfishing/html/fromadmin/docs/newsroom/], accessed February 11, 2002.

[20] See, for example, "Greenpeace Comments and Annotations on the Draft Doha Ministerial Declaration", available at: [http://www.greenpeaceusa.org/media/press_releases/], accessed February 11, 2002.

overwhelming majority of national governments whose trade ministers make up the WTO. Like the WTO, member countries have made statements on sustainable development.[21] If one were to view sustainable development in Agenda 21 terms, i.e., social, economic, and environmental well being resulting from significant societal change, then many of the signatories to Agenda 21 fail to qualify as having succeeded in meeting the challenge. There are, of course, some limited success cases in addressing the "environmental" component of sustainable development. Sweden, Norway, Denmark, Germany, and the Netherlands have been particularly successful in reversing significant domestic environmental damage through "ecological modernization" (Hajer 1997).

For example, the Swedish government recently announced its determination to make Sweden "the world's most environmentally sustainable nation" by proposing 60 "concrete measures and strategies" to implement "15 over-arching environmental quality objectives adopted in 1999" (ENS 2001b). Despite its narrowly environmental focus, the Swedish case is significant for attempting to match formal policy commitment with resources and legislation to ensure the attainment of policy objectives. The underlying intent of Sweden's aggressive course of action is to "achieve environmental sustainability within one generation [by 2025]". To meet this goal the Swedish government has committed to increase funding for environmental protection by 70 percent by 2004. Objectives of the renewed environmental initiatives include clean air, forest protection, wetland protection, protection of the Baltic Sea by minimizing nitrogen discharges, reduction of lake and river acidity, and the placement of the "entire water environment" under long-term protection by 2010.

Other targets include attaining negligible oil discharges to the sea by 2010, remediation by 2005 of 50 percent of the highest priority contaminated sites, and review of planning and building act based on strategies to minimize car use and increase energy efficiency. An elaborate monitoring system complete with a new system of environmental indicators will generate an annual report aimed at keeping the parliament fully informed of the progress to meet the objectives. Such institutionalization of sustainability in Sweden has been helped in large measure by a move toward full (environmental) cost pricing of goods and services by removing subsidies and implementing environmental taxes coupled with improvements in efficiency. Tax revenues from a carbon dioxide tax are invested in renewable energy and public transit, creating thousands of new jobs and meeting targets in pollutant releases. It is illuminating to contrast Sweden's innovative, interventionist, and apparently successful approach to environmental protection with Canada's ineffective reliance on voluntary initiatives and programmes to address global warming resulting in a 15 percent increase in Canada's contribution to greenhouse gas emissions since 1990 (Boyd 2002).

The core economic policies that underlie and govern globalization have only accelerated over the past few years (Klein 2002). In North America, these policies include new tax cuts by the newly elected, ideologically driven neo-liberal governments, reduced funding for public services, a new momentum to mine fossil fuels, a looming threat of building

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[21] Each country that signed Agenda 21 at the Earth Summit in Rio, 1992 also made a commitment to issue a formal policy statement on sustainable development.

additional nuclear power stations in light of the newly approved storage facility in the Nevada desert, privatization programmes for public services and utilities despite the fresh experiences of California black/brown outs and the Enron scandal, and anti-labour laws. The gap between policy statement and implementation is thus not unique to the WTO. Nation-states such as Canada and continental trade blocs such as NAFTA also have issued formal commitments to sustainable development, and conducted studies on the necessity of pursuing sustainability, but thus far have failed to follow through policy with appropriate action. The federal government meanwhile supports the sale of asbestos to Chile and Candu nuclear reactors to China. The federal government of Canada's position on sustainable development, leaning heavily on the written word and lacking in concrete action will be reviewed after a brief review of NAFTA's environmental[22] objectives.

2.3 Commission for Environmental Cooperation (CEC)

In January 1994, Canada, the United States and Mexico launched the North American Free Trade Agreement (NAFTA) and formed the world's largest free trade area.[23] NAFTA is designed to foster increased trade and investment among the partners and contains an ambitious schedule for tariff elimination and reduction of non-tariff barriers, as well as comprehensive provisions on the conduct of business in the free trade area. The North American Agreement on Environment Cooperation is a formal "side agreement" of the NAFTA treaty to "promote continental cooperation in ecosystem protection and sustainable economic development, and to ensure active public participation and transparency in the actions of the Commission [for Environmental Cooperation]" (CEC 1994). CEC's objectives comprise[24]

- fostering the protection and improvement of the environment in the territories of the Parties for the well-being of present and future generations;
- promoting sustainable development based on cooperation and mutually supportive environmental and economic policies;
- increasing cooperation between the Parties to better conserve, protect, and enhance the environment, including wild flora and fauna;
- supporting the environmental goals and objectives of the NAFTA;
- avoiding the creation of trade distortions or new trade barriers;
- strengthening cooperation on the development and improvement of environmental laws, regulations, procedures, policies and practices;
- enhancing compliance with, and enforcement of, environmental laws and regulations;
- promoting transparency and public participation in the development of environmental laws, regulations and policies;
- promoting economically efficient and effective environmental measures; and
- promoting pollution prevention policies and practices.

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[22] Note should be made here that CEC was specifically set up to focus on "the environment", as opposed to sustainability. Nevertheless, CEC does seem to allude to some vision of sustainability.

[23] This paragraph is closely based on a description provided through [http://www.dfait-maeci.gc.ca], accessed May 24, 2002.

[24] From [http://www.cec.org], accessed May 24, 2002.

In its first "state of the environment report"[25], CEC reports that collectively NAFTA member countries continue to be highly dependent on burning non-renewable fossil fuels for energy, release large quantities of pollutants into the air, adversely affect the global climate, and perform poorly in harnessing energy from renewable sources such as wind, solar, and geothermal. The report points out that numerous chemical substances harmful to humans and other species continue to be used in industrial activity while natural forests, old growth forests, and species habitats are destroyed at alarming rates through unsustainable commercial activities. Overcommercialization in agriculture and fishing sectors has led to soil loss and the collapse of staple fishing stocks respectively. The current trajectory of the continent's collective economy is headed toward decreased biodiversity, overharvesting, and continuing pollution.

CEC's "state of the environment report" offers a useful assessment of the current (2001) state of affairs vis-à-vis environmental well-being and sustainable development in the three North American economies. Adopting "the ecosystem approach", utilizing the concept of "ecological footprint" to highlight unsustainability of human activity on the continent, and drawing on environmental economics techniques the report concludes "government discourse has taken a noticeable shift toward the stated goal of sustainable development as a way to resolve conflicts between the environment and the economy [but] few concrete strategies exist to achieve sustainable development" (CEC 2001:87). The authors take comfort that "many businesses have begun to reorient themselves toward more sustainable forms of development" while calling on national and international institutions to incorporate sustainability principles in the economic system and in national economic accounting, achieve a more equitable distribution of wealth among generations, regions, and societies and open up opportunities for social mobility, participation, and empowerment. The report ends by stating that transition to sustainability will require adapting policies, institutions, technologies, and lifestyles to better serve sustainability (page 87).

2.4 Canadian Federal Policy on Sustainable Development

The federal government of Canada's commitment to sustainability includes "the set of all sustainable development strategies by federal departments and agencies, strategies that articulate the numerous actions and commitments departments will undertake to promote sustainable development in Canada".[26]

To fulfill its commitment to sustainability, the federal government amended the Auditor General Act in 1995 to establish the position of "Commissioner of the Environment and Sustainable Development", subsequently appointed in July 1996. These amendments also required "federal departments and certain agencies to prepare sustainable development strategies and action plans [as well as requiring] the Auditor General to receive petitions from the public on sustainable development matters and to forward them to the appropriate minister for response". The Commissioner, on behalf of the Auditor General, monitors and reports annually to Parliament in "Green" reports on the extent to which

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[25] "The North American Mosaic", CEC (2001).
[26] *Auditor General Act,* 1976-77, c. 34, s.1.

departments have met the objectives of their sustainable development strategies and implemented their action plans, and on the status of petitions received[27]. Each strategy must outline concrete goals and action plans for integrating sustainable development into policies, programmes and operations. Progress must be reported annually, strategies must be updated at least every three years, and reviewed periodically by the Commissioner on the Environment and Sustainable Development.

As a federal government department, Natural Resources Canada states, "the integration of environmental, economic and social considerations [is] the key to ensuring that we maintain our quality of life and continue to create jobs, without compromising the integrity of the natural environment or the ability of future generations to meet their own needs".[28] Similarly, the sustainable development strategy of the Department of Finance Canada, along with 27 other federal departments, tabled in 1997 illustrates "how the federal government's fiscal and economic plans [are] contributing to sustainability in Canada".[29] The Department of Finance's strategy is to contribute to environmental objectives and international sustainable development issues, improve environmental performance of the federal government operations, improve Canadians' quality of life, and improve the government's ability to address Canadians' priorities[30]. Other federal departments and agencies that have responded to amendments to the Auditor General Act include Public Works and Government Services Canada, Transport Canada, and Canadian International Development Agency (CIDA). Transport Canada identifies seven "strategic challenges for sustainable transportation in Canada" as follows:

- Improving education and awareness of sustainable transportation
- Developing tools for better decisions
- Promoting adoption of sustainable transportation technology
- Improving environmental management for Transport Canada operations and lands
- Reducing air emissions
- Reducing pollution of water
- Promoting efficient transportation

Similarly, CIDA adapted the Brundtland Commission's definition in 1991 and identified five "pillars or dimensions, integral to the way the Agency delivers its programs" as follows:

- taking a long-term perspective,
- fostering respect for diversity and pluralism,
- conceiving integrated solutions to problems and issues which take into account all factors and their interrelationships,
- promoting equity and justice, and
- assuring the participation of beneficiaries and partners.

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[27] *ibid.*
[28] Posted on the Natural Resources Canada's official website.
[29] [www.sdinfo.gc.ca], accessed February 14, 2002.
[30] *Ibid.* Equating sustainable development with "environment" is notable here.

The conclusion that can be drawn from the sample of policies summarized above is that there is indeed policy commitment to sustainable development at the federal government scale. Some departments' policy statements are more elaborate than others. Some departments focus primarily on the "environment", e.g., the finance department, while agencies such as CIDA offer a reasonably comprehensive view of sustainable development. Given the current state of affairs, as viewed by the ICLEI officials for example, it appears that there is a significant gap between policy objectives and action. In general, these policies seem to have failed to reverse wasteful consumption of resources, the growth-oriented economic trajectory, or development policies at home and abroad along conventional (and unsustainable) lines. Certainly, the differences in the scope of ambition and the specifics of plans to attain sustainability between federal departments and agencies are important and merit further research since they may reveal additional insights to suggest changes toward sustainability. This task is beyond the scope of this study. The purpose of the review in this chapter is to provide a broad context for a study of regional sustainability, focusing on the policy aspects and the politics of sustainable development.

To continue with setting the context for this research, the following sections describe the recent political developments in the province of Ontario followed by a brief discussion of three quasi-government institutions that play major roles in policy development and implementation at the regional municipality scale.

2.5 Ontario's Provincial Policy

Since the election in Ontario of the Progressive Conservatives in 1995 (and the subsequent re-election in 1999), sweeping legislative changes have taken place as part of the "Common Sense Revolution" to remove "red tape", make provincial government more "efficient and cost effective", "open Ontario for business", and make Ontario more "competitive". The magnitude and speed at which the changes have been effected remain unprecedented. In 1997, in one week (January 13-17) the legislature introduced legislation affecting 24 areas of responsibility for municipalities (Parsons 2001) including education, welfare, child care, social housing, public health, long-term care, public transit, airports, water and sewage services, tax assessments, and municipal grants. In addition, "Omnibus bills" were used to effect multitudes of simultaneous change at the legislative and ministerial levels to increase "government accountability". Of these changes, Bill 26 (Savings and Restructuring Act) has had the most direct effect on governance at the municipality level by initiating the "Local Services Realignment" process. Also significant in terms of impact on municipalities is the "Provincial Policy Statement" which was issued under Section 3 of the Planning Act and came into effect in May 1996.

2.5.1 Local Services Realignment

In 1996, the provincial government downloaded greater responsibility onto municipalities for the provision of services. Public transit, roads and bridges, parks, recreation, income redistribution programmes, the "workfare" programme, public health, and social housing

became the responsibility of municipalities while the province assumed additional responsibility for education, arguing that this adjustment in the division of responsibilities would neutrally balance out the costs. To obtain funds for the provision of additional services, municipalities now have to make a "business case" to access a set pool of money set aside by the province. Under the new division of responsibilities and functions, the province now holds the purse strings and sets the standards against which municipalities have to deliver these new services. A disconnect has developed between the cost of the provincial government's high standards for services (often set without due regard for monetary constraints) and the ability of municipalities to deliver because the funding is not immediately available, or when available, is inadequate (Parsons 2001:8). The Federation of Canadian Municipalities (FCM) and the Association of Municipalities of Ontario (AMO) have voiced concern over this new arrangement. A net result of the "greater autonomy and flexibility" intended for municipalities by the province through the Local Services Realignment process has been an increase in residential property taxes to balance the municipal deficit.

A survey conducted by AMO (2001a) indicated a high degree of mistrust toward the provincial government. Responses ranged from "the Province wanting to exercise more control over local government [through downloading]", to making municipalities "a scapegoat to satisfy the Province's political agenda and an agenda of more downloading and more amalgamations". Examples of overly intrusive actions include provincially regulated measures of performance and report cards, the never-ending shift of provincial costs to municipalities, and the new property tax rules which "shift tax burdens to single family residents and farms from other property classes" (AMO 2001a:1). The survey also found that 78% of the respondents felt that the Province was "on the wrong tracks" in terms of its policy toward municipalities while 88% were critical of how the Province communicated with municipalities. To improve the situation, the respondents felt that downloading should be stopped, municipalities should be genuinely empowered, more consultation and communication should be established, and changes should be properly planned.

2.5.2 Implications of the "Provincial Policy Statement"

The Statement is intended to "provide policy direction on matters of provincial interest related to land use planning and development …[and] to be complemented by locally-generated policies regarding matters of local interest" (OntGov 1996:1). The Statement's goal is to promote a "policy-led system which recognizes that there are complex inter-relationships among environmental, economic and social factors in land use planning" (page 1). The Statement identifies "a healthy economy" as one which "wisely manages growth" resulting in economically and environmentally sound communities that meet the "needs of their current and future residents". The principles underlying this vision are as follows:

Managing change and promoting efficient, cost-effective development and land use patterns which stimulate economic growth and protect the environment and public health. Significant sections under this principle include:

- Urban areas and rural settlement areas will be the focus of growth and will only be expanded where existing designated areas in the municipality do not have sufficient land supply to accommodate the growth projected for the municipality;
- Expansions into prime agricultural areas are permitted only where there are no reasonable alternatives which avoid prime agricultural areas and where there are no reasonable alternatives with lower priority agricultural lands in the prime agricultural area;
- A coordinated approach should be adopted when dealing with cross municipal issues respecting infrastructure and public service facilities, ecosystem and watershed related issues, shoreline and riverine hazards, and housing and employment projections;
- Upper and lower tier municipal governments to coordinate land use planning;
- Land use patterns will be based on the provision of sufficient land for industrial, commercial, residential, recreational, open space and institutional uses to promote employment opportunities, and for an appropriate range and mix of housing, to accommodate growth projected for a time horizon of up to 20 years;
- Appropriate densities to ensure efficient land use, resources, and infrastructure and public service facilities; support the use of public transit; and redevelopment / revitalization in areas that have sufficient existing or planned infrastructure;
- Provision of efficient, cost-effective, reliable, multi-modal transportation system that is integrated with adjacent systems and those of other jurisdictions and is appropriate to address expected growth;
- Optimization of the long-term availability and the use of agricultural and other resources;
- Provision of a full range of housing types and densities to meet projected demographic and market requirements of current and future residents of the housing market area; and
- Provision of adequate systems for sewage and water treatment, transportation and the protection of transportation corridors, and waste management.

Protecting resources for their economic use and/or environmental benefits.
Significant sections under this principle include:
- Protection of agricultural lands for agricultural use by discouraging lot creation in prime agricultural areas;
- Protection of mineral resources for long term use. These policies allow "extraction of minerals and petroleum resources in prime agricultural areas, provided that the site is rehabilitated";
- Protection of natural heritage features and areas (significant wetlands and the habitat of endangered species) from incompatible development;
- Protection of the quality and quantity of ground and surface waters and their sources of supply; and
- Protection of cultural heritage and archaeological resources.

Reducing the potential for public cost or risk to Ontario's residents by directing development away from areas where there is a risk to public health or safety or of property damage. Significant sections under this principle include:

- Prohibition of development in naturally hazardous lands (prone to erosion and flooding) unless all safety and environmental considerations have been addressed; and
- Prohibition of development in lands made hazardous by human activity (mines or former mineral resource operations) unless all safety and environmental considerations have been addressed.

In terms of implementation, "the Province, in consultation with municipalities, will identify performance indicators for measuring the effectiveness of some or all of the policies, and will monitor their implementation. Municipalities are encouraged to establish performance indicators to monitor the implementation of the policies in their official plans" (OntGov 1996:11). A Five-year Review of the Provincial Policy Statement is currently underway to "make sure that the province's land use planning policies are effectively protecting Ontario's interests…, determine whether any changes need to be made to the policies, …[and] to determine whether Ontario's land use planning policies are consistent with *Smart Growth*: the government's strategy for promoting and managing growth in ways that sustain a strong economy, build strong communities, and promote a healthy environment" (OntGov 2001a:1).

Table 3. The Smart Growth Strategy

The Smart Growth strategy aims to promote an approach to economic, social and environmental issues that recognizes the province's interests in urban regions, commercial trade areas, watersheds, commuter-sheds, ecological systems, natural resources, academic institutions and health care districts. The strategy will • Recognize and respect regional strengths, variations and local needs across Ontario; • Manage and promote growth so that it contributes to strong and vibrant communities; • Promote the creation of economic opportunities in every community; • Encourage compact development that minimizes land and infrastructure consumption and revitalizes brownfields; • Steer growth away from significant agricultural lands and environmentally sensitive areas; • Create permanent protection for significant natural areas; • Encourage growth that protects and improves the quality of air, water and land; • Encourage technological innovation and investment to enhance competitiveness; • Offer and promote transportation choices within and between communities so that people and goods can be moved conveniently and efficiently; • Develop integrated transportation networks that promote access and economic opportunity across Ontario and reduce gridlock in urban areas; • Strive to provide a broad range of affordable housing choices in every community; • Help communities to be financially stable and self-sufficient so as to promote the highest quality of life possible; • Encourage a broad range of cultural opportunities including the preservation and revitalization of built heritage sites across Ontario; and • Encourage community and stakeholder collaboration in decision-making.

Source: OntGov (2001b)

The consultations that took place in the spring of 2001 to gather insights and ideas on *Smart Growth* (OntGov, 2001c) found that the participants wanted to see:

- Basic broad-based agreement on the *Smart Growth* vision;
- Greater provincial leadership on growth management issues;

- Agreement that "one-size-fits-all" solutions do not exist;
- Widespread choice in housing and transportation; and
- Recognition that coordination across municipal boundaries will be critical to the success of *Smart Growth*.

However, the recently departed premier of Ontario Mike Harris said of his expectations of *Smart Growth* in January 2001: "I am determined to see our children inherit cities, communities, neighbourhoods – an entire province – that is as efficient, that is as strong as possible and that has a quality of life second to none. … Our vision will help encourage growth. It will make sure that all regions of Ontario – from our smallest towns to our largest cities – can reach their economic potential. And it will help keep Ontario strong, growing and ready to compete in the 21st century" (OntGov 2001b:2). Despite the *Smart Growth* strategy's reasonably comprehensive agenda (table 3), the premier only managed to find "efficient", "strong", "second to none", "growth", "economic potential", and "compete in the 21st century" to express his interpretation of *Smart Growth*. The language employed by the premier, rich with machismo and corporate boardroom metaphors, betrays his ideological conviction and underlines the incapacity or unwillingness of the neo-liberalism to comprehend the implications of committing *Smart Growth* as a policy document to sustainable development.

Despite the need to "recognize and respect regional strengths, variations and local needs across Ontario" (table 3), the whirlwind of amalgamations sweeping across Ontario since the late 1990s has resulted in the emergence of new Cities such as Hamilton, a mishmash of rural and industrial, small and large neighbourhoods and communities with little in common but a piece of provincial legislation. Decisions supported by the majority of councillors in the new City of Hamilton run the risk, for example, of running afoul of predominantly rural areas such as Flamborough whose specific needs and priorities are often different from the urbanized cores and suburban subdivisions centred around Hamilton. Because new amalgamated Cities have to be "efficient" in the decision-making process, they are unlikely to "recognize" or pay heed to "regional strengths, variations and local needs". Also, because of the provincially driven concern for efficiency, new Cities are in effect forced to come up with solutions that are generalizable across a diversity of locales, exemplified by the differences between Flamborough and Hamilton, and likely to rely on the "one-size-fits-all" approach. The amalgamation process, currently underway to "streamline" municipal governments in Ontario coincides with the downloading, with the exception of education, of essential services by the province onto the municipalities. The provincial government has in effect created a controlled system of meta-governance. To provide the services downloaded onto them, municipalities, amalgamated or not, have to bid for funding[31] by presenting a convincing "business case" to the provincial government – a system that effectively replaces the assessment of local needs by the provincial government with judgement of the presentational savvy and marketing skills of the marketing teams that speak on behalf of municipalities.

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[31] This bidding system is also practiced in Britain where "local authorities and their 'social partners' have to bid, in a competition in which there are a few winners and quite a lot of losers" (Healy 1998:1534)

Another significant outcome of the downloading / amalgamation process is the emergence and strengthening of quasi-governmental institutions as contenders in the governance of local (municipal) spaces. These include the International Council for Local Environmental Initiatives (ICLEI), the Federation of Canadian Municipalities (FCM), and the Association of Municipalities of Ontario (AMO) among numerous other institutions at various scales. ICLEI, FCM, and AMO are discussed here because of their direct association with the two case study regions.

2.6 International Council for Local Environmental Initiatives (ICLEI)

Agenda 21, adopted by the leaders of 179 countries gathered in Rio for the United Nations Earth Summit, recognizes that many of the problems raised at the Summit have their roots in local activities and thus "require local involvement and intervention to arrive at sustainable solutions for the local environment and populace" (Carroll-Foster 1993:85). Despite a general lack of details on how to "involve" and "intervene", by 1998 over 2,000 local authorities from over 70 countries had responded to the call in *Agenda 21* (Chapter 28) and developed their own Local Agenda 21 action plans for sustainable development (ICLEI 1996:I; 1998:9). Since 1992 ICLEI, in collaboration with national associations of local government (e.g., FCM in Canada) and support from the International Development Research Centre (IDRC) and the United Nations Environment Programme, has been active in providing planning guidelines and technical support for the operationalization of *Local Agenda 21* mandates. In year 2000, ICLEI had a membership of 350 local governments, representing nearly 300 million people worldwide (ICLEI 2000:5).

Table 4. ICLEI's Strategy for Local Authorities to Implement Agenda 21

Partnerships: to involve residents, key institutional partners, and interest groups to formulate a "Community Vision which describes the community's ideal future and expresses a local consensus about the fundamental precondition for sustainability";
Community-based Issue Analysis: to institute a process that involves gathering and discussing "the knowledge and wisdom of local residents about local conditions" and undertaking technical assessments "to provide stakeholders with further information that may or may not readily be available to them";
Action Planning: having set priorities through Issue Analysis, to create Action Plans based on Action Goals, Targets, and Triggers;
Implementation and Monitoring: to adjust standard operating procedures and institutional reorganization to ensure that accurate documentation of both implementation activities and their impacts are kept regularly to allow for evaluation of action strategies, service approaches, and their impacts on local conditions; and
Evaluation and Feedback: to provide regular information to both service providers and users about important changes in local conditions and progress toward targets, needs for adjustments in delivery of services, and re-allocation of financial resources as necessary.

Source: ICLEI (1996)

ICLEI defines itself as "the international environmental agency for local governments" with a mission to "build and support a world-wide movement of local governments to achieve tangible improvements in global environmental and sustainable development conditions through cumulative local actions" (ICLEI 2000:4). Sustainable development is defined by ICLEI as "development that delivers basic environmental, social, and economic services to all, without threatening the viability of the ecological and community systems upon which these services depend" (ICLEI 1996:4; 1998:3).

Elsewhere, sustainable development is defined as "a process of bringing economic, community, and ecological development into balance and devising solutions with simultaneous positive social, economic, and environmental outcomes" (ICLEI 2000:4). The transition to sustainable development is viewed as an "imperative for our survival and well-being" (ICLEI 1996:i).

In 1998 ICLEI published *Local Agenda 21: Model Communities Programme* summarizing 14 case studies of municipalities (including Hamilton-Wentworth) that had adopted its strategy (table 4) to implement Chapter 28 of *Agenda 21*. Based on the learning from the case studies, the report identified the most important factors in operationalizing *Local Agenda 21* as long-term learning; financial empowerment to facilitate widespread participation; viewing sustainable development planning as a process not a product; informal alliances and coalitions to allow maximum inclusion; inclusion of all affected actors in the decision-making process; balance in representation; encouraging process ownership through sharing data collection responsibilities; ensuring continual discussion, awareness raising, and negotiation; and, trusting stakeholder groups to keep the process manageable and sustainable (ICLEI 1998: 53).

ICLEI has an active partnership with the International Union of Local Authorities (ILUA) through which it supports the involvement of national associations of local government such as FCM in international policy debates and the United Nations conferences and workshops on sustainable development (ICLEI 2000:5).

2.7 Federation of Canadian Municipalities (FCM)

Functioning under different names and in different capacities, FCM has been in existence since 1901 (FCM 1987; 2001a). FCM is "the national voice of municipal governments, dedicated to improving the quality of life in all communities by promoting strong, effective and accountable municipal government" (FCM 2000a:3). FCM views its role as one of promoting strong collaboration between the municipal and federal orders of government. Members of FCM include municipal governments from large and small cities, small urban centres, and rural and remote communities, all eighteen provincial and territorial municipal associations, as well as 94 corporate partners – companies that deliver goods and services to the municipal sector. FCM "represents the interests of all municipalities on policy and program matters …..[including] the environment, social policy, municipal infrastructure, transportation, municipal-Aboriginal relations, economic development, crime prevention and international cooperation" (FCM 1999a:1).

FCM defines a "sustainable community"[32] as one that preserves or improves quality of life while minimizing its impact on the environment by making cost efficient use of resources, generating the least amount of waste, providing high quality service to its residents, and living within the carrying capacity of its natural resources. A sustainable community achieves these goals using fiscally and environmentally responsible policies. FCM recognizes the importance of "incremental change" (see chapter 7 for a discussion of the terminology) while at the same time recognizing that sustainability can best be

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[32] From http://www.fcm.ca/english/ , accessed January 11, 2002.

attained through a "systems approach". FCM also promotes adoption and application of best practices in municipal operations in waste, water, buildings, transportation, energy, planning and community partnerships. Projected gains for municipalities that adopt and apply a systems approach and best practices include:

- cost savings within five to ten years
- 35-50 per cent improvements in energy efficiency and a more secure long-term energy supply
- decreased pollution, improved air quality and 60 per cent reductions in greenhouse gas emissions
- water conservation and increased life span of local watersheds
- more than 70 per cent reductions in the volume of garbage sent to incinerators or landfills, lengthening the life of existing municipal landfills
- sustainable urban development, which avoids the economic, environmental and social costs of urban sprawl
- social stability with more equitable access to resources and strong citizen participation in decision making
- economic growth and increased employment opportunities

In June 2000, FCM established the Sustainable Communities and Environmental Policy Department to manage "policies and programs aimed at increasing community sustainability" defined as "communities that support human development without borrowing from future generations [by] improving quality of life while protecting its environmental foundation [through] strong, responsible municipal governments" (FCM 2001b:2). To promote community sustainability, in April 2000 FCM was awarded the responsibility to manage Green Municipal Funds which consist of the Green Municipal Enabling Fund (GMEF) and the Green Municipal Investment Fund (GMIF). The larger GMIF fund at $100 million is a revolving permanent fund to support the implementation of innovative environmental projects to significantly reduce energy intensity and increase environmental performance. It is expected that GMEF will "stimulate investments by Canadian municipalities in leading-edge environmental technologies, practices and processes; promote demand management and user-pay principle; stimulate public-private partnerships; encourage the use of full-cost accounting; protect public health; promote community economic development; and improve quality of life in communities" (FCM 2001a:3). In February 2002 the federal government renewed its commitment to support municipality driven environmental projects by awarding additional funds to increase GMEF to $50 million and GMIF to $200 million.[33]

Perhaps because of its decidedly "macro" role as the coordinating body of local action, FCM seems explicitly cognizant of the scalar aspects of promoting sustainable development at the local municipality scale. The influence of municipal governments is seen as significant in such areas as water and sewage treatment, solid and hazardous waste management, land use, transit, parking and municipal roads. Concern for community well-being "places municipal governments at the forefront of efforts to

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[33] The announcement was made by Paul Martin, the then federal Finance Minister, at the FCM's Second Annual Sustainable Communities Conference in Ottawa, February 7-9, 2002.

achieve the economic efficiency, social well-being, and environmental protection to improve quality of life" (FCM 2001c:1). FCM's strategies for operationalizing sustainable development at the local scale include urging municipal governments to adopt the 1992 Earth Summit principles and agreements, the Framework Convention on Climate Change, the 1997 Kyoto Protocol, and the Biodiversity Convention. In terms of waste, FCM is committed to work at all levels to eliminate, minimize, or control waste generation through design change, life cycle assessment and analysis, recycling, reuse, and recovery practices, packaging protocols, procurement policies, incentives and by-laws, and user fees.

In addition, FCM is committed to work at all levels to ensure that water resources will be safe and secure through encouraging changes at the local scale in effluent discharge management practices and water consumption patterns. Kyoto Protocol targets are adopted and promoted at the federal, provincial, territorial, and regional scales with the intent to improve local air quality, health protection, local job creation, and innovation. Reuse of abandoned industrial lands is promoted through lobbying the federal government to establish a national strategy to promote "brownfield" redevelopment while municipal governments are urged to adopt policies that favour public transit over private automobiles. On nature conservation, FCM urges municipal governments to ensure that their policies, financial instruments and programmes protect and encourage conservation of ecologically significant lands (FCM 2001c:37-40).

2.8 Association of Municipalities of Ontario (AMO)[34]

AMO's mandate is "to support and enhance strong and effective municipal government in Ontario [and] promote the value of the municipal level of government as a vital and essential component of Ontario's and Canada's political system" (AMO 2001b:1). Founded in 1972 and incorporating the Ontario Municipal Association (founded in 1899), AMO is a non-profit organization with member municipalities representing 98% of Ontario's population (AMO 2001c). The Association has a variety of services and products available to members and non-members. AMO's work is primarily with and for the municipal governments of Ontario. Activities include:

- Development of policy positions and reports on issues of general interest to municipal governments;
- Conducting ongoing liaison with provincial government elected and non-elected representatives;
- Informing and educating governments, the media and the public on municipal issues;
- Marketing innovative and beneficial services to the municipal sector; and
- Maintaining a resource centre on issues of municipal interest.

AMO's recent activities include collaboration with the provincial government to formulate a new and more empowering Municipal Act, changing provincial legislation to minimize the negative impact of "Municipal Performance Measures" mechanism on

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[34] This section is based on AMO's website at www.amo.on.ca , accessed January 11, 2002.

municipalities, collaborating with the province to soften the adversarial nature of Bill 46 (*Public Sector Accountability Act*), and instituting processes to ensure advance consultation and financial costing of new policies and regulations (AMO 2001c). In addition to collaborations with the provincial government, AMO also works with the federal government through the "Prime Minister's Task Force" and is an active member of the Federation of Canadian Municipalities (FCM).

As quasi-government organizations CEC, ICLEI, FCM, and AMO play significant roles in governance for sustainability. The next section discusses the implications of these roles for sustainability at the local scale.

2.9 From Government to "Governance"?

The increasingly prominent role assumed by ICLEI, FCM, AMO, as movers and shakers and by CEC as a sanctioned but mostly ignored critical voice against NAFTA's negative contributions to sustainability, points to a relatively new form of governance. With the exception of CEC, instituted and funded by the governments of Canada, the United States, and Mexico after the signing of NAFTA, the other three "quasi-government" institutions each have significant E/NGO and voluntary components. Except for AMO, these institutions pursue particularly aggressive agendas for change in line with operationalizing Local Agenda 21.

In Canada, despite a general strengthening of quasi-government organizations and institutions such as ICLEI, CEC, FCM, AMO, and others over the last couple of decades, attaining sustainable development remains an uphill battle at the municipal, provincial, and federal scales of governance. This was glaringly exemplified in the prolonged bickering between the federal government and some provinces on Canada's ratification of the Kyoto protocol on global warming. At the local scale, the empirical evidence (chapters 6 and 7) and the review of secondary data sources (this chapter and chapter 5) point to numerous difficulties in changing the unsustainable course of development. Quasi-government organizations and institutions can and do play significant roles, however. Playing the mid-field of the political realm, quasi-government organizations are able to intervene or assume a defensive position depending on the political climate and the degree of receptiveness by (particularly) federal and provincial levels of government. This is perhaps best demonstrated in the case of FCM whose leadership has been able to persuade sympathetic federal ministers to provide significant levels of funding to promote and facilitate high-risk ventures and experiments aimed at improving environmental performance and promoting sustainability principles in various municipal jurisdictions. Conversely, FCM's current high profile may be undermined as a result of political change. An unsympathetic federal government could just as easily withdraw support and withhold the substantial stream of enabling funds currently available to FCM for supporting local initiatives.

Similarly, ICLEI through the contribution of its municipal members and funding from the United Nations Environment Programme works with local municipalities around the world to promote, facilitate, and help implement local sustainability initiatives. It is based on these experiences that ICLEI has been able to produce an impressive set of documents

providing critical insights into various aspects of implementing sustainability at the local scale. Of particular relevance to this research is ICLEI's 1997 case study analysis of the obstacles confronted by local governments in operationalizing Local Agenda 21 (table 24). One could deduce from ICLEI's findings that the ultimate responsibility and role for the attainment of sustainability needs to rest with national governments and global governance institutions such as the United Nations. Without funding and the political support of formal governments (or selected sympathies of elected officials), it is reasonable to expect that quasi-government organizations such as FCM and ICLEI will not be able to maintain their current high profiles and might simply cease to function in their current capacities.

2.10 Conclusion

The above review and discussion has been aimed at highlighting the linkages between events at the local scale and the supra-local factors that may have a bearing on these events. This chapter has underlined the significance of the interactions between government and quasi-government institutions and explored the governance implications of attaining sustainability at the local scale. The federal government appears to play a central role in shaping the form and determining the direction of economic development, thereby affecting the attainment of sustainability, despite significant devolution of administrative powers to lower levels of government such as the provinces or the regional municipalities. Where there is political tension between the federal government and the provinces, the federal government effectively bypasses the provincial governments and works directly with municipalities through quasi-government institutions such as FCM. Governance for sustainability is thus at once complex and multi-scale. Chapter 3 will draw further attention to the complex, scalar, and inter-related contexts of governance for sustainability through a wide-ranging review of the literature.

Chapter 3: Learning, Sustainability, and Regulation

All human societies depend on learning and on land. Even today, land is still necessary to provide some of the essential provisions for human life. In addition, throughout human history, humans have been required to learn how to interact with others and with their natural environment. The more complex the society the more extended and the more vital is the learning process. All human societies have been based to a degree both on land and on learning. What has changed has been the balance between the two. Since the 18th century learning has become increasingly important, in relative and absolute terms .... Learning involves the transformation of individuals themselves – including their preferences. A theory [neo-classical economics] that assumes that preferences are fixed cannot adequately encompass learning.
(Hodgson 1996:1941).

The real exists independently of our thoughts. The concepts through which we pretend to know [the real] exist only in our minds. Their adequation to other practices at the heart of the real is only a matter of pertinence.
(Lipietz 1993:24)

3.1 Introduction

Three mostly concurrent sets of development form the basis for the literature reviewed in this chapter. First, the publication of Agenda 21 has drawn attention to the multi-scale, multi-system, and inter-related nature of sustainable development[35] while ascribing particular responsibility to "local authorities" to construct, operate, and maintain economic, social, and environmental infrastructure, oversee the planning processes, establish local environmental policies and regulations, and assist in implementing national and sub-national environmental policies (UNCED 1992, chapter 28).

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[35] Though primarily viewed as an "environmental" document, Agenda 21 was also an admirably ambitious attempt to simultaneously address uneven development and the related issues of poverty and gender inequality (chapters 2,3,7,24,25), unsustainable consumption patterns (chapter 4), population growth (chapter 5), integration of social, economic and ecological systems (chapters 8,10,13,14,16,27,28,29,30,31), cooperation and capacity building (chapters 34,37,38,39,40), and scientific research and education (chapters 35,36). Significant detail was provided on the "levels", or scales, at which these issues were to be addressed with implications for geographic areas, governments, communities, industry, trade unions, and local, state/provincial, national, and international (private and public) institutions. The "multi-scale, multi-system, and integrated" approach adopted in this thesis is derived, in the main, from Agenda 21.

Second, since the early 1990s there has been growing interest in "learning" and "knowledge" as factors that determine the success or failure of enterprise at the organizational, regional, or economy scales (Hudson 1999). Studies of learning have also underlined social and cultural specificities as factors to explain the growth of "new" forms of economic activity at a regional scale. Third, the focus since the Stockholm Conference in 1972 on ecological degradation at the global scale, attributed mainly to economic activity by industrialized nations, has provided significant impetus for the emergence of numerous "ecologically-oriented" fields of study such as industrial ecology (Ayres 1996; Allenby 1994; Allenby and Fullerton 1992; Allenby and Richards 1994; Chertow 1999; Cohen-Rosenthal, McGalliard and Bell 1998; Cote and Cohen-Rosenthal 1998; Graedel and Allenby 1995), ecological economics (Pearce 1987; Daly et al. 1989; Pearce et al 1990; Costanza et al 1991; Rees 1991, Jansson et al. 1994; Rees 1995a, 1995b; Wackernagel and Rees 1996; Costanza 1998), ecological modernization theory (cf. Gouldson and Murphy 1998), the ecosystem approach (cf. Hartig and Law 1995), political ecology (Atkinson 1991; Lipietz 1995), and ecological Marxism (cf. Whiteside 1996).

There is in these concurrent sets of development varying emphasis on the "region" as the analytical and/or operational scale. There is, in addition, a "facet of engagement" between the literature on learning and some of the literature on evolutionary and institutional economics (Hudson 1999, contrast with the critique in Hodgson 1996 and 1999b) and regulation theory. This chapter builds on these convergences to make a case for incorporating "the environment", and more broadly, sustainable development, into the dialogue on the emergence of local regions as the centres of the "new" economy. This chapter selectively reviews the burgeoning literature on learning (organizations, regions, and economies), ecological modernization theory, "institutionalism", regulation theory, and evolutionary economics to draw out some of the research implications of the convergences among these literatures. Attention is drawn to the complex and inter-related contexts that must underlie studies of regional economic development. These contexts are identified as globalization, the neo-liberal regime of accumulation, the politics of new regionalism, the importance and complexity of "scale", and context specificity. A conceptual framework weaving together elements from the literatures on "learning", "institutionalism", ecological modernization theory, regulation theory, and evolutionary economics will be developed to examine closely the implications of operationalizing Agenda 21 at the local (regional municipality) scale.

3.2 "Learning" Organizations, Regions, and Economies

A "learning organization" has been defined as one that continually expands its capacity to create its future (Senge 1990). Senge identifies two levels of learning – learning to survive, or adaptive learning, and generative learning – arguing that organizational longevity requires more than an ability to survive. Generative learning requires a level of learning that enhances the capacity to create (1990:14). "Strategic renewal" (Crossan et al. 1999), "sustainable competitive advantage" (DeGeus 1988; Stata 1989), "ecological sustainability" (Starik and Rands 1995), or plain "competitive advantage" (Porter 1990) have been offered as reasons why organizations should (generatively) learn. The learning

organization concept draws on systems thinking to argue that organizational concerns on performance and behaviour should be placed in their wider spatial and temporal contexts. Organizational learning is said to consist of knowledge acquisition, information distribution, information interpretation, and organizational memory (Huber 1991). Organizational learning does not in all cases lead to increased effectiveness as bad habits, as well as good ones, could be learned by organizations. As Huber states, "entities can incorrectly learn, and they can correctly learn that which is incorrect" and in any case, "learning need not result in observable changes in behaviour" (1991:89). Thus the definition of "learning" as a process that institutes better habits and habits that increase organizational effectiveness in innovation and competitiveness is rather narrow.

The learning component of the "the knowledge revolution" as championed by Florida (1995) and theorized by Cooke and Morgan (1998) and Storper (1995) among others provides a good example of a narrow definition of learning. Florida's "knowledge revolution" entails knowledge creation and continuous learning by research and development (R&D) scientists and workers alike who collectively become "agents of innovation" in working environments that resemble less a conventional factory and more a "laboratory". In these "laboratory-like spaces, [containing] laboratory-like equipment – computerized measuring equipment, advanced monitoring devices, and test equipment, workers [work] together with R&D scientists and engineers to analyze, fine-tune, and improve products and production processes" (Florida 1995:529). This vision of the workplace seems to exclude a large portion of actual physical production processes in the wide and diverse spectrum of industrial activity. Florida's narrative on the workplace seems only to fit production processes that are inherently "clean", e.g., electronic or pharmaceutical, where work conditions *are* "laboratory-like".

Florida also promotes the concept of "learning regions", which "function as collectors and repositories of knowledge and ideas, and provide an underlying environment or infrastructure which facilitates the flow of knowledge, ideas and learning" (1995:528). The "new" phase of capitalism, characterized by a proliferation of learning regions, is described as "an increasingly integrated economic system, with globe-straddling networks of transnational corporations and high levels of foreign direct investment between and among nations …diffusing advanced technologies and state-of-the-art management practices … [which contribute] to the global flow of knowledge" (page 529). Productivity improvement and economic growth are highlighted as direct results of these developments. Regional innovation complexes such as Silicon Valley (the U.S.), Tokyo or Osaka (Japan), and Stuttgart (Germany) are pointed to by Florida as knowledge sources that should be tapped into to globalize innovation (page 531).

Following similar lines of reasoning, others have defined a "learning economy" as one where "the organizational modes of firms are increasingly chosen in order to enhance learning capabilities: networking with other firms, horizontal communication patterns and frequent movements of people between posts and departments". The firms of the learning economy are "to a large extent 'learning organizations'" (Lundvall and Johnson 1994:26). Cooke and Morgan (1998:76) integrate this prescription for a learning economy with Nonaka and Takeuchi's (1995) vision of a learning region, i.e., one that is "open, information-scanning, sensitizing, monitoring, and evaluating", to propose their

concept of "economies of association" characterized by a learning culture in the economy and wider society, a system of collective order built on trust, and democracy. Cooke and Morgan fail to offer a concise definition of "economies of association" and resort instead to "expanded-list form" (Glasmeier et al. 1998) taking up a few pages. Most significantly for the purposes of this research the learning economy seems to function in a bubble that separates human economic activity from the natural environment.

Given the importance attached to the (natural) environment in writings on organizations, regions, and economies over the last few years, the literature on "learning" is surprisingly devoid of concrete references to the environment. For example, Cooke and Morgan (1998) describe "three pillars" of decentralized (regional) industry policy. These pillars are vocational training at all levels, innovation support for "smaller firms, start-ups, and the like" (after Birch 1979), and business intelligence institutions "brokering technological problem solving" (management consultants). To these Cooke and Morgan add "environmental sustainability" (undefined) as "our own not-so-radical innovation" (page 220). This minimal, certainly not radical, literally last-page attempt to tackle the question of the environment is too little and comes too late in the analysis. The question of the environment has to be more central in all kinds of "learning" literature, particularly of the regional variety. The issue of the environment is perhaps the only phenomenon that has managed to cut across modern society's conventional polarities and boundaries. Much of the environmental literature focusing on the role of industry is about the very same collaborative local arrangements that new regionalists describe and prescribe. Disappointingly, the "learning" stream of the new regionalism seems to be preached to an audience whose operative jargons are limited to "innovation", "economic competitiveness", and "the first-mover principle". Understanding "where" in space and time regional economic development occurs requires an appreciation of the physical, political, and social contexts of economic activity.

Placing macro-economic and social policy questions in their historical, political, and social contexts does not necessitate doing away with micro-geographic and micro-economic observation and analysis. However, we need to recognize that micro-analysis, while useful for isolating and understanding complex problems, must be continuously tested for the validity of their macro (policy) implications. Social scientific research on the regional effects of globalization (however described) needs to be based on shared recognition of the main issues to be tackled through regional economic development. These issues include the growing gap between the rich and the poor within and between nations, the growing environmental damage, and the threat to human life. A general recognition of these problems should not in any way imply that there is agreement as to their solution(s). As Hodgson (1999b:108) has pointed out, one has to be wary of the role played by "the hidden, ideological specifics". In terms of collectively addressing the adverse socio-political and ecological effects of the current course of economic development, this wariness need not prevent dialogue and exchange on forming united fronts to grapple with such basic issues as local unemployment or environmental degradation.

The concepts of the learning organization / region / economy are intertwined with post-Fordism, devolution of national government administrative functions and regional policy to sub-national regions, the importance of small and medium size enterprises in the new political economy, the changing mode of resource allocation, and the spatial distribution of factors of production by transnational corporations. These themes are explored further in the following sections.

3.3 New Regionalism: A Critical Review

The region as the scale of analysis is defined as "a territory less than its state(s) possessing significant supra-local administrative, cultural, political, or economic power and cohesiveness differentiating it from its state and other regions" (Cooke and Morgan 1998:64). The geographically "larger" regions, i.e., one encompassing numerous nation-states such as "North America" or "the European Union", is most explicitly not the adopted scale in this body of literature.

In Florida's version of new regionalism, today's knowledge-based capitalism consisting of knowledge-based firms is moving rapidly to dominate the economy of the globe while there is concerted and conscious effort at the regional level (in some areas, at least) to take advantage of the opportunities associated with this trend. It is certainly true that more machinery and computerized systems are at work to produce various commodities. It is also true that there are more information-based firms and production systems than existed before. But the "laboratory-like" production system which inspires Florida's (and others') vision of the new economy is exaggerated as the predominant organizational form in the post-Fordist era. As Tödtling (1992:69) has pointed out, "the nature of [what has been referred to as post-Fordism] is the result of a coexistence of traditional and new organizational models in space, rather than a basic reversal of past structures". Tödtling (1992) and Harrison (1998) point to the accelerated rate of mergers and acquisitions in recent years and the increasing rather than decreasing dominance of large corporations as evidence that counters the view that the global economy is moving toward regionalized, innovative, and learning systems consisting of small and flexible firms linked together horizontally.

Florida's trajectory projections for the new global economy and his optimism and enthusiasm for the central role that learning regions will play in spreading innovation, productivity growth, and competitive advantage, though poorly substantiated, is shared by other observers. For example, Porter and van der Linde (1996:76) announce with confidence that "today, globalization is making the notion of comparative advantage obsolete. Companies can source low-cost inputs anywhere and new, rapidly emerging technologies can offset disadvantages in the cost of inputs. Facing higher labour costs at home, for example, a company can automate away the need for unskilled labour….", and so on. Here, globalization is described in terms of free movement of factors of production (by large transnational corporations), reduced role of national governments, and continued growth (regardless of the adverse socio-ecological and political impacts) consistent with the current regime of accumulation. Globalization, accompanied with a narrow view of "learning" and an exaggerated role assigned to private firms as "agents of

innovation" is closely related to the currently dominant neo-liberal mode of regulation and, as such, contested by a host of commentators.

3.3.1 New Regionalism and the Globalization Debate

The "hollowing out" of nation-states, closely associated with globalization, is paralleled with a process of "regionalization" where "regional networks, which can sustain close and regular interactions between public and private sectors, are the most effective scale at which to nurture the high-trust relations that are essential for learning and innovation" (Cooke and Morgan 1998:29). Taylor (1996:1927) makes similar observations placing the emphasis on the role of cities as "nodes in global networks of transactions … dominating regions that transcend sovereign boundaries [of nation states]". Taylor is careful to add that globalization is the contemporary expression of long-term changes in political economy in which states still play an important role. The perception that the world as a system of nation-states is fast becoming a "world system" or a "global society" (Taylor 1996), thanks to regional initiatives by learning regions (Cooke and Morgan 1998), is contested by Gamble (1996), Gertler (1997), Hirst and Thompson (1999), Hodgson (1996, 1999a), Mann (1993, 1996), and Weiss (1997). There are no "global corporations, nor a global capitalism, nor even a process of 'globalization', if these are meant to indicate the 'essential' property of corporations, capitalism, or modern society" (Mann 1996:1960). Mann rejects any notion of societies as singular bounded systems since they have always been "composed of a multiplicity of networks of interaction, many with differing, if overlapping and intersecting, boundaries" (page 1960).

To illustrate, Mann (1996) uses five socio-spatial levels of social interaction: local (subnational), national, international (relations between nationally constituted networks), transnational (networks passing through national boundaries), and global (networks covering the globe as a whole). None of these levels has been eliminated over the last century although some have become denser (national, international, transnational) while others have become weaker (local) or have begun to emerge relatively recently (global). These levels constitute macro-social structures, are entwined and partially autonomous. The fact that globalized networks exist does not mean that they centre on capitalism or that capitalism is essentially global (page 1961) since "80% of world production is still for the domestic market".[36] The ownership, assets, and R&D of multinational corporations remain disproportionately in their "home" country. They seek assistance from their home state, especially for educational and communications infrastructures and for economic protectionism (Mann 1996:1962).

Historically, nation-states became important in social scientific analyses in the period 1914-1991 because social scientists were, as they are now, attempting to explain a new phenomenon characterized by national protectionism and fragmentation of the 19th century global (imperial) economy. In this period, the world was reorganized into nation-states whose governments assumed new powers and responsibilities (Gamble 1996:1934-1935). Gamble cites Keynesianism as an approach and the national economy as the framework of analysis utilized by economists in the period 1914-1991 in order to respond

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[36] Cooke and Morgan (1998) put this figure at 90%.

to a new global situation. According to Gamble, most social scientists settle into their analytical framework or define their units of analysis *after* actual, and historically significant, events and developments – not before. Globalization, which in its broadest sense transcends capitalism (Mann 1996), is not a new theory but an "assumption of many strands of social science, both liberal and Marxist, in the 19th century" (Gamble, 1996:1935). Given the current phase of capitalist development, one can deduce from Gamble's arguments that globalization is perhaps once again becoming a central *assumption* in social sciences – to frame contemporary social, economic, and political issues – and not a proven fact of life.

Learning region proponents link globalization and "the wilting of a cohesive and sequestered national economy and society" though there is disagreement on whether or not globalization threatens "local diversity and local autonomy" (Amin and Thrift, 1994:1). Amin et al. point out that "globalization does not represent the end of territorial distinctions and distinctiveness, but an added set of influences on local economic identities and development capabilities" (1994:2). Drawing on economically successful regional cases of regions such as the Silicon Valley, Baden-Württemberg, and the Third Italy, Amin et al., like Florida (1995) and Cooke and Morgan (1998), see a trajectory toward "the resurgence of specialized and self-contained regional economies and localized systems of governance and economic regulation that will replace the era of mass production and mass consumption which was based around the national economy and the nation state" (Amin and Thrift 1994:7). Evidence for globalization includes: centralization of the world's financial structure and availability of capital, the central role of knowledge as a factor of production, transnationalization of technology, the rise of global oligopolies, the rise of transnational economic diplomacy and the globalization of state power, and the rise of global cultural flows and deterritorialized signs, meanings, and identities. Because of these developments, geographers are having to look at the world through a different lens, i.e., one that sees "a multi-faceted process of global integration guided by, but not always made in the image of, the most powerful transnational firms, institutions, actors, and cultural hegemonies of the capitalist world economy" (Amin and Thrift 1994:5).

The logical consequences of the reasoning for the globalization thesis seem insufficiently explored. As Hodgson (1996:1940) observes, "if one were to go along with one prominent version of the globalization thesis, then it would seem that we are quickly moving toward a compact global village where transport and communications are such that spatial location and movement are a relatively minor problem and thereby a secondary feature of our social existence". Elsewhere Hodgson dismisses uncritical embrace of globalization as physical science fantasy and social science nonsense (Hodgson 1999b). Furthermore, greater international trade, investment, and communication within the existing set of economic relations does not necessarily constitute a new economic structure (Sayer and Walker 1992; Hirst and Thompson 1999) as both globalists and learning region proponents would have us believe.

It is apparent that there is a wide range of opinions (and preferences) on what constitutes globalization and how it affects regional economic development. My contention is that in addition to the physical evidence, economic indicators, and "hard numbers", globalization

as a phenomenon that encompasses everything and everyone perhaps deserves more in-depth, context related, historically informed, and rigorous study. To many, globalization is synonymous with deregulated capital and labour markets. Deregulation in these markets is in turn fuelled by "footloose" transnational corporations continuously prospecting geographical locations most favourable to conducting business. As a result, national governments are viewed as having no choice but to succumb to transnational corporations' desire for further deregulation of capital and labour markets. National governments are further expected to accompany deregulation with liberalized taxation systems favourable to a manner of business activity widely recognized as not conducive to socio-economic and ecological well-being in the broadest terms.

Clearly, there is more to the new regionalist / globalist perspective than an "evolutionary" transformation of the Fordist mode of regulation. First, while reasonably grounded arguments could be made about the changing characteristics of industrial organization, the cause and effect relationships between these changes and the currently dominant neo-liberal mode of regulation remain understudied. Second, political ideology (and preference) though not explicit, does seem to play a role in the reasoning by both the new regionalist and globalist camps. Ideological positioning (of the authors) is expressed either by uncritical acceptance of what is said to be happening (globalization and/or regionalization) or overt promotion of the neo-liberal dogma (global laissez faire). Third, there is uncertainty as to the question of scale in both the regionalist and globalist arguments – what "works" at the firm or the regional levels is not readily transferable across, or along, geographical scales. This limitation leaves little in the way of generalizations and conceptualization. Fourth, context specificity, though touched on by the more thoughtful of the new regionalists, also seems not to be a prominent feature of this literature. I elaborate on each of these points in the following sections.

3.3.2 Neo-liberal Regime of Accumulation

Nation-states, according to the globalization thesis, will become increasingly irrelevant as localities become integrated parts of the global, bypassing their nation-states. These locals form for "social and cultural reasons, [characterized by] intense levels of inter-firm collaboration, a strong sense of common industrial purpose, social consensus, extensive institutional support for local business, and structures encouraging innovation, skill formation, and the circulation of ideas". The centres of geographical agglomeration are "centres of representation, interaction, and innovation within the global production filieres [amounting to] 'intelligent regions'" (Amin and Thrift 1994:12-13). Amin et al. are quick to point out that these networked geographical agglomerations do not all share the same qualities. Class, gender, or familial backgrounds, institutional ties, and cultural and political outlooks differentiate between these networks. In addition, networks may vary in structure. Networks may consist of different firms and major clients bound primarily through economic ties, specialist firms that form interest groups through professional-social institutions, or "epistemic communities" in which firm interest groups share specialist knowledge, interests, attitudes, and "a normative commitment to act in particular ways and to follow quite particular policy agendas" (Amin and Thrift 1994:14).

These projections are hotly contested by Sayer and Walker (1992) who view new regionalism as "false hopes for a more egalitarian, petit bourgeois future for capitalism. …small firms and flexible networks are still capitalist enterprises: they neither eliminate the imperatives of accumulation nor solve the problem of democratic rule versus class prerogatives in the workplace, the firm, the city, or the nation" (page 157). Such basic, historically informed observations are rare in the literature on learning regions. Certainly, there are critics (Lovering 1999; MacLeod 1996, 1999; and Hodgson 1988, 1999a). Few are willing to concede that there are serious dangers in unleashing free market capitalism, at whatever scale. As John Elkington (1999) has eloquently pointed out, "we must not underestimate the inherent dangers of uncontrolled capitalism. We have managed to contain the adverse effects of capitalism in western industrial countries through our institutions and through regulation…..Russia has not been so fortunate…". "Institutions" that control, direct, regulate, or resist the workings of the market have historically played quite central roles in shaping the development of modern capitalism. One such institution is trade unionism in industrialized countries.

For close to a hundred years, trade unions have played a centrally important role in industrialized countries of "regulating" the economy by attempting to minimize the adverse economic impacts of business activity on union members and hence a sizable section of the industrialized society. The regulatory role of trade unions has had implications beyond the shopfloor since collective bargaining has progressively raised the standards in setting the minimum wage, establishing workplace health and safety, employment benefits, and so on. Trade unions have existed because there has been a historical need for their existence: To democratize economic relations within the industrialized economy and to institute a "compromise" beneficial to the workers. This compromise lies at the heart of many post-World War II stable regimes of accumulation (see Regulation Theory, below). Just as citizens groups have existed over time and space to represent, protect, and promote certain interests overlooked or undermined by the workings of the economic system, trade unions will likely continue to exist, in one form or another, as long as there is a historical need for them to exist. Insufficient attention is paid to the role of trade unions in the literature on "learning organizations", "learning regions", and "associational economies".

While the regulatory role of trade unions is downplayed, questionable emphasis is placed on "new" economic motors. For example, there is a myth that the answer to all of today's socio-economic problems is having faith in the innovative forces that small and medium size enterprises could unleash (Harrison 1998). Small and medium size firms would be innovative, entrepreneurial, and most important, would change things from the "bottom-up", needing no direction or assistance from oversized and inefficient governments. Birch's (1979) deduction on the actual and potential role of small and medium sized firms seems to have been based on a skewed analysis of biased data, however (Harrison 1998). Nevertheless, Birch's "findings" continue to serve as the foundation for the currently prevalent political position, which consists of the 1980s' supply-side economics dictum retrofitted with post-Cold War optimism that capitalism will conquer all. Harrison (1998), Glasmeier et al. (1998), and Wynarczyk et al. (1997), among others, have raised serious doubts about the empirical basis that supports this position.

Harrison (1998) provides a rich account of how the focus on the role of small firms was formed, adopted, and generalized in the pro-market rush of the 1980s to feed the neo-liberal frenzy. Findings by Lovering (1999), MacLeod (1996, 1999), and Massey (1992), based on empirical studies of regions and centred on employment and economic development, contradict the popular belief that small and medium size firms are responsible for generating the majority of new jobs in regional economies, let alone the advancement of learning. Amin and Cohendet (1999) and Glasmeier et al. (1998) caution that contribution to the local knowledge base by branch firms is largely determined by the global parent corporations while Lovering (1999), Krätke (1999), and Peck and Tickell (1994) have argued that the importance of new growth regions have been overstated as they have limited geographical scope and only fill the political vacuum brought on by the collapse of the Fordist mode of regulation. Krätke (1999) argues that localized networks of firms are perhaps surviving despite today's globalized, post-Fordist, neoliberal, and competitive environment, not because of it while Lovering (1999) suggests that new regionalism is in large part a result of the proliferation of regional institutions filling the post-Fordist political vacuum in the organizational structure of regional economic governance.

3.3.3 The Politics of New Regionalism

In attempting to deconstruct the myth of new regionalism, Lovering (1999) identifies two strands in the new regionalist camp: sophisticated and vulgar. Sophisticates are those who do "careful theoretical work which attempts to examine rigorously the logical implication of assumptions or the implications of scenarios. Consciously bracketed-off from empirical questions and the world of policy recommendations,…[focused] on hypothetical possibilities, typically including the possible role of interdependencies, reflexive governance, 'trust', the motors of territorial industrial clusters, networks, etc." In contrast, vulgarians "fudge the question of abstraction and rush to make interpretative or normative claims concerning real places. [They] illegitimately assume that abstract theoretical categories can be straightforwardly translated into real-world empirics" (Lovering 1999:384). Although direct examples are not provided by Lovering, it appears that currently the "vulgarians" hold sway in the learning region / new regionalism camp.

Lovering refers to studies on development in Wales (Lovering 1996), Baden-Württemburg (Staber 1996), Lowland Scotland (MacLeod 1996, 1999), England (Jones 1997a), and the United States (Markusen 1996) whose findings fundamentally contradict the unfounded enthusiasm by the vulgarians about the economic development of these regions. Consistent with Harrison (1998) and Hodgson (1999b), Lovering argues that many new regionalists forgo philosophical and methodological integrity, exaggerate the economic significance of their findings, and pay no attention to the political sociology of regional development (Lovering 1999:384). New regionalism "must be seen as related to the contingent forms of competition which have precipitated by nearly two decades of neoliberal industry, trade and investment policies, together with the global spread of austerity macro-economic policies, the decline of profits and the reining-in of redistributive policies and full employment goals" (page 386). With some notable

exceptions regional economic analysis has been unduly dominated by a microeconomic approach focusing on how firms innovate, learn, and act.

Only recently, Amin and others have begun to raise questions about the importance of a macro approach to studying learning regions (Amin 1999; Amin and Cohendet 1999; and Amin and Wilkinson 1999). Like Hodgson (1999a), Amin (1999) promotes democratic regional decision making frameworks that draw in members from "experts and representatives from the various professional and civic groups that make up the local society". This inclusiveness might draw in minority and excluded interests, set up codes of business conduct, "allow full and proper debate, potential for creative decisions, empowerment of the dialogically disadvantaged, and open and transparent interaction with the public and other representative institutions" (Amin 1999:373). This vision of new regionalism, although still very much on the prescriptive / normative side, is a far cry from Florida's (1995) "laboratory-like environment". Amin also sounds a much-needed cautionary note on reading off too much from the isolated cases of regional learning. Wary of the current neo-liberal mode of regulation, Amin concludes that "…in the absence of a conducive macro-economic framework, it seems *irresponsible* to ask regions to embark upon a long-term and comprehensive overhaul in pursuit of an endogenous pathway to prosperity" (376, emphasis added).

The origins of the firm- and region- centred approaches to regional economic development could be traced back to the late 1970s when Keynesian macroeconomics (concerned with the economy's demand-side) went out of fashion. High inflation, increasing national deficit, and general concerns about the downward trajectory of the world's major national economies characterized this period. The onset of the 1980s witnessed the sweeping into power of neo-liberal political parties in major industrial nations including the United States, Germany, the United Kingdom, and even Sweden, the country that had for long exemplified how economic and social well being could be simultaneously achieved under a mixed (essentially Keynesian and regulated) economy. The newly elected governments, determined to institute laissez faire, were conveniently provided with "empirical evidence" by Birch (1979) who utilized questionable methods (Harrison 1998) and identified small firms as the driving force (creating jobs and wealth) for the new economy. A major finding of Harrison's re-examination of Birch's conclusions is that a substantial number of the supposed "new" firms actually came to be as a result of work being contracted out by major multi-nationals as they focused on their "core competences", a trend that by and large continues to this day.

The neo-liberal economic policies that began to emerge in the early 1980s have been driven by faith in the allocative efficiencies of the market system and hostility toward deficit inducing, post-World War II Keynesian national economic policies. The deregulation of the labour and capital markets is directly attributable to this change of political philosophy and the resultant move from the "Keynesian welfare state to Schumpeterian workfare state" (Jessop 1993). Neo-liberal approach of non-interference with the market forces has been responsible for reduced financial transfers to "less favoured regions", exposing economically weaker regions to fierce competition thus undermining their economic bases (Amin 1999). Naturally, numerous regions adversely affected by these policies have reacted by looking for ways to reduce reliance on state

handouts. At the same time, many economic geographers and regional policy makers have concentrated their efforts on attempting to identify and study economically prosperous regions to learn from and to emulate. The burgeoning literature on "learning regions" and the renewed interest in "institutionalism" (cf. Hodgson 1988, North 1990) and "evolutionary economics" (cf. Nelson and Winter 1982) are directly related to these developments. Politically, the interest in regional economic development models and concentration on a regional scale, exemplified in the "learning region" strand of the new regionalism, is in some respects a defensive response to an apparently diminishing role of national governments and the erosion of post-World War II socio-economic and political fabrics, while in other respects it is an attempt to frame contemporary socio-economic phenomena and explain some of the underlying causes of uneven development.

The tensions caused by different approaches to frame the regionalization / globalization question have rendered the "learning region" as a concept loose, contradictory, and ambiguously defined. Its proponents variously draw on the Schumpeter of old (sharing Marshall's view of the economy as a collection of small firms trading with one another, 1934) and the new (large firms play a significant role in organizing the post-World War II industrial landscape, 1947); Alfred Marshall ("industrial atmospheres" and "industrial districts" consisting of a large number of small firms, 1919) and his modern interpreters including Becattini (1990), Saxenian (1991), and Scott (1993) among others; regulation theory (Jessop 1990a); and, innovation and entrepreneurship theories (neo-Schumpeterian in origin) popularized by Freeman (1994) and embraced by Cooke and Morgan (1998). As a result, the language in the new regionalist literature is ambitious in the scope of ideas utilized, filled with "fuzzy concepts" (Markusen 1999), and tangential. Arguments usually lead in different directions depending on each proponent's political leanings and vision for the new economy. In addition, doubts have been raised about the reliability of some of the data, the validity of findings, and the generalizability of arguments to support the new regionalist stance. This leaves the notion of "learning regions" conceptually wanting.

Addressing the adverse effects of globalization requires recognizing and "working" with counterposing political ideals and agendas, complexities of scale, and context specificity to facilitate dialogue and exchange on such basic issues as local unemployment or environmental degradation without overlooking contradictions or attempting to reconcile irreconcilables. The question of scale is discussed next.

3.3.4 Complexity of "Scale"

Brenner (1998) asserts that spatial scales can no longer be conceived as "pre-given" or "natural" arenas of social interaction. Spatial scales are "at once socially constructed and politically contested". Scale may be geographical for empirical and historical research; organizational for socio-economic and political research; strategic for socio-political transformation; discursive in ideological struggles for hegemonic control; and constructed through struggles of actors, movements, and institutions to influence locational structure, territorial extension, and qualitative organization of these scales (Brenner 1998:460). Thus, geographical scales are "produced, contested, and transformed through an immense range of socio-political and discursive processes, strategies, and struggles that cannot be

derived from any single encompassing dynamic". Further, there are "multi-scalar configurations of territorial organization within, upon, and through which each round of capital circulation is successfully territorialized, deterritorialized, and reterritorialized" (page 461). The inherent complexities implied in Brenner's articulation of scale are perhaps better understood through Jessop's (1997:102) expression of "societal embeddedness of functionally differentiated institutional orders… in a complex, de-centred societal formation" and Brenner's own notion of "fixity and motion".

Fixity and motion refers to the "dialectical tension under capitalism between the territorialization of social relations within relatively stabilized scale-configurations and their recurrent re-scaling through capital's deterritorializing drive toward time-space compression" (Brenner 1998:461). The move from government to governance is said to be part of the historical trajectory of capital accumulation and circulation: "To accumulate surplus value, capital strives to 'annihilate space through time' [Marx, 1973:539] and thereby to overcome all geographical barriers to its circulation process….capital necessarily depends upon relatively fixed and immobile territorial infrastructures, such as urban-regional agglomerations and territorial states, which are in turn always organized upon multiple, intertwined geographical scales. When overaccumulation crises erupt, each of these forms of territorialization for capital is restructured, reterritorialized, and, frequently, re-scaled" (Brenner 1998:461).

A deterritorialization / reterritorialization process is certainly discernable at a global scale. Efforts to form trade blocs such as NAFTA, the EU, and Asia Pacific Economic Cooperation are said to be aimed at instituting a new regime of accumulation replacing the post World War II Keynesian welfare state (Jessop 1999). At the national scale, "the national economy has been undermined by internationalization" coupled with a "hollowing out" process through which national state functions are "delegated upwards to supra-regional or international bodies, downwards to regional or local states, or outwards to relatively autonomous cross-national alliances among local metropolitan or regional states with complementary interests" (Jessop 1999:354).[37] The strengthening of the regulatory role in Canada of such quasi-government institutions as ICLEI (global), CEC (continental), FCM (national), and AMO (provincial) in the governance of socio-economic and ecological spaces is in part a product of this "hollowing out" process. These quasi-government institutions have assumed increased administrative powers while politically the federal and provincial governments continue to hold sway.

The deterritorialization / reterritorialization process may also explain the drive, in some Canadian provinces at least, toward the amalgamation of local governments through abolishing two-tier, area municipality / regional municipality local governments to one-tier regional municipalities in order to "annihilate space" and re-institute surplus value accumulation through a new mode of regulation. It may be argued that the

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[37] Jessop (1999) makes clear that "hollowing out" as described here has not, thus far, meant that the political power of the nation-state government has been reduced. Governments continue to exercise their power through quasi- or non-government forms and institutions. Hudson and Weaver (1997) make a similar point stating that neo-liberalism, though often associated with deregulation, has in fact "re-regulated" the relations "between economy, society, and state" (page 1656). The "deregulation / reregulation" axis also resonates with Brenner's (1998) "deterritorialization / reterritorialization" concept.

deterritorialization / reterritorialization process was set in motion as a result of the overaccumulation crises of the post-Keynesian era necessitating restructuring or reterritorializing of previously territorialized (and relatively fixed) economic spaces. At the structural level, the trend in most industrialized countries to de-nationalize essential industries for efficiency and profitability certainly supports this argument. Capital movement is not unrestricted, however. Geographic scales "are produced, contested, and transformed through an immense range of socio-political and discursive processes, strategies and struggles" (Brenner 1998:461). The difference between the approaches adopted by Canada and Sweden in response to Agenda 21 (see chapter 2) and in the context of the recent reterritorialization process (globalization?) is perhaps best explained through this latter set of dynamics, i.e., the "socio-political and discursive processes, strategies and struggles" which are "context specific" and determine each nation's course of economic development and approach to governance.

3.3.5 Context Specificity

Context specific socio-political, economic, and discursive processes may generate a significant degree of "institutional thickness", laying the foundation for "local embeddedness" and facilitating "self-reproducing" economic growth in certain geographical regions (Amin and Thrift 1994). Institutional thickness consists of four components. First, there is "a plethora of institutions of different kind" to include firms, financial institutions, local chambers of commerce, training agencies, trade associations, local authorities, development agencies, innovation centres, clerical bodies, unions, government agencies providing premises, land, and infrastructure, business service organizations, and marketing boards. Second, "high levels of interaction" through contact, cooperation, and information interchange, must occur between these institutions leading to "a degree of isomorphism". Third, "sharply defined structures socialize costs" of sectional and individual interests and "control rogue behaviour". Fourth, these institutions must be bound through a common purpose.

Context specificity may also manifest itself as path-dependency, cumulative causation, or lock-in (see chapter 1). For example, studies of the economies of former Eastern Bloc show that capitalist development in those countries consists of "path-dependent and historically contingent processes …leading, not to convergence to a presumed unique 'Western' model, but to historically located and specific varieties of capitalism in each country". Similarly, the Asia Pacific economies did not make their giant leaps in development and growth by following a "free market" model – the state in each case "played a quite central role" (Hodgson 1999a:151). Context specificity moulds capitalism while evolving capital relations mould the specifics of the context. "Learning" is spatial and knowledge largely tacit, embedded in social routine, idiosyncratic (Hodgson 1996), and adaptive. Even if all knowledge were readily codifiable and communicable, patterns of learning and economic development will always be varied and spatially dispersed despite the enormous advancements in communication techniques and technologies (Hodgson 1996).

A transition to a preferred socio-economic state takes place through "a set of connected changes, which reinforce each other but take place in several different areas, such as

technology, the economy, institutions, behaviour, culture, ecology and belief systems" (Rotmans, Kemp, and van Asselt 2001:16). Policy work in "real-world situations" to effect transition needs to be based on appreciation of place-specific peculiarities and dangers of importing "ideas that have worked well in one place and time into another place and time" (Sandiford and Rossmiller 1996). The institutionalist strand in economics (see "Institutionalism", below) attaches considerable weight to "historical contingency" that underlies the institutional functionality within a particular historical, social, political and cultural context (Murrell 1994). Research into regional economic development could provide invaluable illumination for further research and policy work if based on recognition of "the peculiarities of particular places and institutional contexts" in relation to the "supralocal political context which frequently imposes significant constraints upon local institutional trajectories" (Brenner 2002).

3.4 Regulatory Role of "Environment"

Linkages between learning for innovation and learning for sustainability could be facilitated through operationalizing "eco-Keynesianism", a term coined by Hudson and Weaver (1997). Hudson et al.'s premise holds that there is no immediately realizable and viable alternatives to capitalism. They argue for instituting a kinder, gentler capitalism that functions on the basis of a "sustainable regime of accumulation" where "a link between economic restructuring and the simultaneous resolution of problems of unemployment, environmental sustainability, and competitiveness" may be created (Hudson and Weaver 1997:1652). To facilitate this change, emphasis needs to be switched from labour productivity to materials and energy productivity. However, so doing would require encouraging labour intensive work, regulated labour markets, enhanced social inclusion, and a strong state – that is, everything that the current neo-liberal regime of accumulation is positioned firmly against. Hence, the critical element for this change is "radically to revise the regulatory framework of state policies" on public expenditure and tax and benefit systems (page 1653). The emphasis on materials and energy productivity is a premise shared by the proponents of industrial ecology and ecological modernizations theory, discussed later in this chapter.

Hudson et al. would ideally like to see a more active role for national governments in operationalizing eco-Keynesianism. At the same time, they recognize that there are tensions between the emerging, locally governed, economic regions and supranational authorities such as the European Union and suggest that globalization and regionalism are perhaps to some degree related. Hudson et al. offer little in terms of specifics and much in terms of broad brushes about how regional, national, and supranational governance systems should assume more direct responsibility for the environment and people. As a vision, Eco-Keynesianism as presented by Hudson et al. provides a useful dimension for studying sub-national, national, and supra-national scales of socio-economic, and ecological governance. This dimension is significant since the question of "governance" (see regulation theory, below), fundamental to instituting multi-scale structural reforms in

socio-economic and political arenas, is often overlooked or played down in a considerable proportion of the mainstream literature on sustainable development.[38]

A multi-scale framework cognizant of governance questions would study sustainable development in the context of three levels of "embedded" social organization. These are: "the social embeddedness of interpersonal relations", "the institutional embeddedness of inter-organizational relations", and "societal embeddedness of functionally differentiated institutional orders … in a complex, de-centred societal formation" (after Jessop 1997). Such a framework would assess the plausibility of plans for, or visions of, sustainable development in the context of these relations at the local (subnational), national, international (relations between nationally constituted networks or institutions), transnational (networks or institutions passing through national boundaries), or global (networks or institutions covering the globe as a whole) levels (after Mann, 1996).

At the local scale, the need to build business firm and economic base resilience has been the focus of much of the literature on "learning regions" and government policy in industrialized nations. The policies informed by the "learning region" strand in the new regionalism literature tend to be neo-liberalist in orientation[39] and "unecological" concentrating mainly on such terms of reference as "innovation" and "competitiveness" (see for example, Cooke and Morgan 1998; Florida 1995; and Saxenian 1994) to gauge success or failure in economic development policy of industrialized regions. Recognizing the links between industrial activity, economic development, and social and ecological integrity and well-being as necessary components of sustainable local economic development requires thoughtful reflection on contributions by Amin and Thrift (1994), particularly their notion of "institutional thickness", Hudson and Weaver (1997), Jessop (1997), Lovering (1999), Mann (1996), and Peck and Tickell (1995) among others.

It will be argued (see Regulation Theory, below) that ecologically-oriented fields of study such as industrial ecology, ecological economics, ecological modernization theory, the ecosystem approach, political ecology, and ecological Marxism have emerged in the last few decades because of the increased concern for the ecological implications of modern systems of production and consumption. It will also be argued that "the environment" has assumed a central place in the abovementioned fields of study because of the insurmountable ecological degradation, or pending catastrophe according to some, attributed to the Fordist and post-Fordist regimes of accumulation. This line of argument

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[38] Focusing on the policy response and decision-making aspects of this weakness Dovers (1995:104) asserts, "Systemic problems demand systemic responses" and offers a set of "problem-framing attributes and scale descriptors" to arrive at three (environmental) problem categorizations of micro, meso, and macro, to designate a range consisting of micro (acute) problems requiring immediate attention and macro (chronic) problems requiring long-term planning and attention. Meso problems represent problems in the mid-spectrum range.

[39] Neo-classical economics has provided convincing justification for neo-liberalist economic policies since the 1980s. It does not necessarily follow that all that is neo-classical is also ideologically neo-liberal, however. See Hodgson (1994a) for a discussion.

will be developed further after a review of "institutionalism" and ecological modernization theory[40] in the next two sections.

3.4.1 "Institutionalism"

The ascendance of "institutional theory" is a continuation and extension of open systems conceptions into the study of organizations (Scott 2001). In addition to the technical environment, i.e., resources and task-related information, open systems theory places organizational activity into a wider social and cultural context, i.e., the institutional environment, which "constrains, shapes, penetrates, and renews the organization" (page xx). Institutional thought has captured the imagination of economists, political scientists, and sociologists since the late 19th century. In economics, attempts to adopt the scientific method for the discipline were challenged by a group of economists led by Gustav Schmoller (1900-4). Drawing on the ideas of Kant and Hegel, these historical critics asserted that simplistic assumptions about the "rational man" were unfounded, and the quest for a set of universal laws for economics were fruitless, since economic processes operate "within a social framework, …shaped by a set of cultural and historical forces" (Scott 2001:2). Institutionalists have also been reluctant to embrace the notion of economic equilibrium.

The American institutionalists were influenced by the German historical school and the "philosophy of pragmatism", manifested in "a suspicion of abstract universal principles, an interest in solving practical problems, and an awareness of the role of events and historical contingencies" (Scott 2001:4). Early institutionalists pointed to pervasive market power and to indeterminacy even under perfect competition; the role of social institutions in shaping individual preferences (and hence the importance of institutions as the subject of economic analysis); the usefulness of pragmatic and psychologically realistic models of economic motivation (as opposed to utilitarianism); and the centrality of time and space in understanding the evolution of the economic system (Scott 2001). (See also "Evolutionary Economics", below).

The "old" and "new" strands of institutionalism in economics emphasize the importance of institutions and promote the need for "a genuinely evolutionary economics" (Hodgosn 1994a:59). Institutionalists define socio-economic institutions as shared and reinforced habits within a society or a group (Hodgson 1994a:64). Adopting this broad interpretation of the institution, the question for the proponents of institutionalism in economics is "not how things stabilize themselves in a 'static state', but how they endlessly grow and change" (Hodgson 1988:130). Key to understanding the processes of growth and change must thus be the institutions within the economy, not individual preferences as assumed in neo-classical economics. But understanding institutions themselves requires

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[40] Of the "ecologically-oriented" fields of study mentioned in this chapter only ecological modernization theory is discussed in some detail because it focuses on "systems of production and consumption", a focus shared by regulation theory. Ecological modernization has also been a major feature in discourse on environmental policy within some Western European countries and the European Union (Hajer 1997; Pepper 1999).

appreciation of complexity, continuity, and evolution in historical time. It was perhaps in this spirit that Veblen (1899) asserted

> the situation of today shapes the institutions of tomorrow through a selective, coercive process, by acting upon [humans'] habitual view of things, and so altering or fortifying a point of view or a mental attitude handed down from the past. …At the same time, [humans'] present habits of thought tend to persist indefinitely, except as circumstances enforce a change. These institutions [constitute] the factor of social inertia, psychological inertia, conservatism. (Veblen 1899:190-1, cited in Hodgson 1988).

Institutionalism was the dominant school of economic thought in the interwar years, particularly in the U.S. In the years after the First World War there was widespread recognition of the need for "improved economic data and policy analysis". There was also recognition of the potential role of government in the reconstruction of the economy (Rutherford 2001:178). Institutionalists did much to improve the statistical work of government agencies and develop monetary and financial data, including work on money flows which later became the "flow-of-funds" accounts (Rutherford 2001:179).

The inter-relationships between institutions representing different cultural values can and do cause friction in a process that could be likened to "strata shifting slowly at different rates, but occasionally causing seismic disturbance and discontinuities" (Hodgson 1988: 131). The institutionalist approach is based largely on institutional specifics, rather than ahistorical universals (Hodgson 1999a). One is hard pressed to find a concise definition of institutional economics, however. A simplistic definition would be 'the study of the socio-economic system over time and space through the evolution of its institutions'. Such study necessitates close examination of "cause-effect-cause" continuum that characterizes past, present, and future regimes of accumulation and modes of regulation and their institutional contexts. In terms of operationalization, institutional economics requires a primary focus on and in-depth analysis of capitalist institutions and national and corporate cultures (Hodgson 1999b). Regulation theory, discussed later in this chapter, focuses more specifically on how the interplays between "modes of regulation" – constituted through socio-economic institutions – shape, and "regimes of accumulation" define, systems of production and consumption in capitalist economies.

"The institution" is thus offered as the unit of analysis by Hodgson (1988, 1999a) or viewed as an important aspect by some economic geographers for studying and understanding contemporary regional economic development (see, for example, Amin 1994, 1999). An institution may be defined as "a way of thought or action of some prevalence and permanence, which is embedded in the habits of a group or the customs of a people. …Institutions fix the confines of and impose form upon the activities of human beings [Hamilton 1932:84]" (Hodgson 1988, 1994:64). According to Hodgson (1994:64) institutionalists define institutions as "socially habituated behaviour…emphasizing that institutions are linked to cultural values and norms". This definition of the institution "suggests a place for the concept of power in economic analysis… [and a place for] discourses on social power in economics" (page 64). Culture in Hodgson's view is "more than 'information': it is synonymous with the fabric and the ensemble of social

institutions, [or] … a cumulative sequence of habituation [Veblen 1919:241]" (Hodgson 1994:64).

Similarly, institutions have been defined as "the set of conventions and rules of action prevailing in the economy, which are embedded in the local social structure and show a marked regional differentiation" (Krätke 1999:683). North (1991:97) defines institutions as "the humanly devised constraints that structure political, economic, and social interactions [consisting of] informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights)". In sociology and political theory, institutions are usually treated as various rule systems which occur in sets, e.g. constitutional rule systems for society, collective choice rules governing different kinds of organizations, and operational rules of organizations. Rules may be formal or informal, actively used, or remain buried in statute books or long forgotten customs. Institutions affect the behaviour of organizations by defining "appropriate" social practices and codes of conduct. Institutions are "sets of rules of the game or codes of conduct defining social practices" whereas organizations are "material entities possessing offices, personnel, budgets, equipment, and, more often than not, legal personality" (Young 1994:3-4).

According to North (1986:233), "institutions consist of a set of constraints on behaviour in the form of rules and regulations; a set of procedures to detect deviations from the rules and regulations; and… a set of moral, ethical behavioural norms which define the contours and that constrain the way in which the rules and regulations are specified and enforcement is carried out". But, institutions "are not merely constraints, bearing upon a pre-existing and 'non-institutional' economy or market. Economies and markets are themselves constituted as collections of institutions and [as such] are not merely constrained by them" (Hodgson 1999b:145). In relative terms the institution is more "permanent" or "invariable" as a unit of analysis (Hodgson 1988, 1999b) than neo-classical economics' "individual". "The institution" is, therefore, more akin to spatial and temporal inquiry than "the individual" with a fixed set of preferences (Williamson 1994).[41] The focus by the new institutionalist economists on "the institution" represents "a major departure from the standard rational choice theory of neo-classical economics in that the actor's operative goals and values, and indeed the actor's view of the choice context, is seen as culturally determined to a considerable degree, at least regarding actions that involve coordination with or will induce responses from others" (Nelson 1994:130)

Analysis of the economic system (or aspects thereof) through its institutions need to recognize that institutions can and do change. According to Hodgson (1994:66), "even gradual change [in institutions] can eventually put such a strain on a system that there can be outbreaks of conflict or crisis, leading to change in actions and attitudes". As will be shown in the section on Regulation Theory below, gradual and sudden changes are

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[41] The importance of the role played by institutions in determining the direction of economic development has also been emphasized in the policy realm. Agenda 21, for example, makes numerous references to the important role of formal local and supra-local institutions in facilitating sustainable development, particularly in Parts 3, 11, 15, and 37. Role of local authorities in effecting changes toward sustainability is discussed in some detail in Part 28, "Local Authorities' Initiatives in Support of Agenda 21".

products of capitalism's inherent contradictions, reinforcing a dialectical interplay between the modes of regulation (established and enforced mainly through a process of "institutionalization") and the regime of accumulation. An institutionalist frame of inquiry focuses on whether or not the rules "in use" are a coherent set, or some mix of contradictions incapable of fostering regionally-centred development or sustainability in some larger sense.[42] Therefore, analyses of institutional inter-relations or "arrangements"[43] need to be based on recognition of different forms of institutional arrangements, dynamics, collective functions, and purposes.

Institutional economics is weak in analytical tools compared to neo-classical economics mainly because the former has not been sufficiently developed as a mainstream discipline.[44] This should not dissuade researchers from studying inter-relations, however (Young 1994). Institutional economics is also "thin" on the importance of the ecological context of economic activity. At the institutional level, the environment-economics question is perhaps more adequately addressed in ecological economics, ecological modernization theory, the ecosystem approach, ecological Marxism, and political ecology while at the operational level industrial ecology and ecological modernization theory offer a variety of tools to reverse, minimize, or otherwise manage the adverse environmental impacts of industrial activity. The fields of ecological economics, the ecosystem approach, ecological Marxism, political ecology, and ecological modernization theory all share an "evolutionary" perspective on the development of economic, ecological, and socio-political systems. Evolution is also the focus of evolutionary economics, a field of study that came into being as a response to the failings of neo-classical economics to adequately frame the dynamics of change in the economic system. Evolutionary economics is discussed next.

3.4.2 Evolutionary Economics

The principle underpinning the neo-classical theory holds that economic subjects are rational and that economic relations are "modes of coordination between the predetermined and unalterable behaviour of these subjects" (Aglietta 2000:13). The oversight to recognize the interrelated "regulatory" role of the historical, social, and political contexts in the economic process results directly from the overarching emphasis on and elaboration of conditions for a "general equilibrium". Far from equilibrium conditions are described as "imperfections" rather than dialectical outcomes of an inherently contradictory, dynamic, and evolving system. Neo-classical economics fails to recognize change and instability as the norm, failing further, as a consequence, to explain the appearance of stability of "things" or systems (Harvey 1996). The goal of the neo-classical theory is "to express the essence of its object by stripping it of everything contingent: institutions, social interactions, conflicts, are so much dross to be purged to

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[42] Based on an exchange with George Francis, May 15, 2001.
[43] Davis and North (1971:5-6) define institutional arrangement as "an arrangement between economic units that governs the ways in which these units can cooperate and/or compete. It …[can] provide a structure within which its members can cooperate… or [it can] provide a mechanism that can effect a change in laws or property rights" (cited in Williamson 1994:79)
[44] See Hodgson (1994a) for a discussion of the reasons for this weakness.

rediscover economic behaviour in its pure state [attained] in the concept of price, as sufficient and exclusive bond between all rational subjects under the uniform constraint of scarcity" (Aglietta 2000:14).

For a number of years now, indeed decades, there has been general dissatisfaction with what has come to be known as "scientific economics". Dissatisfaction concerns failure to analyze the economic process in a historical context and to give voice to the (evolutionary) social content of economic relations. The crises in contemporary western societies compounded by significant socio-economic and political changes during 1990s must propel researchers to pose quite different theoretical questions than orthodox economic can muster. The object of economic theory can then become "the study of the social laws governing the production and distribution of the means of existence of human beings organized in social groups" (Aglietta 2000:16). The focus must be on the transformation of social relations through the creation of new forms, e.g. rules, habits, norms, that are "both economic and non-economic, that are organized in structures and themselves reproduce a determinant structure, the mode of production" (Aglietta 2000:16). History thus becomes an indispensable component of the study, exploring the tension between abstract and concrete.

Evolutionary economics was in part a reaction against the shortcomings / short-sightedness of the neo-classical school by some historically grounded and socially oriented economists who perhaps sought substance for the "science" part of "economic science". Evolutionary economics developed as an extension of the new institutionalism in economics by Nelson and Winter (1982) who drew on the works of Veblen on the evolution of the institutions of the economy, Schumpeter's ([1926], 1961) ideas on innovation, and Alchian's (1950) view of firms as economic agents subject to adaptation and selection processes. Nelson and Winter's "evolutionary theory" draws also on biology and the works of Malthus and Darwin to articulate the idea of "economic natural selection" and "organizational genetics" according to which "traits of organizations, including those traits underlying the ability to produce output and make profits, are transmitted through time" (Nelson and Winter 1982:9). Nelson and Winter make the explicit and practical disclaimer: "We are pleased to exploit any idea from biology that seems helpful in understanding of economic problems, but we are equally prepared to pass over anything that seems awkward, or to modify accepted biological theories radically in the interest of getting better *economic* theory (witness our espousal of Lamarchianism)"(Nelson and Winter 1982:11).

To understand a given state of the economy, the evolutionary view holds that one needs to look back on the processes and the events that preceded that state. The notion of evolution also implies that events are irreversible. It was based on this premise that Thorstein Veblen resolved to transform economics into "an evolutionary science" and Schumpeter insisted that the "essential point to grasp is that in dealing with capitalism we are dealing with an evolutionary process … a fact….long ago emphasized by Karl Marx" (Hodgson 1994c:218). The term "evolutionary" in evolutionary economics does not necessarily mean an espousal of gradualism in opposition to "revolutionary" change, a point made clear by Nelson and Winter (1982). Evolution in economics is similar to evolution as used by modern evolutionary biologists and involves "discontinuities and

revolutionary 'leaps' giving rise to 'punctuated equilibria'" (Hodgson 1994c:219, also Nelson and Winter 1982:10). At the micro, behavioural level, instincts, habits, and institutions are viewed as analogous to biological genes while "the economic life history of the individual is a cumulative process of adaptation of means to ends that cumulatively change as the process goes on, both the agent and his environment being at any point the outcome of the last process" (Veblen 1919:74-75, cited in Hodgson 1994c:222).

An evolutionary approach in economics recognizes "irreversible and continuing processes in time, as evolution involves irreversible transformations in structure and acquisitions of knowledge", "long-run development rather than short-run marginal adjustments, as evolution beholds the grand course of development and not the innumerable micro-foundations", "variation and diversity, as these are the fuel of all evolutionary processes of selection", "non-equilibrium as well as equilibrium situations, as evolution applies to open systems which are often far from equilibrium", and "the possibility of error-making and non-optimizing behaviour, as these are part and parcel of both human learning and evolution itself" (Hogdson 1994c:223). Elsewhere, Hodgson (1993:258,1994a:66) echoes Nelson and Winter (1982) by pointing out that radical change may be a product of gradual change when the cumulative strain of gradual change leads to outbreaks of conflict or crisis in a stable system, resulting in a radical change in actions and attitudes. On recognition that "reality is hierarchically ordered" and interconnected, Hodgson (1993:266) promotes an "ad hoc" methodology for studying each level of the total system.

Adopting an ad hoc methodology does away with the concept of social optimum and allows for generating insights into what the economic system "ought" to be doing (Nelson and Winter 1982). Experimentation within the economic system – currently mostly conducted in a top-down, technocratic fashion and driven by ideology – needs to assume an expanded, societal role to generate the information and the feedback necessary to guide the evolution of the economic system:

> Hidden-hand theorems disappear, or at least recede to their proper status as para-theorems. In their place, however, one can discern the basis for arguments in favour of diversity and pluralism. … one begins to get a better appreciation not only of why our current economic system is so mixed in institutional form, but why it is appropriate that this is so (Nelson and Winter 1982:402).

Recognition of interconnectedness within the total system minimizes the possibility of making reductionist, arbitrary assumptions. This is because the findings based on analysis at one level, when viewed from other perspectives, have to be meaningful and relevant to phenomena at "lower, higher, or equivalent" levels.[45] Nelson and Winter's vision of "diversity and pluralism" may only be realized through fundamental, radical changes in the economic system, and by implication its institutions. For sustainability, understanding the extent and direction of change in institutions and institutional arrangements requires

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[45] Hodgson's (1993) "ad hoc" methodology and Nelson and Winter's (1982) evolutionary approach are consistent with the "post-disciplinary" frame of analysis as described by Jessop (2001) and Sayer (1999) – see chapters 1 and 4.

paying particular attention to the dynamics of institutional inter-relations and whether and how these dynamics affect the systems of production and consumption in their socio-ecological context. Ecological modernization theory, reviewed in the next section, focuses on the ecological context of economic activity.

3.4.3 Ecological Modernization Theory

Ecological modernization theory is a relatively new field of study concerned with how economic development in industrial countries could be modernized so as to minimize or eliminate environmental degradation closely associated with industrial economies (Cohen 1997; Gouldson and Murphy 1998; Hajer 1995; Mol 2000). Its aim is to harness the power of human ingenuity for the purposes of harmonizing economic advancement with environmental improvement. As such, ecological modernists point to the potential synergy that could be tapped into by combining economic development and environmental protection. This combination could be facilitated through environmental reforms in social, economic, and industrial policy making and institutional (re)designs to safeguard humans' sustenance bases. Comparable emphases are placed on the roles of the state and the market (and its entrepreneurial agents) in bringing about the ecological transformation necessary for "sustainable development". Ecological modernization focuses consists of two main elements.

First, from a macro-economic perspective, ecological modernization "seeks to establish a policy framework that promotes structural change …[through] moving away from energy and resource-intensive industries towards value and knowledge-intensive industries" (Gouldson and Murphy 1998:3). Such a move would be facilitated through structural and technological change. Second, at the micro level, ecological modernization places emphasis on the invention, innovation, and diffusion of new technologies to drive the move at the macro level. Attention is also paid to institutional and cultural dynamics of ecological modernization. According to Cohen (1997) and Mol (2000), the basic positions of ecological modernization theory may be summarized as follow:

- environmental problems are challenges for social, technical, and economic reform, rather than immutable consequences of industrialization;
- planning practices need to become anticipatory and based on the precautionary principle;
- core social institutions of modernity need to be transformed – perhaps beyond recognition – so that they can internalize ecological responsibility. These include science and technology, production and consumption, politics and governance, and the market's institutions at multiple scales (local, national, and global);
- governments must take the lead in promoting innovation in environmental technology through strict, proactive, and goal driven regulatory regimes; and
- ecological modernization is the potential source of future economic growth.

Ecological modernization theory looks beyond reductions in material use and generation of pollutants. It focuses in addition on social and institutional transformations resulting in these reductions. There are five clusters in which institutional transformation needs to

occur: Science and technology (in remediation efforts and design of new structures); the market (dynamics of customers, producers, funding and insurance sources as carriers of ecological restructuring and reform); governance (flexible and consensual styles of governance and a strengthening of supra-national institutions' role in environmental reform); the environment and social movements (moderation in the confrontational stance); and economic security (a move away from the conventional job versus environment stance toward intergenerational solidarity as an undisputed core principle).

The basic positions of ecological modernists are similar to those held by Hawken (1993), Hawken et al. (1999), and McDonough (1998). Both Hawken and McDonough argue that today's environmental problems arise from a structurally flawed economic system. The remedy according to these authors lies in consciously (and conscientiously) redesigning human systems so as to realign the economy with ecological constraints. Some ecological modernists see strong national governments as the catalysts for change (cf. Cohen 1997) while others (cf. Mol 2000) point to supra-national institutions as the emerging bodies defining reforms necessary for ecological modernization. Private institutions are viewed by both groups as main agents of structural change toward an ecologically sustainable society. None of these positions is empirically tested however. It is debatable whether private economic agents are now or can ever be committed to "intergenerational solidarity as the undisputed core principle".

Based on the work to date on ecological modernization, it remains unclear whether or not, or under what conditions, it is possible to continuously[46] reconcile economic development and environmental protection – the field is new and many of the prescribed policies based on its thesis have yet to be adopted, implemented, and tested (Gouldson and Murphy 1998). Conceptually, however, ecological modernization theory offers a unique framework of analysis as it integrates elements from three significant (for sustainability) fields of study. Ecological modernization theory focuses on the role of institutions as agents of change (as in institutional economics), places the economy in its ecological context (as in ecological economics), and promotes structural and design changes to better align industrial activity with ecological constraints (as in industrial ecology). Implicit in ecological modernization theory are the spatial and temporal considerations and their role in determining economic and socio-political development trajectories.

The political complexities that determine decision-making outcomes are better understood in the decidedly "non-environmental" fields of study. For example, Amin and Thrift's (1994) concept of "institutional thickness" could be used to highlight competition and rivalry, or collaboration, among local institutions including government departments. Operationalization of ecological modernization principles and, more generally, sustainability requires an in-depth understanding of institutions, their interrelations, and the power structure(s) within which these interrelations occur. Taking

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[46] There are numerous cases, particularly in the "greening of industry" literature, of the private sector having extracted significant economic gains as a result of adopting ecologically less detrimental production practices. Much of what has been gained is arguably based on picking "low lying fruits" of wasteful industrial practices. Gouldson and Murphy's (1998) observation is based on structural change in the entire political economy as opposed to voluntary, market tolerated best management practices.

the analysis one step further by asking why certain sets of inter-relations prevail requires adopting a "regulatory" approach. Regulation theory, reviewed below, focuses on the interplay between systems of production and consumption and provides a useful framework for studying the underlying causes of social and institutional change over time and space.

3.4.4 Regulation Theory[47]

Hyman (1975) identifies four elements in Marxism that relate to the regulation of the system of production under capitalism. First, all social phenomena are inter-related and therefore cannot be analyzed in isolation from wider social structures.[48] Second, the inter-relations between social phenomena are dynamic necessitating taking account of the historical dimension. Third, recognition of the inherently contradictory inner forces of capitalism as a system must underlie analyses of the broader political economy. Fourth, history can be shaped by actions of "agents" aimed at changing the (power) structure in the political economy. Social change arises from the resolution of conflicting interests (between the owners of capital and workers under capital) pursuing contradictory goals.[49] Agent/structure relations define institutional cohesiveness (see "Institutional Thickness" and "Institutional Cohesiveness", below) and determine its pro- or anti-sustainability characteristics. Inversely, the quality of agent/structure relations could be read off institutional cohesiveness. Higher or lower levels of democracy, empowerment, participation, integration, reciprocity, and compassion constitute the quality of agent/structure relations.

Sharing the Marxist premise regulation theory holds that capitalism is inherently crisis-prone due to fundamental contradictions in its production relations. Of particular interest to regulationists are the unique, geographically and historically bounded sets of social, economic, political, and industrial institutions that define relatively stable regimes at different times (Whiteside 1996). Regulation theory offers a framework for explaining periods of growth and stability in systems of production and consumption despite the inherent contradictions of capitalism, paying particular attention to "institutions, rules and norms which serve to secure a relatively long period of economic stability" (Amin, 1994:7). Regulation theory is concerned with the dynamics of accumulation (a system of production and consumption) and the mode(s) of social regulation (Jones 1997b; Goodwin and Painter 1997). More specifically, Jessop (1990a) describes regulation theory as being concerned with "the changing forms and mechanisms (institutions, networks, procedures, modes of calculation, and norms) in and through which the expanded reproduction of capital as a social relation is secured. …[This] expanded social reproduction is always presented as partial, temporary and unstable" (Jessop 1990a:154).

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[47] The descriptive historical details on the evolution of the economic system are drawn mainly from Whiteside (1996), and to lesser extents, Hudson and Weaver (1997) and Hodgson (1994a).

[48] By extension, it may also be argued that environmental concerns cannot be analyzed in isolation from the social and economic contexts.

[49] This summary of Hyman's interpretation of Marxism is adapted from Webb (1998:439).

Tickell and Peck (1992) describe regulation theory as integrating the role of political and social relations (state action and legislature, social institutions, behavioural norms and habits, political practices) – the mode of social regulation – into the conception of capitalist crisis and reproduction. Lipietz (1993:xviii) defines the mode of social regulation as "the ensemblement of institutional forms, networks, and explicit or implicit norms which assure compatibility of market behaviour within a regime of accumulation, in keeping with the actual patterns of social relations, and beyond (or even through) the contradictory, conflictual nature or relations among economic agents and social groups" (Treuren 1998:359). The mode of regulation provides the "rules of the game" (Boyer 1979:75; Dunford 1990:306) comprising four components: the wage-relation, the monetary relation, the relationship between competing capitalists, and the role of the state in harmonizing all these factors (Treuren 1998:359-360).

The regime of accumulation is the "over-arching constellation of regularities ensuring the continued existence of the mode of production, by describing the relationship between production relations, consumption, and income distribution necessary to ensure (temporarily) stability" (Treuren 1998:360). The regime of accumulation and the mode of regulation are "dialectically interwoven" instituting a stable mode of development only when in a complementary state, the absence of which results in crisis (Jäger and Raza 2001:2). Put differently, the complementary coupling of a mode of regulation with an accumulation system (a production-consumption relationship based on established habits, customs, social norms, and enforceable laws which create "regulatory systems") result in their contemporary co-stabilization (Tickell and Peck 1992). A regime of accumulation may be "extensive" or "intensive" (Treuren 1998). In an extensive regime the technology of accumulation remains largely static, with emphasis on increasing absolute surplus through numerical increase in labour employed, work time increase, or geographical spread. The growth of the system of production is primarily quantitative: increase in output is the result of increases in labour and other inputs. In contrast, an "intensive" regime of accumulation is predominantly qualitative as it focuses on increasing labour productivity through significant technological innovation and diffusion resulting from increasing investment of surplus in fixed (productive) capital. The emphasis under an intensive regime is on increasing the rate of relative surplus value.

The prime feature of contemporary capitalism is the undisputed tendency toward productivism. The two most important tenets of productivism are the inherent growth logic to sustain profitability and the systemic contradictions between a) capital and labour, and b) production / consumption and ecological well-being. Capital is invested for profit and sustaining profit requires expanding market share. Firms that fail to grow eventually see their products / services superseded by competitors determined to capture an ever larger share of the market and higher rates of profit (Whiteside 1996). Treuren (1998) identifies five distinct periods in the recent history of economic development under capitalism: the pre-industrialization period (extensive regime); the industrialization period (intensive regime), the inter-war period (intensive), the post-war period (intensive), and the post-Keynesian / after-Fordist period (intensive). Until the mid-20th Century the growth tendency of capitalism was held in check by the system's own distributive and organizational weaknesses. The system concentrated wealth in the hands a relatively few capitalists whose ability to consume was necessarily limited. This

situation created crises of commodity and capital overproduction, periodically disrupting the growth patterns of the economy (Hudson and Weaver 1997). Inefficient, pre-Taylorist organization of work processes finally slowed increases in productivity.

Until WWII a "competitive" mode of regulation meant that wage relations were negotiated individually between the employer and the employee while capitalists had free rein to compete for raw materials, labour, and product markets. In the post-WWII period a "monopolist" mode of regulation was instituted facilitating collective bargaining and restrained competition leading to the formation of cartels as price maintenance agreements (Treuren 1998:360). The post WWII Fordist compromise instituted some collectivist measures such as pensions and safety into the economic system to perfect, rather than challenge, productivism. Workers became consumers thanks to additional income and security and capable of absorbing the increased output of scientifically rationalized work processes. According to Whiteside (1996) the Fordist compromise removed earlier barriers to economic expansion. Growth accelerated, "free enterprise" became responsible for generating sufficient capital to fund not only accumulation and profit but also higher wages and some of the charges of the welfare state, and the social logic of productivism prevailed. The stability of such arrangements depended on one key assumption: growth must continue unabated. The centrality of the ecological aspect of economic activity became increasingly apparent when wastes generated by industrial firms mounted and natural resources were so intensively exploited that different enterprises began to interfere with each other's profitability. In comparison to the mid-20th Century, there is now wider recognition that climate change and accumulation of wastes are closely associated with the current rates of production and consumption likely to undermine the well-being of future generations and the business bottom line.

Lipietz argues for a "new compromise"[50] of the same magnitude to Fordism to resolve the current ecological, after-Fordist crisis (Whiteside 1996). The new compromise must embody the nonproductivist set of values comprising solidarity, autonomy, ecological responsibility, and democracy. In practical terms these values must lead to the (re)organization of work relationships to give workers more control over their activity, increasing leisure time, systematically choosing ecologically sound technologies and recycling, reducing hierarchies in social relations, subsidizing socially useful self-organized group activities, promoting grassroots democracy, developing more egalitarian and mutually advantageous relationships between national communities. The reduced demand for labour and the increased use of technology in productive work must mean universal reduction of work hours and increased leisure time. An ecologically responsible compromise must use state taxes, subsidies, and development strategies to restore and protect the environment. One important implication of these latter measures is transferring more power to a bureaucratized, centralized state whose control and power are tempered by political activism of progressive, grassroots organizations.

The regime of accumulation is changing today because of limits to growth, rendering the neo-liberal mode of regulation inadequate for handling the current crisis equitably and responsibly. Given the universality of the ecological imperative and its manifestation in

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[50] Contrast with Hudson and Weaver's (1997) "eco-Keynesian mode of regulation".

social and political movements, it is reasonable to argue that the political compromise to establish ecologically responsible and stable modes of regulation will need to be instituted at the global scale (Hudson and Weaver 1997). This argument resonates with an essentially Lefebvrian view of regulation which perceives space as being "socially produced" (Brenner 1998; Lefebvre 2000; Jäger and Raza 2001). According to this view the territoriality and the importance of structural forms are "objects of socio-political conflicts" changing over time. The territorial scale of regulation, e.g., local, national, and so forth, does not necessarily coincide with densification of flows of capital, commodities, and labour that constitute economic space (Jäger and Raza 2001) at the global scale. Agent/structure relations and change at every scale are products of highly complex and historically contingent regulatory processes in the socio-economic, political, and ecological systems or domains.

According to Lipietz (1978) conflict is the primary fact of social life while contradictory social relations form the essence of social bond by creating unity through struggle. Regulation theory's key hypothesis is that only compromise can check society's underlying tendency toward discord. It has to be noted, however, that there are limits to what can be expected of the highly descriptive, as opposed to prescriptive, regulation theory. A stable mode of regulation could lie anywhere between the two extremes of egalitarian, equitable, and ecologically benign regime of accumulation and the exact opposite. Because regulation theory is not prescriptive, it does not rule out socio-ecologically destructive authoritarian modes of regulation that can and do from time to time to stabilize the regime of accumulation. The recent histories of Latin America (notably Chile and Argentina) and the now-defunct Eastern bloc planned economies under the Soviet rule provide useful empirical case studies of stable, authoritarian modes of regulation.

To sum up, environmental concerns and, more broadly, commitment to sustainability at the individual, organizational, and institutional levels is the product of a series of inter-related factors. Ecological degradation and heightened global inequities are arguably indications of a breakdown in the post WWII socio-economic and political fabrics. This breakdown is the raison d'être for the emergence of environmental and non-environmental non-government, citizens-based organizations. Adoption by formal government and non-government organizations of environmental and sustainability policies, both superficially and altruistically, are a direct result of tireless citizens-based, grassroots efforts to regulate economic activity along socio-economically equitable and ecologically benign lines. Put differently, "the environment" is increasingly a regulatory factor, or a point of contention and contestation, in processes to manage through compromise the conflicts in the regime of accumulation. Contestations based on concern over inequity and/or environmental degradation are expressly manifest in processes instituted by governments and business interests to resolve global trade and environmental conflicts in attempts to stabilize the current rapturous mode of regulation. These processes are exemplified in the functions of World Trade Organization, the five-yearly "Rio +" conferences on sustainable development, and climate change conventions.

Modes of (social) regulation result from the interrelationships between institutions and organizations at different spatial levels. The coordination of interdependent social

relations ranging from simple dyadic interactions to complex social divisions of labour may be described as "governance" (Jessop 1999:349). Governance may also denote who does what to whom while studies of governance (should) focus on the "why" and the "how". In power relations terms, governance may be defined as the exercise of authority and control by governments, private sector interests, and other non-government organizations (Francis 1994) to stabilize or destabilize the regime of accumulation. Jessop (1997) describes governance in terms of inter-relations at three levels: interpersonal relations (social embeddedness), inter-organizational relations (institutional embeddedness), and relations among functionally differentiated institutional orders (societal embeddedness). These levels interrelate to one another as follows:

> **Social embeddedness:** Interpersonal interdependence is associated with an acute problem of trust owing to the many-sided 'double contingencies' of social interaction (grounded in the fact that ego's behaviour depends on expectations about alter's conduct and vice versa) where many actors are involved;
> **Institutional embeddedness:** The problem of trust is reinforced on an inter-organizational level by the difficulties in securing the internal cohesion and adaptability of individual organizations; and in making compatible their respective operational unities and independence with their *de facto* material and social interdependence on other organizations; and
> **Societal embeddedness:** Inter-systemic heterarchy poses the problem of the material and social interdependence of operationally autonomous (or closed) functional systems, each with its own autopoietic[51] codes, programmes, institutional logics and interests in self-reproduction (Jessop 1997:102).

In contrast to neo-classically-inspired social scientists, regulationists place economic activity in a socio-political context and attempt to describe economic development at various spatial scales over time. Regulation theory is descriptive (as opposed to prescriptive) in that it does not attempt to offer an "ideal" mode of social regulation for a preferred system of accumulation. It does however recognize the role for "inter-organizational negotiation" in the development of networks for achieving an "inter-systemic consensus around visions or missions" (Jessop 1997:103). These visions and missions "provide, within a more general framework of 'decentralized context steering', a basis for more specific inter-organizational partnerships oriented to the positive coordination [involving multilateral exploration and concerted strategic action towards a joint goal (Scharpf 1994: 38-9, 48)] or relevant activities around specific objectives" (Jessop 1997: 104).

Stability in the regime of accumulation is indicated by usually distinct modes of regulation, e.g. Fordism, while instability and chaos may result if the inherent conflicts in the systems of production and consumption are not adequately "negotiated". Nielsen and Pedersen (1993), Amin and Thomas (1996), Jessop (1997), and Jones (1999) make reference to "negotiated economies", mainly to describe Scandinavian economies where

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[51] In a footnote Jessop defines autopoiesis as "a condition of radical autonomy secured through self-organization when a system defines its own boundaries relative to its environment, develops its own operational code, implements its own programmes, reproduces its own elements in a closed circuit and obeys its own laws of motion".

the historical tendency has been toward "relative social peace and institutionalized class co-operation" through making compromises. The key to the success of the negotiated economies has been the ability of the Scandinavian national states to combine orthodox corporatism (involving business associations, trade unions, and the national state) and a "model of concertation" involving "a wide range of extra-economic as well as economic forces… [consisting of] rural and urban petty bourgeois sectors, the local state and functional domains such as health, education, welfare and scientific research" (Jessop 1997: 113, 114-5).

A negotiated economy provides "a framework which encourages social partners to respect the operational codes and procedures of other systems and to engage in self-regulating conduct within their own operational spheres in the interest of a wider social project" (Jessop 1997:115). As a result of this co-operation, in negotiated economies "an essential part of resource allocation is currently decided neither through market exchange nor by state intervention but rather through direct co-operation and communication, and often through institutionalized negotiations, among a multitude of mutually autonomous agents" (Hausner, Jessop, and Nielsen 1993: 4-5).[52] Negotiated economies seem to have emerged in countries whose economic development policies are in relative terms more cognizant of social and ecological concerns. This inclusive and collaborative system of "meta-governance" (Jessop 1997:115) associated with negotiated economies has important implications for studying (and strategies to attain) "sustainable development". In terms of social, economic, and environmental policy, much could be learned from negotiated economies on integrating national economic priorities and socio-ecological concerns.

In other parts of the world and in a generally neo-liberalist context it is reasonable to expect that sustainable development policy plans will not lead to "doing things better" and/or "doing better things" if these are to mean moving (simultaneously) toward sustainability in the social, ecological, and economic realms. If the intent is to identify alternative policy courses toward sustainability one needs to go beyond attempting to mimic Scandinavian negotiated economies. One also has to go beyond "bundling together a host of (regressive and progressive) contemporary developments, then conferring upon these the status of legitimacy of a post-Fordist or flexible regime of accumulation" (Peck and Tickell 1994: 289). This "bundling together", prevalent in the literature on "learning regions" (cf. Florida 1995; Cooke and Morgan 1998), does not even begin to look at causalities, only outcomes (e.g., flexible specialization). To attend to this shortcoming, Peck and Tickell (1994:292) suggest that a crucial component in the search for a new institutional fix capable of addressing social, ecological, and economic sustainability has to be the construction of a new global regulatory order, a view shared by Hudson and Weaver (1997), Treuren (1998) and implied by Jänicke and Weidner (1997) and other ecological modernists. A new global order, while fundamental to resolving the current

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[52] There is a certain Habermasian ring to this description of the negotiated economy. According to Whiteside (1996), Habermas's discursive ethics view history as a "learning process in which humankind accumulates knowledge about the conditions of its fullest emancipation – conditions which require ever more completely shared meaning". Recognizing the humanity of workers, tolerating ethnic diversity, equalizing economic opportunities, and democratizing political structures are manifestations of this learning process (Whiteside 1996:8).

socio-economic and ecological ills, remains a distant possibility for a variety of reasons however.

The regulationist approach, in the main, is concerned with studies of wages, benefits, leisure and other tenets of capital-labour relations while consistently shying away from prescribing a "preferred" mode of regulation. This methodological impartiality has provided significant insights into how modes of regulation facilitate accumulation through instituting relative peace in the production processes (the regime of accumulation). With some notable exceptions (Lipietz 1993; Whiteside 1996; Jäger and Raza 2001), regulationists have also shied away from extending analysis beyond the limited (for sustainability) confines of the political economy. Where the ecological domain is included in the analysis it is at the expense of methodological impartiality (Whiteside 1996) as the language becomes prescriptive by promoting "higher" moral values based on ethics of sustainability. It is possible to maintain the impartiality and descriptive capacity of regulation theory while extending the scope of analysis to include the ecological domain. The first step in this direction is to take note of the emergence of new fields of study with an ecological orientation such as those reviewed in the previous sections of this chapter. The second step is to attempt to understand the reasons for the proliferation of ecologically-oriented fields of study over the last three or so decades. Third, these new fields must be integrated into the analytical framework of regulation theory.

The proliferation of ecologically-oriented fields such as ecological economics, industrial ecology, ecological modernization theory, political ecology, and a host of others is in a sense confirmation that "the environment" is an explicit source of conflict in the contradictory whole that is the civil society. Statements by policy makers and business decision-makers on sustainability and environmental well-being must be viewed as more than mere lip-service and marketing hype: the pressures to link ecological integrity to economic well-being are by most accounts real and, as the proponents of these new fields contend, historically contingent. The issuance of policy statements on sustainable development are public relations exercises in reaction to the demands of increasingly contentious forces that recognize the social and ecological perils of unabated economic growth under the current mode of regulation. Ecological well-being is increasingly becoming less a moral imperative and more a necessity of long-term human survival. The structure of the economic system and its inherently anti-environmental trajectory have given rise to agents whose goal seems to be to effect radical change in the current productivist economic structure: the policy and decision makers' pronouncements on the virtues of sustainable development are products of decades-long hard struggle in the social and political domains to protect, promote, and nurture the natural environment in its entirety, including the human component.

While we "wait" for a new global mode of regulation to render the regime of accumulation socio-economically equitable and ecologically benign, we can learn more by studying the causal relationships between (context specific) socio-cultural conditions and the governance of social, economic, and ecological spaces. This learning process should begin with an appreciation of the problems associated with the implementation of public policy.

3.4.5 Policy Development vs. Implementation

Policy implementation studies are concerned with "those events and activities that occur after the issuing of authoritative public policy directives, which include both the effort to administer and the substantive impacts on people and events" (Mazmanian and Sabatier 1983:4). Implementation analysis examines the behaviour of the multiplicity of agents that interact within the administrative and enforcement bodies as well as in the political, economic, and social domains to explain the ultimate (intended and unintended) impact of policy. It has long been recognized that there often exists a large void between the intent(s) of formal public policy and the actual outcome(s), or implementation, particularly if policy is aimed at altering the behaviour of public and private agents (Mazmanian and Sabatier 1981). This void may be explained in part by identifying

> a finite number of variables which can be organized and examined within the context of a reasonably parsimonious conceptual framework [to] outline the general stages of the implementation process between enactment [of policy] and the ultimate impacts, … indicate the principal set of variables and the value each must take if a program is to be effectively implemented, and … to begin examining empirically the relative importance of the principal variables within and across policy domains (Mazmanian and Sabatier 1981:xi).

The "principal set of variables" is also the subject of study in the institutionalist and regulationist approaches. From a regulationist perspective, policy implementation process may be described as the net product of a coming together of three sets of independent variables or factors. First, there is the tractability of the problem(s) being addressed, i.e., the availability of a valid theory of the factors affecting a problem and the extent of change required in target group behaviour. Second, there is the ability of the policy or statute to favourably generate the required (re)structuring process to meet policy objectives. The effectiveness in meeting policy objectives is closely associated with in-depth understanding of causal relationships, adequate human and financial resources, hierarchical integration with and among implementing institutions, decision-rules of implementing agencies, the implementation process, and transparency. Third, there are a variety of "political" variables on the balance of support for policy or statutory objectives. These variables include socio-economic conditions and technology[53], media attention to the problem, public support, attitudes and resources of constituency groups, support from sovereigns, and commitment and leadership skill of implementing officials.[54]

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[53] Following Veblen (1899), Hayden (1993) emphasizes the importance of definitional clarity for, and societal role of, technology: "Technology, which is one of the most important ingredients of human welfare, has become a foul word in the minds of many people because it is so regularly associated with hazardous spills, unemployment, cancer, community disruption, consumer victimization, ozone depletion, and so forth. If technology is to advance in the sense of enhancing progress for human and ecosystem welfare, the people's legislative bodies must explicitly and directly take back control of the research functions of their public universities" (Hayden 1993:293).

[54] These factors are drawn from Mazmanian and Sabatier (1981:3-35).

Much like the Sabatier-Mazmanian (1981) framework for policy implementation analysis, the regulationist approach draws attention to the importance of the "political environment", i.e., the convergence of the private and public interests, as a dynamic and evolving element in the implementation process. Meeting policy objectives depends on whether or not the support for the policy by private and public interests is nurtured and maintained. This places implementation as a process firmly in the realms of governance and its institutions. Effective governance of inter-relations at different levels to meet policy objectives is directly related to the presence, in the political environment, of a series of "capacities" (Baum 1981:48) that should define policy makers and their actions. These are capacity to base a policy on a valid theory, issue clear directives to implementers, choose implementers, specify the form of the implementation process, allocate resources, and inflict sanctions (on non-conformers).

The link between the institutionalist approach and implementation analysis is firmly established in Ostrom's (1999) Institutional Analysis and Development framework. The framework is based on a definition of institutions as "shared concepts used by humans in repetitive situations organized by rules, norms and strategies". Rules are then defined as shared prescriptions based on must, must not, or may which are enforced by agents responsible for monitoring conduct and imposing sanctions; norms as shared prescriptions that are imposed and conformed to by the participants through internally and externally imposed costs and inducement; and strategies as plans made by individuals based on their knowledge of the structure of incentives produced by rules, norms, and expectations of behaviour of others (Ostrom 1999:37). Ostrom's "rules-in-use", as opposed to "rules-in-form", definition of institutions resonates with Nelson and Sampat's (2001:40) variant of institutionalism which views institutions as "how the game is played" as opposed to North's (1990) "rules of the game". Like Ostrom, Nelson and Sampat (2001) make allowances for the internalization by the agents of the rules, norms, and expectations of behaviour.

To allow for interdependencies and interconnectedness, Ostrom's (1999) framework recognizes the need for "multiple levels of analysis" because multiple sources of nested structure are located at diverse analytical levels as well as diverse geographic domains (Ostrom 1999: 38). These levels are *constitutional-choice rules, collective-choice rules,* and *operational rules* representing respectively the macro, meso, and micro. Because of the nested structure of these three levels of institutions, one should expect that events at a given level affect, and are affected by, events at other levels. An event may be an environmental problem generated in the policy realm (collective-choice level) where decisions by policy makers based on collective-choice rules affect the structure of arenas where individuals make decisions (operational level) and thus adversely affecting the physical world. The problem may also be generated at the constitutional-choice (macro) level where decisions are made about who can and cannot participate in policymaking and the rules in undertaking policymaking (Ostrom 1999:41). One could even introduce at the macro level Hayden's (1993) "cultural values" as determining actions of policymakers and being affected by their actions.

Ostrom's (1999) framework is intended for the analysis of an *action arena,* which consists of an *action situation* and the *actors* in that situation. Action arena is the social

space where individuals interact, exchange goods and services, solve problems, dominate one another, or fight. There are seven clusters of variables in an action situation: participants, positions, outcomes, action-outcome linkages, the control that participants exercise, information, and the costs and benefits assigned to outcomes. An actor is characterized by the *resources* brought into the situation; the *valuation* the actor assigns to states of the world and to actions; the way the actor acquires, processes, retains, and uses *knowledge contingencies and information*; and the processes the actor uses for *selection* of particular courses of action (Ostrom 1999: 41-2). To understand the "rules-in-use" the institutional analyst needs to identify "entry and exit rules" for the participants; "position rules" of the participants; "scope rules" relating to geographic or functional domains as understood by the participants; "authority rules" from the participants' perspectives on what is mandatory, forbidden, or authorized; "aggregation rules" relating to permissions from or agreement of others on adopting certain practices; "information rules" relating to what is proprietary and what is public; and "payoff rules" which determine the type and size of sanctions and incentives and how conformance to the rules is monitored (Ostrom 1999:52-3).

Obtaining information on rules-in-use "requires spending time at a site and learning how to ask nonthreatening, context-specific questions about rule configurations" (Ostrom 1999:53). Institutionalist analysis in the manner described by Ostrom (1999) allows the researcher to understand the initial structure of an action arena, inquire into factors that affect the structure of an action arena, and explain complex structures that link sequential and simultaneous action arenas to one another. The framework in addition identifies patterns of interactions and outcomes and evaluates the outcomes (Ostrom 1999: 41). It has to be noted that the ability to predict outcomes depends on the action arena and its constituent parts (i.e., the *action situation* and the *actors*). In an environmental conflict, for example, actor individuals may be embedded in communities where the initial norms of fairness and conservation (or the opposite) structure the situation dramatically. In these situations, participants (single individuals or organizations) may adopt a broader (or narrower) range of strategies. Actors may also change their strategies over time as they learn about the results of past actions. Because of the high level of uncertainty in such situations, the ability to predict outcomes is significantly diminished. Often what is possible is to "predict what will *not* occur …, [useful] when one is contemplating reforms"(Ostrom 1999:47).

Since implementation analysis needs to simultaneously draw on a wide range of disciplines, e.g., political science, sociology, economics, the approach has to be explicitly post-disciplinary and "follow connections" beyond disciplinary boundaries. Post-disciplinary analysis can serve as a basis to provide coherence for understanding a group of seemingly disparate phenomena. Sayer (1999) has suggested that because post-disciplinary research discourages "dividing up" phenomena and "selecting out elements appropriate to a particular discipline", it can be more coherent than disciplinary studies. Stinchcombe (1968), Ostrom (1999), and Sabatier (1999) advocate the use of "multiple theories" to express similar sentiments. Sabatier (1999) in addition underlines the importance and the advantages of being knowledgeable about multiple theories. Such knowledge leads to open-mindedness among researchers and scholars and increases the

possibility of collaborative work, all the while providing opportunities to examine one's own "favoured" theory or theories.

Adopting a post-disciplinary approach, this thesis focuses on the "local" scale of governance as the first phase or "building block" of a research project to develop a profile for the causal relationships (scalar interplays) that characterize the discourse and policy implementation processes in relation to the attainment of sustainable development through a series of policy objectives. The elements of the analytical framework for this research are described in chapter 4. Institutional thickness, a central concept underlying this research project, is discussed next.

3.5 Institutional Thickness

Based on the premise that "economic life is both an instituted process and a socially embedded activity and therefore context-specific and path-dependent in its evolution" (Amin 1999a:366), "institutional thickness" (Amin 1999a; Amin and Thrift 1994; Schmitz 1993) refers to the intense and integrated interaction among the institutions of economic activity. Institutional thickness, derived from socio-cultural relations based on mutual identity and trust, is said to contribute to the success (or failure) of regional economic development strategies (Schmitz 1993). Institutional thickness is closely related to "social capital" (Agarwal 1991; Fox 1996; Francis 1996; Heller 1991; Moser 1996; Putnam 1993; Schmitz 1993) which refers to features of social organization such as trust, norms of reciprocity, and horizontal networks to facilitate coordinated actions. Social capital develops a context in which there is "sufficient appreciation, trust, and communicative skill for different stakeholders to find their 'voice' and 'listen' to each other" (Healy 1998:1540). In a sense, social capital is synonymous with institutional "cohesion", a relatively fixed state of affairs "engineered" to increase collective capacity and institutional readiness to effect social change.

Institutional thickness is based on a tradition of collective rather than sectional or individual representation (Kosonen 1997). Institutional thickness is more than the mere existence of institutions bound together geographically. At one extreme, institutional thickness could result in institutional persistence (ability of local institutions to reproduce); construction and deepening of an archive of commonly held knowledge of both the formal and tacit kinds; institutional flexibility (the ability of organizations in a region to both learn and change); high innovative capacity for the region as a whole; the ability to extend trust and reciprocity; and, the consolidation of a sense of inclusiveness. At the opposite extreme, institutional thickness, if expressive of a past economic trajectory, may be an obstacle towards the institutionalization of new processes and structures appropriate to a different economic base (Amin and Thrift 1994:17-18). In this sense, institutional thickness is intertwined with governance issues.

Amin et al. (1994) describe institutional thickness as consisting of the following:

- a plethora of institutions of different kinds including firms, financial institutions, local chambers of commerce, training agencies, trade associations, local authorities, development agencies, innovation centres, clerical bodies, unions,

government agencies providing premises, land, and infrastructure, business service organizations, and marketing boards. All or some of these institutions provide a basis for the growth of particular local practices and collective representations.

- high levels of interaction among the institutions in a local area. The institutions involved are actively engaged and conscious of each other, displaying high levels of contact, cooperation, and information interchange ultimately leading to "a degree of isomorphism".
- sharply defined structures of domination and/or patterns of coalition resulting in the collective representation of what are normally sectional and individual interests and serving to socialize costs or to control rogue behaviour.
- awareness of involvement in a common enterprise manifested in "no more than a loosely defined script" although more formal agendas reinforced by other sources of identity, most especially various forms of socio-cultural identification, are possible.

With a slightly different focus, Cooke and Morgan offer "regional innovation systems" consisting of "universities, basic research laboratories, applied research laboratories, technology transfer agencies, regional public and private (e.g., trade associations, chambers of commerce) governance organizations, vocational training organizations, banks, venture capitalists, and interacting large and small firms" (Cooke and Morgan 1998:71). Similarly, Krätke (1999) describes the dimensions of the "regional system of regulation" as "(a) the forms of coordination between firms (relations of cooperation and competition, interfirm networks); (b) the industrial labour relations (wage relations, structure of the labour market, regional forms of labour organization); (c) the socio-cultural shaping of the regional actors (particularly the regional economic culture and its specific traditions, conventions, and rules of action); and, (d) the political regulation mechanisms (regional patterns of political governance and forms of negotiation) on the level of regional government institutions, supporting establishments, and social organizations" (Krätke 1999:690) . Three points need to be elaborated.

First, the choice of the "local" as the scale of analysis is implicitly based on the assumption that locales are "fixed" entities, capable of becoming competitive through innovation and riding out shocks that may result from changes in the system of governance at "higher scales" (e.g., the "hollowing out" of national governments). Locales are not homogeneous entities. Locales are linked in myriad ways to wider social processes (Massey 1994) and the biogeophysical environment while their boundaries shift according to the processes under consideration (Painter and Goodwin 1996). Also, "in any given area, local labour markets do not map neatly onto local dialects which, in turn, are not coterminous with local governmental institutions" (Painter and Goodwin 1996: 637). In fact, nothing seems to neatly map onto local dialects including communities and bioregions, each of which interacts at varying scales with other communities and other bioregions.

Second, despite viewing regionally defined industrial agglomerations in terms other than "economic", Amin et al., like many others (Cooke and Morgan 1998; Jones 1997b; Krätke 1999) have thus far shied away from making the crucial (for "sustainable

development") and inevitable (for recognizing ecological constraints) link between economic activity and "the environment" in any concrete manner. This missing link is particularly significant where there is formal commitment at various scales, including the local, to pursue economic development policies compatible with a vision of sustainability.

Third, Amin et al. (1994: 258) have suggested that "nearly all the work that has taken place on institutional thickness has concentrated on particularly successful (or particularly unsuccessful) regions: industrial districts and high-technology zones, versus areas of deindustrialization", an issue raised by others (cf. Cooke and Morgan 1998; Jessop 1997; and Jones 1997b). The moves by a number of industrialized municipalities to issue regional development policy plans, focusing on "sustainable development" and emphasizing the role of industry, seem to fit neither of the two categories. These moves offer three important opportunities however. First, local institutional thickness may be assessed within a framework that pays specific attention to "sustainable development". Second, this type of assessment could be conducted in regions that lie somewhere between the "particularly successful" and the "particularly unsuccessful" extremes. Third, such assessment necessitates developing an integrated, "post-disciplinary" conceptual framework based on "institutionalism", regulation theory, and evolutionary economics in an explicitly multi-system and multi-scale context.[55] The concept of "institutional cohesiveness" discussed in the next section is the basis on which such a framework may be developed (see chapter 4 for elaboration and application methodology).

3.6 Institutional Cohesiveness

Regulation theory's "framework for analyzing institutional relationships over time and space" (Jones 1997b:831) is compatible with the focus in institutional and evolutionary economics on the role of institutions in the evolution of the economic system and the notions of "institutional thickness" and "social capital". This research focuses on assessing "institutional cohesiveness", contrasted to institutional thickness and social capital as follows. The scale for institutional thickness is sub-national or local while social capital can refer to cohesion at the sub-national and national scales. The application for both institutional thickness and social capital is mainly relational, allowing comparisons between "like" locales. In contrast, "institutional cohesiveness" widens the scope of inquiry by focusing on the dynamics of the "common purpose" which may be action or inaction on such issues as attaining sustainability, elimination of world poverty, addressing race and gender issues, or the prevention of terrorism. As such, institutional cohesiveness is multi-scale, multi-system, and strategic. Clearly, the scale and scope of analysis in studying institutional cohesiveness has to be carefully defined given the complexity and the multitude of causal relations that exist at the local (subnational), national, international (relations between nationally constituted networks), transnational (networks passing through national boundaries), and global (networks covering the globe as a whole) levels.

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[55] In this vein Mazmanian and Sabatier (1981:xi) state that attempts to analyze problems associated with policy implementation in general requires "a good deal of time, ingenuity, and, most important of all, cooperative effort by researchers in many fields of interest".

Further, in "institutional cohesiveness", cohesiveness is not synonymous with "cohesion". Cohesiveness is process-oriented while cohesion may be perceived as a fixed state. Institutional cohesiveness thus offers the potential for developing a multi-scale, multi-system framework sensitive to the dynamics of change. Institutional cohesiveness goes beyond being concerned with measurable increases in "innovative capacity" and "competitiveness" in order to examine and interpret socio-economic and political phenomena relating to societal transitions as they unfold. Conceptually, institutional cohesiveness shares the new institutionalist focus on the institution as the unit of analysis to explore institutional inter-relations in systems of production and consumption. Adding an "ecological bend" to regulation theory's framework, studies of institutional cohesiveness would necessitate placing the systems of production and consumption in their appropriate ecological context, consistent with the conceptual premises of ecological economics, industrial ecology, and ecological modernization theory. Institutional cohesiveness may be operationalized by examining the institutional dynamics associated with perceived or actual plans for attaining "sustainable development" at different scales and over space and time. The elements of an analytical framework based on institutional cohesiveness are described in chapter 4.

3.7 Conclusion

Despite its comprehensive and ambitious scope, Agenda 21 has remained largely in the realm of PAP policy formulation. Part of the explanation for the slow uptake of Agenda 21 prescriptions, and sustainability-inspired policy frameworks such as ecological modernization, lies in the "institutionalized", neo-liberal belief in the supremacy of the market and the productivist tendencies inherent in the Fordist and post-Fordist systems of production and consumption. The literature on "learning regions" during the (still far from fixed) post-Fordist mode of regulation seems concerned with the "evolutionary" dynamics of "networking", paying particular attention to the private-firm level of activity. Of particular interest to the regionalists are the economic benefits that accrue to firms that participate in the localized network. These benefits include increased exchange of tacit and formal knowledge, increased innovative capacity, and increased competitiveness. As such, the policy implications and political outlook of a large portion of this literature is oriented toward improved economic performance (Lovering 1999; Markusen 1999). The learning region literature does, nevertheless, provide a richer context for studying regional economic development. While largely insensitive to the ecological and societal (equity beyond the network) context of economic activity, this literature draws attention to context-specificity and the "regulatory" role of social and cultural factors in shaping the mode of regulation at the regional scale.

Productivism, most explicitly embraced and adhered to in neo-classical economics, also plagues the "new" (cf. North 1990, Williamson 1985) institutional economics because of the new institutionalists' desire to find audience within the mainstream.[56] The union between neo-liberalism and neo-classical economics is a recent phenomenon and far from

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[56] The "old" institutionalism, described earlier in this chapter, is more aligned with the evolutionary approach of Nelson and Winter (1982) in being vociferously critical of mainstream (neo-classical) economics.

a permanent arrangement (Hodgson 1994). Similarly, the productivist tendencies of the market, nurtured and advanced under the Fordist and post-Fordist regimes and accelerated under neo-liberalism (Whiteside 1996), need not dictate discourse in the development and implementation of economic policies, for, like neo-liberalism, productivism is politically instituted. There are many variants of capitalism (Hodgson 1999a) and it is possible to have "kinder, gentler" types of capitalism (Hudson and Weaver 1997). The question then is how a different set of politics may be instituted to facilitate advancement toward a kinder, gentler capitalism that nurtures social, economic, and ecological sustainability. Institutionalism and regulation theory, though not explicitly concerned with the ecological context of economic activity (Lipietz notwithstanding), provide some of the tools to address this question. More specifically, these latter fields of study would greatly enrich enquiries into why ecological modernization has found a niche in European national and supra-national policy making frameworks, why Agenda 21 has not been widely operationalized, or why the two regional municipalities studied for this research have failed to meet policy objectives on sustainable development.

"Sustainable development" is ultimately a question of governance at various scales. Many national governments and supra-national governance mechanisms (e.g., the European Union, NAFTA), international bodies (e.g., the United Nations, the International Chamber of Commerce, the World Trade Organization), and international forums and conventions (e.g., the Earth Summit, 1992) have issued policy statements on "sustainable development". Sustainability has also become the central focus of national economic policy in the Netherlands, Switzerland, Denmark, Sweden, and Germany (Jänicke and Weidner 1997). At the local (subnational) level, numerous municipal governments have issued policy statements alluding to sustainable development principles. Parallel with these developments, there is a discernable shift to "local governance" from national government (Amin 1994, Amin and Thrift 1994; Cooke and Morgan 1998; Jessop 1994, 1997; Jones 1997b, 1999) as the regime through which the direction of local economic development is contested and determined. These concurrent sets of development necessitate research to gain better understanding of the local governance implications of "sustainable development" in the political (globalist) context of capitalism and in situations where local governments have made specific policy commitments to sustainability. This type of research needs to steer clear of promoting "municipal mercantilism" (Jessop 1994) so as to generate more light than heat, to paraphrase Peck and Tickell (1994).

Research along the above lines needs to emphasize the importance of differentiating between institutional "thickness" and "cohesiveness". There is a certain market-driven, "self-regulatory" aspect to "thickness" as deployed by Amin (1999a), Amin and Thrift (1994), and Cooke and Morgan (1998) among others. Thickness occurs because of a coming together of numerous factors. The timing of events (Liebowitz and Margolis 1995) and the role of historically significant agents such as governments or trade unions are not adequately explored in the vast literature on learning organizations, regions, or economies. Following the language of Fox (1996), the premise for this thesis holds that institutional cohesiveness aimed at sustainability could indeed be "engineered" to a large extent through government action. This premise opens up a whole new arena of possibilities for change-making at the societal level through formal policy formulation,

implementation, and enforcement (see Hudson and Weaver 1997; Fox 1996, contrast with Putnam 1993). The approach put forth in this thesis draws on earlier work on public policy development and problems of implementation and underlines the significance of "transition management" (Rotmans, Kemp, and van Asselt 2001) as the policy framework thought which to effect societal change in the direction of sustainability. Transition management, adopted by the Dutch government as formal policy development framework, is firmly based on the recognition that governments can, and indeed should, engineer societal change through institutionalizing socio-ecologically sound behaviour. Engineering societal change has to be based on as in-depth as possible an understanding of the institutional context. Indeed, the "old" institutionalist approach to change-making emphasizes the importance of identifying, in the early stages of policy development, the upper and lower "bands of tolerance" for change as revealed by the existing institutional arrangements.

Chapter 4 makes a case for using "the institution" as the unit of analysis because institutions have a higher degree of permanency than the individual or the firm (cf. Hodgson 1988, 1999a), shaping the specific contexts in which individuals and organizations operate, interact, and interrelate. Research based on this methodology is less concerned with what goes on within the institutions and more concerned with how institutional interrelations determine the mode of regulation. One way to operationalize this methodology is to study the role of "institutional cohesiveness" in the success or the failure of regional economic development strategies to attain sustainability. The adopted methodology for this research could also be used to assess institutional cohesiveness at other (national, international, transnational, or global) scales. This research focuses on the local (regional municipality) scale while fully recognizing the socio-economic and ecological embeddedness of the local scale within other (national, international, etc.) scales.

Chapter 4: Methodology

Dakota tribal wisdom says that when you're left with a dead horse, the best strategy is to dismount. Of course, there are other strategies:
- *You can change riders;*
- *You can get a committee to study the dead horse;*
- *You can benchmark how others ride dead horses;*
- *You can declare that it's cheaper to feed a dead horse; or,*
- *You can harness several dead horses together.*

But after you've tried all these things, you're still going to have to dismount.
(Adapted from Gary Hamel 2000)[57]

4.1 Introduction

The adopted approach for conducting this research draws on holistic, inductive, and naturalistic methods of inquiry (Patton 1980; Lincoln and Guba 1985). Simply stated, this research assumes that the whole is greater than the sum of its parts and that a description and understanding of the context is essential for understanding the phenomena or situation under study – for this research, the implications of institutional inter-relations in attaining sustainability at the regional scale. To make the case for using a "Mixed-Method Integrated Design" approach for this research, this chapter begins with an overview of methods in social scientific research. The overview assumes a decidedly "post-disciplinary" overtone concluding that asking concrete or many-sided questions requires following arguments and processes "wherever they lead" (Sayer 1999), regardless of disciplinary boundaries and limitations.

The research approach is described within a "framework for studying sustainable development", followed by a method to assess "institutional cohesiveness" at a local (subnational) scale. The remainder of this chapter elaborates on the research goal, objectives, fieldwork methods, and limitations associated with this research strategy. The final section of this chapter provides descriptions of the criteria used in developing the interview questions to conduct the fieldwork.

4.2 Methods in Social Scientific Research: An Overview

An inductive approach requires understanding the phenomena or situation under study without imposing pre-existing expectations on the research setting. Specific, open-ended

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[57] Gary Hamel is an occasional contributor to the Ecological Economics Listserv.

observations therefore need to be made in order to build toward defining organizing patterns in the situation under study. Similarly, a naturalistic, or "discovery oriented", approach requires that no attempts be made to manipulate the research settings. Events, inter-relations, phenomena, or situations under study are therefore naturally occurring and have no predetermined course established by and for the researcher. Naturalistic inquiry is dynamic and process oriented focusing on actual events, inter-relations, phenomena, or situations over a period of time. Certain conditions need to exist if a research approach that is simultaneously holistic, inductive, and naturalistic is to remain true to its principles. Such an approach requires "getting close" (Patton, 1980:42) to the subject(s) under study. Physical proximity for a period of time and development of closeness in the social sense of intimacy and confidentiality increase the validity and adequacy of empirical data (Patton, 1980:43).

In practical terms the inductive approach and naturalistic inquiry as described above are difficult to operationalize in "pure" form. Individual researchers think and operate at different levels based on their political convictions, philosophical orientation(s), and (concrete and discrete) technical abilities (Greene and Caracelli 1996). Political convictions determine the implicit or explicit value-based purpose of conducting research while the philosophical orientation determines which paradigm(s) / methodologies are drawn upon to conduct an inquiry. Regardless of political convictions and philosophical orientation, the effectiveness of various field methods (e.g., surveys, interviews, document reviews, time-series comparisons) depends, among other factors, on the ability of the researcher to apply them (Hessler 1997). Personal skills, social setting, level of trust, and even the ideological climate can and do advance or curtail obtaining reliable research data. Personal or professional relations with the subject of study could also determine research strategy and outcomes.

For example, Jones (1999) refers to the "mode of entry" into his research area as having played a central role in determining the reliability of his findings. To Jones, mode of entry, or access to research setting (historical documentation, data, and personnel), is "closely guarded by fluid political-economic forces" (Jones 1999:32). The level of access varies depending on how the political- economic forces interact at different junctures (Lee and Lawrance 1986:16). Jones also underlines personal relations to the subject of research as reinforcing "political-temporal contingency". He states that professional association with the institutions in his study provided him with "'gatekeeper' access to several hard to find individuals and internal political documents and data sets" which were subsequently used to "reconstruct" policy through "the development of a 'close dialogue' with those involved in policy formulation and delivery. The *tool* for this dialogue was *an in-depth, semi-structured, 'active' research interview*" (Jones 1999:33, emphasis added).

Methods, or tools for gathering or analyzing data, are not grouped according to different paradigms (Greene and Caracelli, 1996) for different research paradigms could employ identical methods. A paradigm may be defined as a "system of ideas" (Lincoln and Guba, 1985) comprising "a world view, a general perspective, a way of breaking down the complexity of the real world" (Patton 1978:203). Paradigms do not necessarily coincide with "mental models" (Smith 1996) which may be associated with "assumptions,

analogies, metaphors, or crude models that are held at the very outset of the researcher's work…[and] are present even before any [formal] theories or [explicit] models have been constructed" (Phillips 1996:1008-9).

Paradigms are "formal philosophical systems, born and nurtured in the armchair. They are abstract, generalized, and logically consistent. ..[A paradigm] is a formal philosophical system and as such is bound by logic and inner consistency" (Smith 1996:74). In contrast, the crude model "is peculiar to an individual or shared within a face-to-face group and emerges from disciplinary, cultural, historical, social, and ideological roots. It is the crude model that gauges the potential meaning and usefulness of employing Method A or Method B or some combination of A and B" (Smith 1996:74). A mental model (perhaps informed and influenced by one or more paradigms) determines what questions to ask, what methods to use, and what knowledge claims to strive for (Cresswell 1994; Greene and Caracelli 1996; Phillips 1996; Smith 1996). Assumptions underlying a paradigm facilitate research design and field work but conceal the reason (embedded in the assumptions) for conducting the research (Patton 1978). Crude mental models determine "how evaluators practice" based on "presumptions, predispositions, and expectations about criteria" (Smith 1996:84).

Through their evolution, mental models and paradigms have shaped research methods. The research paradigm dominating work in physical and social sciences has been described as having evolved through three characteristically different eras. Lincoln and Guba (1985:15) identify these eras as "prepositivist, positivist, and postpositivist". Prepositivism is exemplified in Aristotle's "passive observer" stance vis-à-vis the natural world. For Aristotle, attempts to learn amounted to interventionism and "unnaturalism", distorting what was learned (Lincoln and Guba 1985:18). Lincoln et al. place the end of the prepositivist era between the late 15th and the mid- 17th centuries, crediting Copernicus (1473-1543), Galileo (1564-1642), Kepler (1571-1630), and Descartes (1596-1650) with the rise of the new (positivist) era. However, Lincoln et al. also observe that these would-be proponents of positivism came from essentially non-interventionist fields: astronomy (Copernicus, Galileo, and Kepler) and logic / mathematics (Descartes). In retrospect, positivism seems to have most profoundly affected the scientific method, employed with comparable vigour in both physical and social science research work. Lincoln and Guba (1985:28) highlight five assumptions that underlie most definitions of positivism:

- ontological assumption of a single, tangible reality "out there" that can be broken apart into pieces capable of being studied independently; the whole is simply the sum of the parts.
- epistemological assumption about the possibility of separation of the observer from the observed – the knower from the known.
- assumption of the temporal and contextual independence of observations, so that what is true at one time and place may, under appropriate circumstances (such as sampling) also be true at another time and place.
- assumption of linear causality; there are no effects without causes and no causes without effects.

- axiological assumption of value freedom. The methodology guarantees that the results of an inquiry are essentially free from the influence of any value system (bias).

To positivists, "the world consists of phenomena which are real, useful, certain, precise, organic, and relative…. knowledge consists in and only in the description of the coexistence and succession of such phenomena" (Bhaskar 1986:225). The tight grip of the positivist approach on physical and social scientific research has been likened to how its predecessor, the prepositivist approach, held sway among the intelligentsia. Just as Galileo's critics and peers refused to look through his telescope to see for themselves what the great astronomer was getting excited about, numerous positivists today hesitate to credit research approaches that do not follow the hypothesis-driven, deductive, and all together more "precise" and "logical" quantitative analysis of research data. Lincoln and Guba (1985:30) summarize the differences between positivism and postpositivism thus:

> Where positivism is concerned with surface events or appearances, [postpositivism] takes a deeper look. Where positivism is atomistic, [postpositivism] is structural. Where positivism establishes meaning operationally, [postpositivism] establishes meaning inferentially. Where positivism sees its central purpose to be prediction, [postpositivism] is concerned with understanding. Finally, where positivism is deterministic and bent on certainty, postpositivism is probabilistic and speculative.

Social science is defined under positivism as "an organized method for combining deductive logic with precise empirical observations of individual behaviour in order to discover and confirm a set of probabilistic causal laws that can be used to predict general patterns of human activity" (Neuman 1994:58). The positivist social scientist / researcher is expected to remain "detached, neutral, and objective as [s/]he measures aspects of social life, examines evidence, and replicates the research of others. These processes lead to an empirical foundation for the laws that govern social life outlined in theory" (Neuman 1994:61). There is a tendency among positivists to employ quantitative methods. Quantification, however, is not synonymous with positivism. Whereas the positivist approach is more likely to be operationalized using quantitative methods, engaging in quantitative research does not necessarily mean that the researcher is positivist (Palys 1997:13).

An important aspect of the postpositivist approach is the emphasis on "the systematic analysis of socially meaningful action through the direct detailed observation of people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds" (Neuman 1994:62). Such systematic analysis is perhaps best facilitated through mixing methods of inquiry. "Mixed-method evaluation" (Greene and Caracelli 1996) is often employed by postpositivists / interpretivists to conduct research in different paradigms utilizing quantitative and qualitative methods (cf. Lincoln and Guba 1985; Creswell 1994). According to Greene and Caracelli (1996), "[t]he underlying premise of mixed-method inquiry is that each paradigm offers a meaningful and legitimate way of knowing and understanding. The rationale for mixed-method inquiry is to understand more fully, to generate deeper and broader insights, [and]

to develop important knowledge claims that respect a wider range of interests and perspectives [paradigms]" (p.7). Part of respecting a wider range of paradigms is to first recognize that they do exist. The researcher's stance vis-à-vis these different paradigms must then be made abundantly clear in the description of the approach taken to carry out the research. Greene and Caracelli (1996) identify three stances on "mixing paradigms while mixing methods in evaluative inquiry" (p.8-11):

Purism: Paradigms cannot be mixed because they "embody fundamentally different and incompatible assumptions about human nature, the world, the nature of knowledge claims, and what it is possible to know. ….[T]hese assumptions form an interconnected whole that cannot be meaningfully divided".

Pragmatism: Philosophical differences between paradigms are based on logically independent assumptions which "may be mixed and matched, in conjunction with choices about methods, to achieve the combination most appropriate for a given inquiry problem. …[T]hese paradigm differences do not really matter very much to the practice of social inquiry, because paradigms are best viewed as descriptions of, not prescriptions for, research practice. … [W]hat will work best is often a combination of different methods". Patton (1980) is quoted by Lincoln et al. (1985) as suggesting that pragmatists employ both qualitative and quantitative methods moving between the induction-deduction / context specificity-generalizability dimensions. According to Patton, pragmatists describe different research paradigms in order to highlight how disciplines could impose constraints on research. Recognizing the discipline / research paradigm relationship allows the pragmatists to be free of the "bonds of allegiance to a single paradigm" (Lincoln and Guba 1985:9). Paradigms by definition represent sets of ideas about ideals. In practice however, "there is a lot of real world space between the ideal-typical endpoints of paradigmic conceptualization" (Patton 1980:113). Pragmatists draw on diverse methodologies without attempting to reconcile or resolve differences between often irreconcilable assumptions of different paradigms (Greene and Caracelli 1996:9)

Dialectism: The differences that exist between paradigms are very important and cannot be ignored or reconciled. These differences "must be honored in ways that maintain the integrity of the disparate paradigms. …..[S]ocial issues are vastly complex and thus require both an 'analytic' and a 'systemic' approach to inquiry, used complementarily across studies for a more complete understanding" (Greene and Caracelli 1996:8). The proponents of the dialectical position promote using qualitative and quantitative methods "in an integrative manner to generate more comprehensive, insightful, and logical results than either [method] could obtain alone. The rationale for mixing methods in this stance is to understand more fully by generating new insights, in contrast to the pragmatic rationale of understanding more fully by being situationally responsive and relevant" (Greene and Caracelli 1996:10). The dialectical position holds that "paradigm differences are important, …it is through a synthesis across different method types that richer and more accurate understandings emerge" (Melvin, Feller and Button 1996:47). Utilizing both quantitative and qualitative methods, dialectical inquiry often involves "weaving back and forth" or "shifting frames of reference" (Greene and Caracelli 1996:10) between (qualitative) observation, hypothesis, (quantitative) testing of hypothesis, and revisiting

qualitative data to interweave "facts" (based on hypothesis testing) with actual evidence (further observation).

Table 5, adapted from Neuman (1994:75) summarizes the implications for social research of the pragmatic and dialectical positions. For consistency of argument, Neuman's original column headings of "interpretive social science" and "critical social science" have been changed to "pragmatic approach" and "dialectical approach", respectively.

Table 5. Two Approaches to Social Inquiry

Aspect of Inquiry	Pragmatic Approach	Dialectical Approach
Reason for research	To understand and describe meaningful social action	To smash myths and empower people to change society radically
Nature of social reality	Fluid definitions of a situation created by human interaction	Conflict-filled and governed by hidden underlying structures
Nature of human beings	Social beings who create meaning and who constantly make sense of their worlds	Creative, adaptive people with unrealized potential, trapped by illusion and exploitation
Role of common sense	Powerful everyday theories used by ordinary people	False beliefs that hide power and objective conditions
Theory looks like	A description of how a group's meaning system is generated and sustained	A critique that reveals true conditions and helps people see the way to a better world
An explanation that is true	Resonates or feels right to those who are being studied	Supplies people with tools needed to change the world
Good evidence	Is embedded in the context of fluid social interactions	Is informed by a theory that unveils illusions
Place for values	Values are an integral part of social life; no group's values are wrong, only different	All science must begin with a value position; some positions are right, some are wrong.

Adapted from Neuman (1994:75)

Despite some fundamental disagreements among the proponents of various approaches to social research, there is reasonable agreement that most actual social research is carried out through developing "hybrid" research designs. Hence, since "most researchers operate primarily within one approach but also combine elements from the others" (Neuman 1994:74), the question of "which" research method to use becomes one of "what" particular mix of methods and how this mix influences research results. In addition to the mix, research design has to take into account issues of practicality (what works best), contextual responsiveness (understanding the demands, opportunities, and constraints of the research situation), and consequentiality (practical consequences of research findings) (Datta 1996:34). "Mixed-method integrated design" (Caracelli and Greene 1996) is essentially a hybrid approach to research design integrating different methods throughout the various stages of conducting research. This approach is contrasted to "mixed-method component design" where the methods "remain distinct throughout the inquiry" and where the mix of methods "is conducted at the end stages of inquiry" (Caracelli and Greene 1996:22).

4.3 Mixed-Method Integrated Designs

In integrated designs, the mix of methods "is conducted at multiple stages of inquiry for purposes of reframing questions, reconstructing instruments, reanalyzing data, or refining interpretations and conclusions" (Caracelli and Greene 1996:22). Verification of findings requires returning to the empirical context to examine "the extent to which the emergent analysis fits the phenomenon and works to explain what has been observed" (Patton 1980:47), a practice consistent with deduction. Thus, in integrated designs methods are mixed "in ways that integrate elements of disparate paradigms and have the potential to produce significantly more insightful, even dialectically transformed, understandings of the phenomenon under investigation" (Caracelli and Greene 1996:23). Two mixed-method integrated designs are discussed here based largely on descriptions provided by Caracelli and Greene (1996: 22-9).

Holistic designs: Different methods are integrated and applied simultaneously. Using programme theory or concept-mapping techniques, a framework can be developed to integrate "disparate methods, meanings, and understanding" at the outset of a study. Methodologies may also be synthesized and integrated at the analysis stage with the intention of retaining the complex, conjoined, and causal explanations of phenomena under study". The broad aim in holistic designs is "to be sensitive to human agency and social processes, as well as to structural processes". Hence, "the approach is holistic, so the cases themselves are not lost, and the approach is analytic, so some generalization is possible" (p.24). Integrated evaluative frameworks based on programme theory are likely to utilize mixed methods including historical analysis, qualitative case study description, secondary data analysis, qualitative document analysis, time series comparisons, comparative analysis, and quasi-experimental comparative pre- and post-analysis (Datta 1996:38). Integrated evaluative frameworks based on concept mapping could involve articulating conceptual clusters that define a collective vision and an organizing framework for the design, implementation, and evaluation of programmes or initiatives based on the collective vision. These clusters provide "the structure for integrating key findings and recommendations across sub-studies or methods" (Caracelli and Greene 1996:28).

Transformative designs: "The emphasis is on mixing the value commitments of different traditions for better representation of multiple interests and the value pluralism of the larger social context. Such designs … offer opportunities for reconfiguring the dialogue across ideological differences and, thus have the potential to restructure the evaluation context. …This type of design appears most frequently in evaluative inquiry featuring participatory, action-research, empowerment approaches" (Caracelli and Greene 1996: 24-5). The intention in transformative designs is to give voice to many diverse interests and to encourage dialogue and deliberation. Data collection and sampling strategies maximize heterogeneity of responses so as to "represent pluralistic interests, voices, and perspectives better and, though this representation, both *to challenge and transform entrenched positions* through the dialogue that the evaluation inquiry foster[s]" (p.29, emphasis added).

Based on the literature review in chapter 3 and the above overview of research methods, the next few sections elaborate on the components of the analytical framework, the adopted research approach, and the application developed for assessing "institutional cohesiveness". The research goal, objectives, methods (for meeting objectives), and the criteria used to develop the interview questions conclude this chapter.

4.4 A Framework for Studying Sustainable Development

This section develops the conceptual framework for conducting this research. This research examines institutional cohesiveness at the regional scale while fully recognizing the embeddedness of the regional within the other (e.g., national, international) scales. Much informative work has been done to align sustainability and national economic policy and development. Some of this work has appeared under the heading of "ecological modernization theory" (see chapter 3) where empirical data has been used to support the position that there is a significant degree of industrial modernization under way in European countries aimed at safeguarding ecological integrity (Janicke and Weidner 1997). This literature also offers in-depth analysis of the policy implications from a United Kingdom perspective at the national (Gouldson and Murphy 1998) and local (Gibbs 2000) scales. Similarly, a significant body of work exists on applications of industrial ecology focusing primarily on the ecological efficiency of firm-level industrial production processes in industrialized regions.

There remains a gap in the literature, however, of investigating the linkages between regional economic development and socio-ecological requirements of sustainable development. This research focuses on formal institutions and their inter-relations so as to generate fresh insights into (and interest in) how inter-relations collectively facilitate, or curtail, operationalization of development policy mandates in general and sustainable development policy mandates in particular.

4.4.1 Research Approach

The main conclusion that should emerge from the above summary of research methods, and the literature review in chapter 3, is that meaningful social research can be undermined if there is exclusive reliance on fixed formulas. Each of the methods or approaches reviewed above is suited to a particular type of research problem and related questions. In addition, the selection of the research method depends on the context of research, the technical ability of the researcher, the researcher's relationships with the research subjects, the political and cultural background of the researcher, the political and cultural context of research, and geographic (size) considerations (Datta 1996; Greene and Caracelli 1996). Based on these considerations, the approach adopted for this research may be described as:

Post-positivist in orientation. This research:

- leans toward being an exploratory (inductive / naturalistic) inquiry;

- relies more on qualitative and less on quantitative data both in observation and analysis stages;
- assumes that it is not possible to fully separate the "observer from the observed"; and
- assumes that the observer's values (based on the mental model and paradigm[s]) have a significant bearing on research results and findings.

Mixed-method and integrated. This research attempts to:

- understand the research subject more fully, generate deeper and broader insights, and to develop knowledge claims that respect a wide range of interests, perspectives, and disciplines.

Dialectical. This research:

- does not attempt to blend into one different philosophical and political positions or apply a single analytical method. Instead, this research has aimed to "give voice" to many diverse interests, encourage dialogue and deliberation, and collect data through strategies that maximize heterogeneity of responses in order to "represent pluralistic interests, voices, and perspectives"; and
- aims to identify tools needed to institute social change by "challenging and transforming entrenched positions through dialogue".

This approach does not stop at "conventional disciplinary boundaries, subordinating intellectual exploration to parochial institutional demands" (Sayer 1999:2). The adopted research approach is post-disciplinary in that it attempts to follow ideas and connections beyond disciplinary boundaries to study a coherent, inter-related group of phenomena. The case study approach (Yin 1994) seemed best suited for conducting this research.

4.4.2 Case Study Research

In a case study the researcher explores a single entity or phenomenon (the case) bounded by time and activity (a programme, event, process, institution, or social group) and collects detailed information by using a variety of data collection procedures during a sustained period of time (Merriam 1988; Cresswell 1994; Yin 1994). Case studies can include a combination of methods (Caracelli and Greene 1996). The case study has been promoted as a research approach that "allows an investigation to retain the holistic and meaningful characteristics of real-life events – such as individual life cycles, organizational and managerial processes, neighbourhood change, international relations, and the maturation of industries" (Yin 1994:3).

Case studies may be exploratory, descriptive, explanatory, or a combination of two or more of these approaches. A case study "is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident" (Yin 1994:12). Inquiries adopting the case study approach are designed to obtain data and verification (triangulation) from multiple sources (Datta 1996; Yin 1994). These sources include

historical analysis (through document reviews, interviews, and studying previous reports), qualitative document analysis and interview, analysis of secondary data, and time-series comparisons (Datta 1996:38). Triangulation requires "converging" these multiple sources of evidence so as to generate the "facts" (Yin 1994:93).

A case study investigation needs to be driven by an "analytic strategy". Yin (1994:102-6) identifies two types of analytic strategy. The first relies on the theoretical propositions that initiate the development of the case study and the related research questions. These questions determine the design of the data collection plan and provide a focus for the research so as to "weed out" less important information and data. The second strategy relies on a descriptive framework to organize the case study. Typically, the descriptive framework is adopted when research questions concern "how / what / why" phenomena occur. This is contrasted with a framework based on theoretical propositions, concerned mainly with "whether or not" phenomena occur. The descriptive framework is best suited for research cases that are complex and not widely documented or researched. Description enables the researcher to identify new needs for gathering data. The data, once organized into new categories, could serve as a new foundation to conduct further research. A descriptive framework is also consistent with the regulationist and institutionalist approaches to research.

Following Jones (1999), the field work for this research consisted of developing a "close dialogue" with key informants who were either:

- directly involved in each Region's policy formulation on sustainable development and delivery of measures to attain it, or
- able to comment (based on their institutional positioning) on either of the two Regions' development policies and plans.

The dialogue was established through *in-depth, semi-structured, and active research interviews* (see appendix). Additional data were collected based on reviews of historical documents and interviews with other "interested parties" including those geographically external to each Region. The data collected through these dialogues were used to describe the institutional inter-relations insofar as they pertained to advancing each Region toward some vision of sustainability. Once described, the inter-relations were discussed in light of the conceptual framework developed for this research.

4.4.3 Application: Assessing Institutional Cohesiveness

To determine whether or not institutional thickness (Amin and Thrift 1994) facilitates or curtails societal "transition" (Rotmans, Kemp, and van Asselt 2001), one needs to gain appreciation of the "cohesiveness", or the dynamics of change in institutional thickness, of institutional inter-relations. This research examines whether and how sustainable development, or theme(s) thereof, is institutionalized in a regional (municipality) context. The literature on learning regions, institutionalism, regulation theory, and implementation analysis were drawn upon to develop the concept of "institutional cohesiveness". The case studies for investigating institutional cohesiveness were the Regional Municipality of Waterloo and the Regional Municipality of Hamilton-Wentworth. The research was

concerned with whether, and how, the dynamics of institutional inter-relations facilitated (or curtailed) attaining sustainable development at a regional municipality scale over a period of approximately 15 years.

Table 6 provides a comparison of Amin and Thrift's (1994) concept of institutional thickness and its adaptation as institutional cohesiveness for this research. Table 6 also describes how assessing institutional cohesiveness may be operationalized. The contents in the first column from the left, titled "Institutional thickness description", are transcribed directly from Amin and Thrift (1994). The middle column is the adaptation for this research of Amin et al.'s original concept. The last column, titled "Operationalization method", describes how in specific terms assessing institutional cohesiveness could be operationalized. The limitations of the research strategy and the adopted methodology for operationalization are discussed after a description of the research goal, objectives, and methods. The interview questions appear in the appendix section.

Table 6. Assessing Institutional Cohesiveness

Institutional Thickness *	Institutional Cohesiveness	Operationalization Method
A plethora of institutions of different kind including firms, financial institutions, local chambers of commerce, training agencies, trade associations, local authorities, development agencies, innovation centres, clerical bodies, unions, government agencies providing premises, land, and infrastructure, business service organizations, and marketing boards. All or some of these institutions provide a basis for the growth of particular local practices and collective representations.	"a plethora of institutions…." is the foundation for locally driven sustainable development initiatives. These institutions all strive for sustainable development based on some formal vision of socio-economic and ecological well-being. The plethora includes: ➢ government (departments and agencies); ➢ large firms (locally owned and/or transnational branch); ➢ industry peak organizations (sector and other); ➢ business networks (innovation, technology and information transfer); ➢ chambers of commerce; ➢ farmers associations; ➢ community / citizens' forums and networks; ➢ national unions (local branches); ➢ learning institutions (boards of education or equivalent for schools, colleges, and universities); ➢ financial institutions (banks, credit unions, insurance companies) ➢ religious peak organizations; ➢ mass media. There are formal and informal forums through which these institutions collaborate on articulating and enforcing codes of conduct and behaviour consistent with attaining sustainable development.	➢ define selection criteria; ** ➢ select a set of local institutions; ** ➢ review selected institutions' historical role / mandates; ➢ highlight changes in role / mandate since first issuance of *ROPP* and *Vision 2020*; ➢ interview key personnel from each institution to assess the frequency and depth of relations (including number and types of joint ventures) with other institutions; ➢ verify data collected through subsequent interviews; ➢ map each Region's institutional topography

high levels of interaction among the institutions in a local area. The institutions involved are actively engaged and conscious of each other, displaying high levels of contact, cooperation, and information interchange ultimately leading to "a degree of isomorphism".	Institutions are linked through regular formal and informal contact based on mutual interdependence (based on a vision of sustainability and/or other interests) and trust.
	
	A significant consideration in these interactions is how to stay on course in meeting collectively defined sustainable development objectives.
		➢ Document how these institutions are linked through
		  ➢ structure, e.g., division, branch, etc.;
		  ➢ other formal links;
		  ➢ informal links;
		➢ Document how frequently these links are utilized
		➢ Document how often sustainability related issues are discussed in these interactions.

* From Amin and Thrift (1994: 14-15)

** An institution is defined as "a way of thought or action of some prevalence and permanence, which is embedded in the habits of a group or the customs of a people. ….Institutions fix the confines of and impose form upon the activities of human beings" (Hamilton, 1932:84). Key informants approached all had association with institutions that identified with a vision of sustainable development.

Table 6. Assessing Institutional Cohesiveness (Continued)

Institutional Thickness *	Institutional Cohesiveness	Operationalization Method
Sharply defined structures of domination and/or patterns of coalition resulting in the collective representation of what are normally sectional and individual interests and serving to socialize costs or to control rogue behaviour.	There is a discernible or a clearly defined pecking order reinforced through structural arrangements and/or market positioning and/or the legal framework. The regulatory framework is aimed at steering economic activity toward some vision of sustainability. Regulations are consistently and evenly enforced. Economic development decisions are assessed against social and ecological sustainability requirements.	Identify and document: ➢ formal and informal relationships between local institutions and other provincial, national, or international institutions; ➢ the "pecking order" or hierarchy of these relationships; ➢ the existence of mechanisms and resources to enforce regulations equally among area municipalities and their constituent institutions; ➢ evidence of social and ecological sustainability assessment of economic development decisions / strategies.
Awareness of involvement in a common enterprise manifested in "no more than a loosely defined script" although more formal agendas reinforced by other sources of identity, most especially various forms of socio-cultural identification, are possible.	A common vision, e.g., *ROPP* or *Vision 2020*, precedes and drives the region's (and its institutions') activities to attain social, ecological, and economic sustainability. The vision is publicized widely through various means, e.g., education (curriculum development), advertising, community fairs and public events, awards, dialogue with local institutions and organizations, etc.	Evaluate *ROPP*'s and *Vision 2020*'s abilities to facilitate / reinforce institutional configuration appropriate to attaining sustainable development within each Region. Establish: ➢ how widely known *ROPP* and *Vision 2020* are to each Region's institutions and other interested parties; ➢ whether or not there have been any attempts to gauge the level of awareness about *ROPP* and *Vision 2020* within their respective Regions; ➢ what demonstrable changes have occurred between / within each Region's institutions since the first issuance of *ROPP* and *Vision 2020*.

4.5 Research Goal

The goal for this research is to:

- examine how institutional inter-relations shape the outcome of plans to meet policy objectives on sustainable development at the local (municipality) scale

4.5.1 Research Objectives

To attain the research goal, this thesis

- develops a framework to assess institutional cohesiveness;
- develops research tools and applies the research framework to empirical cases;
- articulates and elaborates on the implications of the findings for
    - policy and action; and
    - future research.

4.5.2 Research Methods

Steps taken to meet the research objectives are as follows:

- review literature on regional studies (focusing on "learning regions"), "institutionalism" and institutional / evolutionary economics, ecological modernization theory, regulation theory, and implementation analysis;
- review secondary data;
- develop analytical framework;
- develop research tool to conduct field study;
- collect and analyze field and secondary data; and
- generate findings and elaborate on implications.

The criteria for examining "institutional cohesiveness" are drawn from Amin and Thrift (1994). A set of interview questions were developed for gathering field data through semi-formal, in-depth interviews with key informants to gain insights into how the two Regional Municipalities of Waterloo and Hamilton-Wentworth had faired in meeting commitments to sustainable development. To account for the larger context, key informants external to the two Regions were also interviewed. The interview methodology is based on criteria used by Burchell and Wilkinson (1997), Gertler and Rutherford (1993), Glasmeier et al. (1998), Jokinen and Koskinen (1998), and Knoepfel and Kissling-Näf (1998). These criteria are described and matched to interview questions in table 8 at the end of this chapter.

4.5.3 Limitations

The links between the capitalist system of production and consumption and the larger ecological context are increasingly becoming "institutionalized" in the policy and

discourse domains, explicitly in most developed nations of the north and perhaps less explicitly in the developing nations. The main thrust of the argument in this thesis is that the regulatory role of the ecological limits to economic growth has to become explicit in the analyses of the political economy, particularly those that question the unsustainability of the status quo. This thesis does not prescribe a set of moral values or ethics that better serve the ecosystems and their inhabitants though such values and ethics bear heavily on its evaluative framework.

Sustainable development is not a single scale problematic, i.e., local, national, international, or global. The complexities of sustainable development are only fully illuminated when the inquiry adopts a multi-scale, multi-system, and integrated approach to reveal the "who/why" questions. It is not possible for the inquirer to remain equally focused on all scales and all systems all of the time. Given the multiplicity of scales and systems and the complexities of interconnectedness and interdependencies, the scope of inquiry has to be carefully and clearly defined, with a particular emphasis on what is not being incorporated into the scope of study. Following this general line of reasoning, this research adopted the regional municipality as the scale and "the institution" as the unit of analysis, fully recognizing that there would be little or no possibility of making generalizations about how municipalities should pursue sustainability given scalar and systems-related complexities. Other significant limitations of this research may be summarized as follow.

1. This research adopted the regional municipality as the area of study. The two selected municipalities are located in southwestern Ontario, a highly industrialized, densely populated, and institutionally diversified region by Canadian standards. The rationale for this choice was the expectation that industrialized municipalities are likely to have similar institutional infrastructures hence allowing a wider base of interviewees and some preliminary comparisons.

2. The boundary for the area of study (regional municipality) was delineated by political jurisdiction. This choice of boundary was made because gathering data from agencies accountable to one regional government seemed a relatively easy task. However, the arbitrary confinement by political jurisdictions of the scope of inquiry runs the risk of overlooking the importance of bioregions or watersheds, for example, in studies of sustainability.

3. Hamilton-Wentworth was selected because while it existed (until December 2000), it was recognized as "a model" Agenda 21 community for pursuing sustainability initiatives by such international bodies as the United Nations and the International Council for Local Environmental Initiatives (ICLEI), and national institutions such as the Federation of Canadian Municipalities (FCM). The model status of the Hamilton-Wentworth Municipality, while valuable for comparative data analysis, renders Hamilton-Wentworth an exception rather than a "representative" example of what could be found in numerous other Canadian regional municipalities.

4. Close proximity to the sources of information was a main factor in determining the geographical location of each case study. At the time of conducting this research, I lived in the Region of Waterloo and was able to conveniently commute to Hamilton-Wentworth, and Toronto and Ottawa (for extra-regional informant interviews).

5. The key informants were drawn from mainly formal institutions. Insights into less tangible forms of institution, i.e., customs, history, culture, and so on were gained only through observations by the key informants. While the limited scope of this research did not warrant more in-depth study of the informal institutions, there is recognition that institutional thickness / cohesiveness is in part constituted by informal, intangible forms of institution.

6. All interviewees were key informants and selected from personal contacts, referrals by other key informants, or identified through making direct enquiries at selected institutions. Despite attempts to gain comparable distributions of key informants from the three domains (the two regional municipalities and "external"), the spread of interviewees in terms of host institutions is more skewed in the case of Hamilton-Wentworth. This skew occurred in part because of the unavailability of some key informants in the Hamilton-Wentworth Region. (see figure 1)

7. The quantified findings of this primarily qualitative research are based on a relatively low number of interviewees (N=56). It was not possible to meaningfully determine the statistical significance of some of the findings. The results might have been different if 100 or 500 interviews were conducted. Given the objectives of this research project, and the time and resource limitations, priority was given to in-depth individual interviews in place of breadth in the number of individuals interviewed.

8. The key informants came primarily from outside the private sector. The findings from this research might have been more centred on the private sector concerns vis-à-vis sustainability had there been a higher number of key informants from this sector among the key informants.

The projected break down of key informers was 20 from institutions outside the two case studies and 25 in each case study. A total of 70 key informers from a diverse range of institutions were approached for interviews. The actual breakdown by institution of the 56 respondents is as follows: external=17, Hamilton-Wentworth=17, and Waterloo=22. In designing the interview questions, efforts were made to move away from specific policy items, e.g., transportation, welfare/income, housing, and "environmental" projects such as water and energy conservation or remediation programmes, in order to focus on the dynamics of institutional interrelations that influence such policies. Interviews were no longer attempted when it was felt that no new data were being collected and that new data would only add, in a minor way, to the many variations of major patterns (Strauss and Corbin 1998). There were, of course, other constraints in conducting these interviews. On average interviews lasted about 60 minutes each, requiring at least four

times that time (240 minutes) for transcription plus time for analysis and write-up. This was in addition to the analysis of the field notes and the review, synthesis, and analysis of background documents.

4.6 Operationalization

Institutional cohesiveness occurs when "a plethora of institutions" subscribe to a collective vision (sustainable development in the case of this research) to pursue common objectives through strengthened, strategy driven inter-relations (see chapter 3 for elaboration). The plethora includes:

- government (departments and agencies);
- large firms (locally owned and/or transnational branch);
- industry peak organizations (sector and other);
- business networks (innovation, technology and information transfer);
- chambers of commerce;
- farmers associations;
- community / citizens' forums and networks;
- national unions (local branches);
- learning institutions (boards of education or equivalent for schools, colleges, and universities);
- financial institutions (banks, credit unions, insurance companies)
- religious peak organizations;
- mass media.

The following conditions underlie institutional cohesiveness:

- Inter-relations occur formally and informally and are driven by collaboration on articulating and enforcing codes of conduct and behaviour consistent with attaining sustainable development. The formal and informal inter-relations are based on mutual interdependence (based on a vision of sustainability and/or other interests) and trust. A significant characteristic of these inter-relations is concern regarding how to stay on course in meeting collectively defined sustainable development objectives.
- A common vision, such as an Official Plan, precedes and drives the Region's (and its institutions') activities to attain social, ecological, and economic sustainability. The vision is publicized widely through various means such as education (curriculum development), advertising, community fairs and public events, awards, dialogue with local institutions and organizations, and so forth.
- There is discernible or a clearly defined pecking order reinforced through structural arrangements, market positioning, and/or the legal framework. The policy and regulatory frameworks are focused on steering economic activity toward some vision of sustainability. Policies and regulations on sustainability are consistently and evenly followed through and enforced. As such, economic development decisions are assessed against social and ecological sustainability requirements.

The first operationalization task was to define the criteria for selecting key informants. Key individuals (informants) were approached in all of the above formal institutions. Responses to the request for interview were uneven and, in the case of Hamilton-Wentworth, skewed: a high proportion of those interviewed from Hamilton-Wentworth came from government institutions. This did not present a serious problem in terms of the findings since the intention for this research was not to have full, formal "representation" from these institutions. Data collected through semi-formal, in-depth interviews might have been richer, however, had all key individuals agreed to interviews. Figure 1 shows the breakdown of institutional affiliation(s) of the key informants. The number of affiliations are higher than the number of interviewees because some interviewees had more than one affiliation.

Figure 1. Institutional Affiliation(s) of Interviewees by Jurisdiction
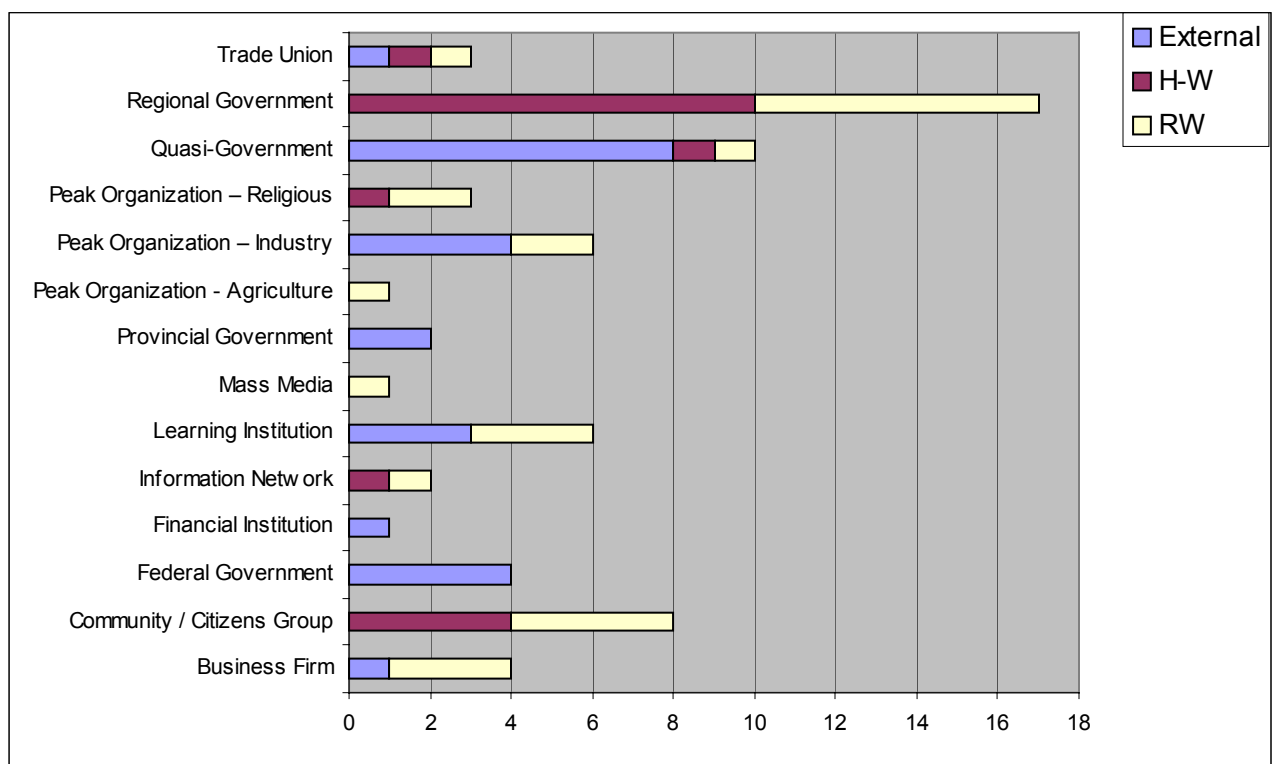
Total number of affiliations = 68; Total number of interviewees = 56

The second task was to devise a system of coding to organize the interview data and allow the reader to identify each key informant's main institutional association while ensuring the anonymity of the key informants. The codes used to identify key informant comments are based on the keys in table 7. For example the code "EX-14-PO-I" refers to a key informant EXternal to both Regions, who was the 14th key informant to be interviewed, and had a main institutional association with an Industrial Peak Organization. Similarly, "EX-3-FG" refers to a key informant from outside the two Regions, associated with the federal government, and the third interviewee to be interviewed for this project.

In operationalizing the conceptual framework of this research, I looked for the most tangible manifestations of "institution".[58] My intent in doing this research was to determine whether or not the inter-relations between these formal institutions represented a cohesive set of rules, or understanding, that facilitated or curtailed the attainment of sustainability. Less tangible manifestations of institution such as culture, history, and customs though important as contexts for the observations by the interviewees, were not directly explored as they lay beyond the scope of this research. The cultural-historical importance of the Menonite community in Waterloo and of the steel industry in Hamilton and surrounding areas, for example, are likely to have played quite important roles in defining the characteristics of these two regions, the formation of locally specific customs and traditions, and the opinions of and the observations made by the interviewees. However, the 10-15 year period of study for this research was not sufficiently long to study the evolution of institutions, both tangible and intangible, in the two regional domains. In addition, given the immediacy and the policy focus of this research, it was necessary to place the emphasis on formal institutions. And given the focus on the policy aspects and implications of sustainability, the majority of the key informants were drawn from government and quasi-government organizations. I had known some of the key informants in the three research domains (Hamilton-Wentworth, Waterloo, and "External") for sometime prior to starting the fieldwork. Additional informants were added to the list of interviewees based on suggestions by the original key informants or as identified through investigation.

Table 7. Jurisdiction and Institution Keys

<u>Jurisdiction</u>	<u>Institution Type</u>	
HW = Hamilton-Wentworth **RW** = Waterloo **EX** = External to both Regions	**BF** = Business Firm **CG** = Community / Citizens Group **FG** = Federal Government **FI** = Financial Institution **IN** = Information Network **LI** = Learning Institution **MM** = Mass Media	**PG** = Provincial Government **PO-A** = Peak Organization – Agriculture **PO-I** = Peak Organization – Industry **PO-R** = Peak Organization – Religious **QG** = Quasi-Government **RG** = Regional Government **TU** = Trade Union

The key informants were drawn from government and quasi-government organizations, community / citizens groups, information networks, local firms, learning institutions, mass media, peak organizations, and trade unions. Every attempt was made to achieve comparable presence by institutions in the final list of informants. Inevitably, there were difficulties in gaining access to some key informants due to time constraints and / or lack of cooperative spirit. Some potential key informants did not see much value in partaking in an academic project when they had "tonnes of real work" to do while some others took exception to the (apparently) critical approach of this research. My personal contacts in the Region of Waterloo come from a reasonably diverse institutional base. By far the

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[58] As the unit of analysis, the institution is defined as various rule systems which occur in sets, e.g. constitutional rule systems for society, collective choice rules governing different kinds of organizations, and operational rules of organizations. Rules may be formal or informal, and they may be actively used, or remain buried in statute books or long forgotten customs (Francis 2001). The questions then are whether or not the rules "in use" are a coherent set, or some mix of contradictions, capable or incapable of fostering the development of the "new" economy or sustainable development in some large sense.

hardest institution to break into in this domain was the regional government where workload, lack of interest, and in one case hostility seemed to characterize responses to my requests for interviews.

In contrast, Hamilton-Wentworth regional government officials demonstrated a keen interest in being interviewed. The majority of the interviewees in Hamilton-Wentworth came from the regional government and seemed willing and even anxious to talk about their involvement in developing Vision 2020 and the subsequent implementation attempts. Disappointingly, there was little interest in this project by key industrial players, learning institutions, mass media, or peak organizations from Hamilton-Wentworth. Because every interviewee was a key informant, the high number of interviewees from government institutions was not deemed to significantly skew or affect the quality of the data collected. Nevertheless, a richer picture might have emerged had all the key informants agreed to be interviewed.

To provide a richer context, the external domain was added to the scope of this research because of the undeniable links between the local and extra-local scales. As a result, the key informants list has a reasonable mix of institutions external to the case study regions. Key informants external to the two case studies were identified through personal contacts and a "snowballing" exercise. Attempts to interview key informants from mass media in this domain were unsuccessful.

4.7 Interview Questionnaire Criteria

This research is an examination of institutional inter-relations in two Regional Municipalities committed to attaining sustainable development. In-depth, semi-formal interviews were conducted to gather empirical data on the following:

- The factors that facilitate or curtail instituting a "sustainable regional community" within each Region.
- The barriers that may have impeded institutional efforts to fulfill each Regional Municipality's vision of sustainability.
- Lessons from the experiences of Waterloo and Hamilton-Wentworth in how to move away from "unsustainability".
- The policy and future research implications of the Waterloo / Hamilton-Wentworth experiences vis-à-vis sustainability.

The fieldwork focused on collecting individual "stories" from the main actors / key informers. In designing the interview questions, conscious efforts were made to move away from specifics (housing or transportation policy, for example) in order to paint the larger picture. A rudimentary appreciation of "systems" thinking forces admission that no region can become truly sustainable, in Hawken's (1993) sense whereby everything is related to and flows into everything, in isolation from other "regions" or "communities" in the broadest interpretation of these terms. It is also important to note that no attempt was made to analyze interviewee responses based on gender, occupation, cultural and ethnic backgrounds, or ideological and religious beliefs. As important as these factors are

Table 8. Matching Research Criteria and Interview Questions

Criterion	Question Number(s)	Type of information collected
Profile the institution	1, 2	Date founded / Reasons for founding / Types of activity / Sources of funding and other support / Number of members or employees
Institution's internal relations	3, 4, 5	Accountability mechanisms / Feedback
Informant's awareness of "sustainability"	6	Individual perceptions or expectations
Informant's assessment of "own" region	7	Approximation of region's "sustainability"
Informant's assessment of "own" region's activities	8	Approximation of region's development course vis-à-vis "sustainability"
Institution's formal commitment to "sustainability"	9, 10	Existence of policy, norms, vision / mission statements
Physical evidence of environmental responsibility	11	In-house system to manage environmental aspects
Informant's awareness of regional "sustainability" goals	12	Awareness of Official Policy statement or other evidence of knowledge
Awareness of impacts of regional "sustainability" goals on informant's institution's activities / functions	13	Evidence of changes in functions / activities of institution
Relations between institutions	14	Inventory of types of relations between institutions
Cross-scale relations	15	Inventory of levels of institutional interrelations
Source and type of "sustainability" information	16	Inventory of sources and media through which "sustainability" information is diffused within each institution
Assessment of information sources	17	Ranking by informant of credibility, relevance, and availability of such information
Characterization of institution's external activities	18, 19, 20, 21	Evidence / examples of activities / functions facilitating inter-institutional cooperation Evidence / examples of activities / functions promoting regional "sustainability" initiatives Level of importance attached to "sustainability" activities / functions Assessment of success in "sustainability" activities / functions
Barriers to institution's "sustainability" endeavours	22	List of barriers and elaboration
Local (physical) benefits of institution's operations	23	Evidence of local procurement / other policies to support local infrastructure / economy
Informant's "wish list" – own institution	24	List of potential new roles informant's institution could play in support of "sustainability"
Barriers to informant's "wish list"	25	Barriers to each potential role identified
Informant's "wish list" – other institutions	26	List of potential new roles other institutions could play in support of "sustainability"
"Movers and shakers" according to informant	27	List of most important institutions that could contribute to region's "sustainability" efforts
Suitability of region's natural, industrial, and institutional make-up for "sustainability"	28	Ranking (and elaborating on) overall suitability of region
Additional information	29	Anything informant feels should be taken into account in conducting this research

in shaping individual opinions and actions in relation to sustainable development, they could not be examined in this research because of the focus on institutional inter-relations, policy formation and implementation, and perceptions of what is and should be sustainable development. The list of questions used in the semi-formal interviews served as a guide to collect information from key informants drawn from formal institutions, who on occasion provided much more information than was solicited. Table 8 matches the criteria used for developing the interview tool with the questions and the type of information collected.

The interviews took place between December 2000 and July 2001 (refer to table 10 for exact interview dates). QSR Nudist Vivo textual analysis software was used to analyze the transcribed interviews and develop a total of 17 "Nodes", or data categories. The subsequent analysis of the data categories in light of the literature review (chapter 3) and an analysis of secondary data (chapters 2 and 5) generated the themes that constituted the subsections in chapter 6. These are "perceptions of sustainability", "misplaced convictions", "conflicting interests and competing agendas", "discourse in policy development and implementation", "institutional inter-relations and partisan politics", "regional specificities", and "complexity of scale". Similarly, the subsections in chapter 7 arose from the themes that emerged from the analysis of the 17 data categories. These are "barriers to sustainable development", "strategic implications of regional sustainability", and "institutional implications of regional sustainability".

4.8 Meeting Research Objectives

Table 6 summarizes how institutional cohesiveness was intended to be examined in this research. Table 9 below shows whether and how the operationalization objectives were met. Future research might focus more on comparing institutional cohesiveness from a wide range of regional municipalities, provinces/states, or countries to generate comparisons on the quality of inter-relations. Future research could also focus on interviewee responses based on gender, occupation, cultural and ethnic backgrounds, history, or ideological and religious beliefs since these factors collectively play an instrumental role in forming individual opinions about and actions on sustainability.

Table 9. Meeting Research Objectives

Operationalization Objective (from Table 6)	Whether and How Objective Met [Cross-referenced to interview question(s)]
1. define selection criteria; 2. select a set of local institutions; 3. review selected institutions' historical role / mandates; 4. highlight changes in role / mandate since first issuance of policy on sustainability; 5. interview key personnel from each institution to assess the frequency and depth of relations with other institutions; 6. verify data collected through subsequent interviews; 7. map each Region's institutional topography	1, 2: Formal institutions were approached to draw out key informants as interviewees. Each of these institutions either has a formal policy on sustainable development or is directly involved in sustainability initiatives (qns. 1, 2). 3: Documents and reports were obtained (and reviewed) from all institutions that made them available. 4: No significant finding emerged from the responses (qn. 5). 5: Inter-relations and frequency of information exchange were generally not a problem. Quality of the information did present a significant problem, however (qns 3, 4, 5). 6: The intent was to organize a forum to discuss findings with the attending participants. This forum did not take place. 7: Since all interviewees were key informants, it was not deemed necessary to compile an exhaustive list of institutions in each Region.

1. Document how these institutions are linked through
    a. structure, e.g., division, branch, etc.;
    b. other formal links;
    c. informal links;
2. Document how frequently these links are utilized
3. Document how often sustainability related issues are discussed in these interactions.
	1, 2: Linkages among institutions studied are discussed in chapters 4, 5, and 6. Formal and informal links and their utilization frequencies were not analyzed (qns. 14, 15).
	3: It was not possible to get a sense of frequency for this type of interaction (qn. 16). More specific questions will need to be responded to by more key informants from each institution to gain suitable data.

Identify and document: 1. formal and informal relationships between local institutions and other provincial, national, or international institutions; 2. the "pecking order" or hierarchy of these relationships; 3. the existence of mechanisms and resources to enforce regulations equally among area municipalities and their constituent institutions; 4. evidence of assessing economic development decisions / strategies for sustainability.	1: It was not possible to collect reliable data based on the responses to questions 14, 15, and 16. 2: "Movers and shakers" were induced from responses to questions 17, 26, 27, and 29. 3: Barriers to effective institutional inter-relations are identified and discussed in chapter 7 (all qns.). 4: Evidence is highlighted and discussed based on primary data (all qns.) in chapters 6 and 7 and secondary data in chapter 5, section 5.5.
Evaluate *ROPP*'s and *Vision 2020*'s abilities to facilitate / reinforce institutional configuration appropriate to attaining sustainable development within each Region. Establish: 1. how widely known *ROPP* and *Vision 2020* are to each Region's institutions and other interested parties; 2. whether or not there have been any attempts to gauge the level of awareness about *ROPP* and *Vision 2020* within their respective Regions; 3. what changes have occurred between / within each Region's institutions since the first issuance of *ROPP* and *Vision 2020*.	1: This finding is not fully reported (qns 12). See footnote 63. 2: Interviewees were not asked questions regarding this point. 3: The analysis of responses to question 13 revealed little useful insights due to lack of detail in the responses received. More in-depth, time-sensitive questions will likely reveal more details for the analysis called for here.

Table 10. Interviewee Codes and Interview Dates

Interviewee Code	Date Interviewed	Interviewee Code	Date interviewed
EX-1-FI	Apr 18, 2001	HW-29-CG	Apr 17, 2001
EX-2-LI	Apr 24, 2001	HW-30-RG	Jan 15, 2001
EX-3-FG	Feb 19, 2001	HW-31-RG	Feb 5, 2001
EX-4-FG	Apr 10, 2001	HW-32-RG	Feb 5, 2001
EX-5-FG	May 1, 2001	HW-33-RG	Feb 5, 2001
EX-6-QG	May 1, 2001	RW-34-IN	Jan 22, 2001
EX-7-QG	May 1, 2001	RW-35-QG	Jan 24, 2001
EX-8-QG	May 1, 2001	RW-36-RG	Dec 19, 2000
EX-9-QG	Jul 6, 2001	RW-37-RG	Jan 16, 2001
EX-10-FG	Apr 10, 2001	RW-38-CG	Mar 12, 2001
EX-11-QG	Apr 10, 2001	EX-39-PO-I	Apr 11, 2001
EX-12-QG	Apr 10, 2001	RW-40-QG	Apr 11, 2001
EX-13-QG	Dec 13, 2000	RW-41-LI	Aug 14, 2001
EX-14-PO-I	Jan 23, 2001	RW-42-RG	Mar 11, 2001
EX-15-PO-I	Feb 19, 2001	RW-43-RG	Apr 5, 2001
EX-16-TU	May 8, 2001	RW-44-RG	Mar 5, 2001
EX-17-QG	Jan 18, 2001	RW-45-RG	Apr 20, 2001
EX-18-PG	Jan 17, 2001	RW-46-RG	Feb 22, 2001
EX-19-TU	Apr 25, 2001	RW-47-PO-A	Feb 26, 2001
HW-20-CG	Dec 18, 2000	RW-48-CG	Mar 30, 2001
HW-21-RG	Dec 19, 2000	RW-49-CG	Apr 6, 2001
HW-22-RG	Dec 14, 2000	RW-50-LI	Feb 28, 2001
HW-23-RG	Jan 13, 2001	RW-51-LI	Mar 13, 2001
HW-24-RG	Jan 3, 2001	RW-52-BF	May 3, 2001
HW-25-PO-R	April 3, 2001	RW-53-TU	Apr 30, 2001
HW-26-CG	Mar 16, 2001	RW-54-MM	Apr 24, 2001
HW-27-RG	Feb 5, 2001	RW-55-PO-R	Apr 2, 2001
HW-28-CG	Apr 20, 2001	RW-56-CG	Apr 12, 2001

Chapter 5: Regional Profiles

Vision without action is a daydream. Action without vision is a nightmare
- Japanese proverb.

5.1 Introduction

This chapter lays the foundation for the empirical component of this research. The economic geography of each regional municipality is briefly discussed followed by syntheses of the Region of Waterloo's *Regional Official Policies Plan (1998),* and the Region of Hamilton-Wentworth's *Official Plan (1998).*[59] An evaluation of the regional profiles in light of the broad sustainability principles outlined in chapter 1 (tables 1 and 2) will highlight the differences between the two regional municipalities and explore the potential outcomes of the current economic trajectories. In this chapter attempt has been made to identify and develop linkages that facilitate or curtail a transition from an economic system endowed with endemic social and material inequities that operates despite ecological limits to one that is equitable and compatible with ecosystem integrity. To attain sustainability these linkages must promote quality, cooperation, and conservation at the expense of quantity, competition, and expansion.

5.2 Regional Profiles

The Regional Municipalities of Waterloo and Hamilton-Wentworth are located in southwestern Ontario with adjacent boundaries. Both Regions are slated to undergo faster than average economic growth by Canadian standards, in part because of proximity to the US markets and customers and the density of the population in southwestern Ontario. In the post war years both Regions enjoyed rapid industrial and population growth. This trajectory change in the late 1980s, however. Many industrial firms that had employed generations of families in the two Regions either moved out of the area or went out of business. To profile these two Regions, a period of approximately 20 years (1981 to 2001) was examined to establish where each Region has been, where it is now and where it is projected to go on the current development trajectory. Specifically, the following review focuses on selected characteristics of industrial activity both in terms of their relative importance to the economy and their change over time. Standardized Industrial Codes (SICs) were used to articulate the completeness of the "industrial production system loop" (in an industrial ecology sense) within the Region and to highlight

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[59] Despite a wealth of details on social, economic, and environmental policy and mentions of "healthy" and "sustainable regional communities", as the review of the two Official Policies in this chapter shows, sustainability is implicitly equated with "environment-friendly" regional policy.

significant gaps that will need to be filled for the closure, or near closure, of the system loop.

Figure 2. Southwestern Ontario CMAs
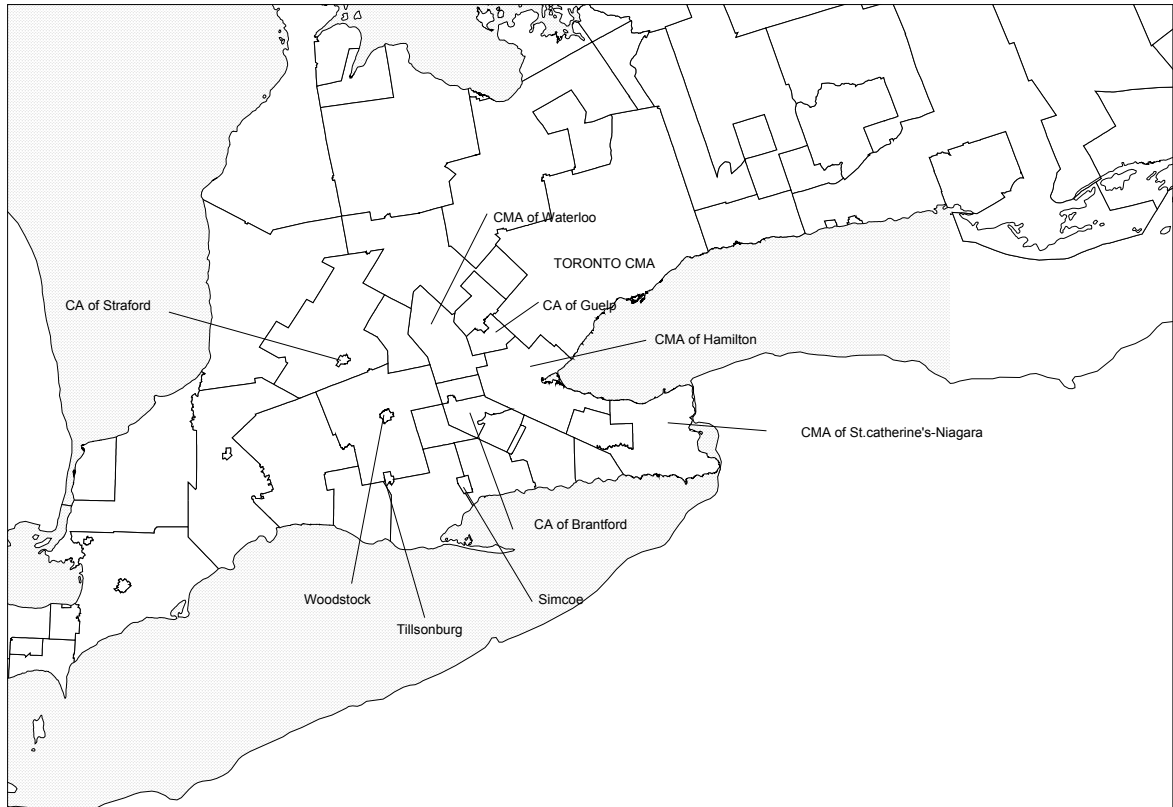
Source: Shearmur (2001)

This profile descriptions and syntheses of the Official Plans are followed by a comparison of economic development trends in the two regions and a discussion of potential economic development trajectories and implications to provide the "structural" background for the analysis of the interview data in chapters 6 and 7.

5.2.1 Region of Waterloo

One of thirteen regional governments in Ontario (in 1998), the Region of Waterloo comprises seven Area Municipalities: Cities of Cambridge, Kitchener, and Waterloo, and Townships of North Dumfries, Wellesley, Wilmot, and Woolwich. The Region enjoys high rates of employment in a diverse economic base, has reputable educational institutions, and is endowed with diverse natural environment, productive agricultural land, and rich aggregate deposits. The Regional Municipality was created in 1973 from the county of Waterloo and a section of the county of Wentworth, organizing fifteen local governments under seven Area Municipalities (Waterloo 1998b). Currently, the Regional

Municipality of Waterloo comprises the Cities of Cambridge, Kitchener, and Waterloo and the Townships of North Dumfries, Wellesley, Wilmot, and Woolwich. The economy is reasonably diverse (table 11) with a skilled labour force. The Region boasts a diverse geographical topography, vast tracts of fertile agricultural land, and rich aggregate deposits (Waterloo 1998a). The population for the Region of Waterloo is projected at approximately 441,000 by the end of 2001 (Waterloo 1998b). Of a total labour force of 221,000 (1996 Census), manufacturing employs the highest number of workers (26%), followed by retail (16%), education (11%), and government services (8%).

5.2.2 Region of Hamilton-Wentworth

Also in southwestern Ontario, the Region of Hamilton-Wentworth is wrapped around Horseshoe Bay on Lake Ontario and shares its northwest boundary with the Region of Waterloo's southeastern boundary. The Region comprised (prior to amalgamation in 2001): Municipalities of Hamilton, Ancaster, Dundas, Flamborough, Glanbrook, and Stoney Creek with a total population of 452,000 (1996 census). Like the Waterloo Region, Hamilton-Wenworth also has a reasonably diverse topography including large tracts of agricultural land, creeks, lakes, waterfalls, and the Niagara Escarpment. Except for the area in and around the City of Hamilton, the land is prime agricultural and very productive (Hamilton-Wentworth 1998a). Industrial activity is confined mainly to the Hamilton area and centred on steel making and related trades (see table 12, below). Of the total labour force of 232,000 (HDRC 2001), manufacturing employs the highest number of workers (20%), followed by retail (17%), education (11%), and government services (11%).

Table 11. Employees and Employers by Sector – Waterloo

Sector	1981		1991		1996	
	%Employees	%Employers	%Employees	%Employers	%Employees	%Employers
Agriculture	1.6	N/Available	1.5	1.2	1.3	3.1
Mining, Forestry, and Trapping	0.1	N/Available	0.2	0.2	0.1	0.2
Manufacturing	36.3	N/Available	25.4	10.9	25.9	11.4
Construction	5.0	N/Available	5.9	13.1	4.7	12.9
Transportation	2.2	N/Available	2.7	2.1	3.0	2.9
Communication and Other Utilities	2.0	N/Available	1.9	0.4	2.0	0.6
Wholesale Trade	0.6	N/Available	1.3	8.4	0.9	8.3
Retail Trade	15.7	N/Available	15.9	14.6	16.1	16.3
Financial, Insurance, and Real Estate	5.8	N/Available	6.8	10.0	6.4	6.8
Business Services	6.2	N/Available	8.7	13.4	10.0	10.9
Accommodation, Food, and Beverages	4.5	N/Available	5.3	5.4	5.5	6.3
Unclassified	3.1	N/Available	4.7	12.1	5.4	12.0
Government Services	3.6	N/Available	4.4	0.1	3.2	0.1
Health and Social Services	3.7	N/Available	4.5	6.9	4.5	7.4
Education	9.5	N/Available	10.8	1.4	11.2	0.7

Table 12. Employees and Employers by Sector – Hamilton-Wentworth

Sector	1981		1991		1996	
	%Employees	%Employers	%Employees	%Employers	%Employees	%Employers
Agriculture	1.7	N/Available	1.6	0.8	1.6	2.3
Mining, Forestry, and Trapping	0.2	N/Available	0.3	0.1	0.2	0.1
Manufacturing	31.8	N/Available	21.5	6.8	19.8	7.3
Construction	5.6	N/Available	5.8	13.0	4.8	13.2
Transportation	3.1	N/Available	3.2	2.2	3.2	2.8
Communication and Other Utilities	2.2	N/Available	2.3	0.7	2.6	0.8
Wholesale Trade	0.6	N/Available	0.8	6.2	0.7	6.6
Retail Trade	15.9	N/Available	16.7	18.3	17.3	17.9
Financial, Insurance, and Real Estate	4.9	N/Available	6.1	9.5	6.0	7.4
Business Services	7.0	N/Available	9.0	9.1	10.5	9.8
Accommodation, Food, and Beverages	4.5	N/Available	5.1	8.4	5.6	7.7
Unclassified	4.3	N/Available	5.0	14.0	5.6	12.8
Government Services	4.0	N/Available	5.4	0.1	3.9	0.1
Health and Social Services	5.6	N/Available	7.0	10.2	7.3	10.4
Education	8.7	N/Available	10.3	0.7	11.0	0.9

Sources: Shearmur (2001) for employee statistics; Statistics Canada (2002) for employer statistics

Table 13. Employees and Employers by Sector – Ontario

Sector	1981		1991		1996	
	%Employees	%Employers	%Employees	%Employers	%Employees	%Employers
Agriculture	3.1	N/Available	2.5	4.2	2.2	3.6
Mining, Forestry, and Trapping	1.2	N/Available	0.9	0.7	0.7	0.7
Manufacturing	23.1	N/Available	16.6	8.0	16.2	7.9
Construction	5.4	N/Available	5.8	13.2	4.8	11.1
Transportation	3.9	N/Available	3.7	2.7	3.6	2.8
Communication and Other Utilities	3.3	N/Available	3.1	0.6	3.2	0.7
Wholesale Trade	0.6	N/Available	0.7	7.4	0.7	7.9
Retail Trade	15.8	N/Available	15.5	16.8	16.4	16.7
Financial, Insurance, and Real Estate	6.0	N/Available	6.6	8.4	6.3	8.0
Business Services	7.9	N/Available	10.6	9.8	11.8	11.6
Accommodation, Food, and Beverages	5.1	N/Available	5.6	7.1	6.0	7.7
Unclassified	4.0	N/Available	5.1	11.9	6.1	11.7
Government Services	7.3	N/Available	8.1	0.6	5.9	0.4
Health and Social Services	5.0	N/Available	5.9	7.7	6.0	8.2
Education	8.2	N/Available	9.4	0.8	10.3	0.9

Table 14. Employees and Employers by Sector – Canada

Sector	1981		1991		1996	
	%Employees	%Employers	%Employees	%Employers	%Employees	%Employers
Agriculture	4.2	N/Available	3.9	6.0	3.2	5.2
Mining, Forestry, and Trapping	2.6	N/Available	2.2	2.4	1.9	2.4
Manufacturing	18.7	N/Available	14.5	6.6	13.7	6.7
Construction	6.1	N/Available	5.9	12.3	5.0	11.1
Transportation	4.8	N/Available	4.5	3.8	4.0	4.1
Communication and Other Utilities	3.3	N/Available	3.2	0.6	3.1	0.7
Wholesale Trade	0.7	N/Available	0.8	7.1	0.8	7.3
Retail Trade	15.8	N/Available	16.1	17.2	16.6	16.3
Financial, Insurance, and Real Estate	5.4	N/Available	6.0	7.3	5.5	7.2
Business Services	7.2	N/Available	9.8	8.8	11.0	10.4
Accommodation, Food, and Beverages	5.2	N/Available	6.1	7.1	6.4	7.5
Unclassified	4.3	N/Available	2.3	11.7	5.7	11.6
Government Services	7.6	N/Available	8.1	1.1	6.1	0.8
Health and Social Services	5.5	N/Available	6.4	7.2	6.3	7.8
Education	8.6	N/Available	10.0	0.9	10.6	1.0

Sources: Shearmur (2001) for employee statistics; Statistics Canada (2002) for employer statistics

The share of jobs in manufacturing in Waterloo in 1996 remained near the low 1991 levels (table 11) whereas Hamilton-Wentworth had suffered additional losses in this sector by 1996 (table 12). Compared to 1991, the percentage of employers in manufacturing increased in both Regions by 1996, perhaps indicating that some of the job losses by larger employers were compensated for by new employment in smaller entities, a development that merits further in-depth investigation beyond the purpose of this research.

In broad terms the four economies depicted in tables 11-14 share similar main trends with some small variations. The consistency of the main trends at the regional scale with the national trends suggests perhaps that the regional trends are results of processes that are also found in other regions. As far as smaller variations, Waterloo Region seems to have fared better than Hamilton-Wentworth, Ontario, and Canada in terms of maintaining, and marginally increasing, its share of manufacturing jobs in 1996, compared to 1991. Also compared to 1991, the share of jobs in transportation fell across Canada and Ontario, remained the same in Hamilton-Wentworth, but marginally increased in Waterloo Region. The share of jobs in 1996 in agriculture remained at the same level as 1991 for Hamilton-Wentworth while dropping for Waterloo Region, Ontario, and Canada. It is difficult to determine with certainty the extent to which ecological modernization has occurred in each economy in part because of the level of aggregation in the data.

It has to be noted that ecological modernization of the economic structure and infrastructure would not necessary or significantly change the overall makeup shown in tables 11-14. The experience of operationalizing ecological modernization principles in some European economies suggests, however, that one could expect to see increases in employment in the public sector (government, education, and social services), agriculture, transportation, and construction as results of systemic changes in the structure of the economy.[60] The remaining sections of this chapter provide summaries of the "Official Plans" for the Regions of Waterloo and Hamilton-Wentworth to set the policy context for the analysis of field data.

5.3 Regional Official Policies Plan (Region of Waterloo) - Synthesis

The 1998 edition of ROPP is an amended version of the original Regional Official Policies Plan, approved in 1976 "after significant public consultation" and further reviewed in 1991 to "address the social, economic, and environmental changes which have occurred since the inception of the Region". ROPP should "reflect changes in public values [and] better integrate land, infrastructure, environmental and social policies, and establish a mechanism to monitor success of key policies". ROPP was devised using "a 'grass roots' public participation, education and community awareness program" consisting of a "Vision Phase" resulting in "Vision Principles", "Policy Directions" to implement the Vision Principles, and drafting and revising policies "based on further public comment" (p.5). ROPP is a product of the Regional Municipality of Waterloo Act

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[60] Though not specifically commenting on ecological modernization (but certainly concerned with environmental well being), Hudson and Weaver (1997:1653) make a similar argument.

and is a public document setting out the Regional Council's policy on "future economic, social, and land use changes within the Region of Waterloo to the year 2016" (p.1). According to the Planning Act and the Regional Municipality of Waterloo Act, public works and municipal by-laws are required to conform to ROPP. Area Municipalities are also required to bring their Official Plans into conformity with ROPP.

ROPP is intended to provide a broad policy framework for maintaining or enhancing the long term physical, agricultural, environmental, social, economic and heritage resources of the region. As such ROPP is concerned with public and private sector decisions regarding immediate and long term land use, servicing, transportation, infrastructure investment, and economic matters in the region. ROPP contains policies to preserve and enhance important natural and cultural resources so as to make the most effective use of our limited resources so that future generations can continue to enjoy them (p.1-2). ROPP is intended to provide a strategic context for infrastructure investment; interpretation and application of Provincial legislation, regulations and policies; and a broad policy framework for Area Municipal Official Plans and their implementing mechanisms (p.3). ROPP consists of four Sections as follow.

5.3.1 Section A – Plan Framework

ROPP claims to be based on a vision of achieving a "Sustainable Regional Community…[defined as] … a community working in harmony with the environment and striving to provide its citizens with safe, prosperous communities through proactive policies and appropriate economic, social and physical growth". To attain this type of growth, ROPP prescribes a balance between the six elements comprising this definition: environmental integrity, planned growth, economic vitality, partnership, public participation, and safe and healthy communities (see table 15 for details).

Table 15. Elements of a Sustainable Regional Community - Waterloo

Environmental Integrity: to maintain and enhance the natural environment in order to protect the life support systems of soil, air and water, conserve the presence of wildlife and plants native to the region, and to strive for the sustainable use of natural resources.
Planned Growth: to proactively plan, co-ordinate and stage the use of land and provision of services in order to efficiently and effectively use the region's resources.
Economic Vitality: to diversify and strengthen the economic base in order to increase jobs and income generated in the region.
Partnerships: to encourage partnerships and co-ordination among Federal and Provincial Ministries, the Region, Area Municipalities, the Grand River Conservation Authority, other government agencies, the private sector, and the community.
Public Participation: to encourage the meaningful participation of a broad cross-section of the regional community in developing and monitoring public policy.
Safe and Healthy Communities: to enhance the well-being and quality of life of the residents of this region, and to recognize that planning is about people at the individual, neighbourhood and community level.

Planning for a Sustainable Regional Community must address:

- protecting and enhancing the environment, and agricultural and other natural resources in a manner that respects ecological processes and sustainability;

- planning for future population change and regional growth in accordance with the principles of a sustainable community;
- providing opportunities for housing which meet the diverse needs of current and future residents throughout the region;
- interpreting Provincial policy statements and guidelines in a regional context;
- promoting and enhancing economic activities which respect the human, physical, and natural resources of [the] community;
- providing for an integrated regional transportation system which balances various modes of transportation including walking, cycling, transit, and automobiles;
- managing water supply, wastewater treatment and waste management to efficiently serve regional households, businesses and industries while minimizing negative environmental impacts;
- improving individual and community well-being and addressing social, health, economic and heritage issues; and
- monitoring change to appropriately adjust policies and actions.

The Region views its role as one of establishing broad policies and providing general direction on how policy goals may be achieved. Specific actions to promote and pursue a Sustainable Regional Community are left to the Area Municipalities, their communities, and local business interests. The Region does however have approval authority delegated from the Province to ensure that "efficient integration of planning and policy interests are achieved in the development approval process" (p.11-12).

5.3.2 Section B – Environmental Stewardship

This section contains the principles and policies concerning the protection of the environmental features and functions of the regional ecosystem, the protection of agricultural lands, the importance of preserving farm viability, the use of natural resources, and the conservation of heritage features. Environmental stewardship is to be achieved through environmental planning, understanding the Region's "natural habitat network", sustainable use of natural resources, and the "conservation of natural and cultural heritage".

Environmental Planning: ROPP identifies watershed planning for drainage basins as "a unique opportunity to understand the characteristics of ground and surface water resources, evaluate interrelated natural habitat, proactively identify appropriate locations for development, and establish measures to prevent adverse impacts upon natural systems [recognizing that] the Region itself is part of a larger natural system" (p.13). Watershed studies and planning could serve as the basis on which to develop co-operation between federal and provincial ministries, the Region, the Area Municipalities, and the Grand River Conservation Authority. The Region has undertaken issuing State of the Environment Reporting "to monitor indicators of environmental health and bring to the attention of government, the business community and the public, their collective responsibilities in ensuring that the environment will sustain future generations" (p.13).

Environmental planning is based on four principles:

- environmental awareness is essential to the development and maintenance of a sustainable community;
- environmental standards for development must be established not only to prevent or minimize negative environmental impacts, but also where feasible, to enhance environmental features and functions;
- watershed planning is an effective tool for establishing policies in advance of urban development to protect the environmental features and function of a watershed; and
- the rich native biodiversity of the Region must actively be conserved and enhanced.

Based on these principles, policies are described in detail on watershed planning, environmental impact statements, biodiversity, land stewardship, state of environment reporting, and the establishment of an Ecological and Environmental Advisory Committee (p.14-21).

Natural Habitat Network: Significant natural areas need to be understood as parts of an "interconnected network rather than 'islands of green' isolated from one another by urban development and agriculture" (p.23). A Natural Habitat Network is said to consist of environmental preservation areas; environmentally sensitive areas; provincially significant wetlands; significant valleylands; sensitive groundwater recharge and discharge areas, headwaters and aquifers; significant woodlands; locally significant natural areas; significant wildlife habitat; and fish habitat. The planning principles arising from this understanding are:

- significant natural areas are highly valued and considered irreplaceable.
- interconnections among significant natural areas should be recognized, maintained, and enhanced to prevent further fragmentation and degradation of the ecological integrity of the landscape.
- development within floodplains and watercourses must be regulated to minimize hazards to life and property, and reduce impacts on surface water quality.
- development should be viewed as an opportunity for enhancement of the natural features and functions of the Natural Habitat Network.
- government agencies, private sector, and the community need to work cooperatively to conserve and enhance the natural features and functions of the Natural Habitat Network.

The designation of "significant" to a natural area is either adopted from other agencies, e.g., the Ministry of Natural Resources, or defined based on consultation with interested parties. Applications for developments affecting significant natural areas must be based on existing or new Environmental Impact Statements.

The Region will cooperate with the province, area municipalities, the Grand River Conservation Authority, other government agencies, the private sector and the community to "provide advice to landowners [and farmers] wishing to exercise good stewardship of lands within the Natural Habitat Network …[in order to] improve the

management of pollution sources, reduce soil loss, protect water quality, and to preserve and enhance features and functions of elements within the .. Network " (p.44).

Natural Resources: ROPP adopts "ecosystem-based planning [to] promote a sustainable human community in harmony with its physical environment" (p.45). As such, the Plan provides a framework to conserve and enhance "the irreplaceable natural resources that contribute to our survival and well-being". These resources include agricultural lands, groundwater and surface water, mineral aggregates, and woodlands. Conservation and enhancement of these resources is promoted through a partnership that includes the Province, Area Municipalities, the Grand River Conservation Authority, other government agencies, the private sector, and the community. The principles underlying this policy framework consist of

- the conservation of natural resources is necessary for the sustained health of the regional ecosystem and results in significant long term ecological, economic and social benefits.
- prime agricultural lands are irreplaceable and must be preserved for current and future food production, their contribution to the local and national economy, and as a significant feature of the heritage of the Region.
- development in rural areas should assist in promoting the vitality of agricultural activities and the economic vitality of rural communities, without detracting from their rural character.
- the provision of sustainable supplies of potable water requires commitment to a programme to protect, conserve and enhance this valuable resource.
- the extension of aggregate resources should be recognized as an interim use of land important to the regional and provincial economies, and should be promoted in a manner that is sensitive to adjacent land uses and environmental concerns, and facilitates the appropriate rehabilitation of the land.
- woodlands serve many varied functions within the Regional ecosystem, and should be preserved and enhanced.

The Plan encourages Area Municipalities to devise long term strategies to protect and enhance their "Agricultural Resource Areas", "Water Resources", "Mineral Aggregate Resources", and "Woodland Resources". However, the Plan also allows for the possibility of changes to these long term strategies based on technically sound and economically feasible plans (p.55).

Heritage Conservation: Heritage, "the comprehensive inheritance of natural and cultural components, …gives people a sense of place and community". Heritage provides "an important means of defining and confirming a regional identity, enhancing the quality of life of the community, supporting social development and promoting economic prosperity". The Region is committed to the conservation of its heritage and to providing "a framework for the identification, protection, interpretation, and stewardship of heritage resources, so heritage resource conservation is considered early in the planning process, and public awareness of its importance is increased" (p.65).

The Region's framework for heritage conservation is based on the following principles:

- a Region-wide inventory of heritage resources should be maintained to identify the location and features of such resources, so that their preservation can be considered early in the planning and development process.
- it is important to give a high priority to the protection of heritage resources in their surrounding context and to minimize the extent to which they are affected by development.
- the Region is committed to the stewardship of the heritage resources that it owns.

The Plan encourages Area Municipalities to develop and maintain an inventory of their heritage resources and aims to co-operate with all Areas Municipalities to prepare a Region-wide inventory to be used as reference by developers, planners, heritage groups and other interested individuals (p.66). The Region also encourages Areas Municipalities, the Grand River Conservation Authority, and other landowners to conserve the natural and heritage features and the ecological functions of the Grand River Corridor through good stewardship of their land. Where appropriate, "the Region will participate in stewardship programs to protect the lands within the Grand River Corridor" (p.71)

5.3.3 Section C – Framework for Managing Development

This section contains the principles and policies which determine the Region's settlement pattern to the planning horizon year of 2016. Population growth and land requirements, community planning, economic vitality, more balanced transportation system, and the integral relationship between land and infrastructure requirements for urban development are addressed in this section.

Regional Settlement Patterns: The Plan recognizes that "regional settlement patterns are determined by several factors including land supply and demand, the ability to provide infrastructure, and the need to protect the environment". The Plan prioritizes the protection of the Region's agricultural and natural environment and water resources by "restricting non-farm development in rural areas, encouraging the development of compact urban areas, and requiring appropriate environmental studies and community planning to be completed prior to the approval of greenfield development". In addition, the Plan encourages growth and renewal in "Community Core Areas" so as "to enhance their role as the economic and social focus in their respective communities" (p.73).

The principles informing policies on Regional Settlement Patterns are:

- settlement area boundaries will be used to define the areas for future growth within the planning horizon of this Plan.
- compact development, mixed land use and increased residential densities are essential to reduce the need for growth at the urban fringe, reduce impacts on natural resources such as Prime Agricultural Areas, wetlands and environmentally sensitive areas, and support the more efficient use of transit and other municipal infrastructure and services.
- comprehensive community planning is necessary to address a broad range of development issues in a streamlined manner.

- a full range of housing types and densities must be available throughout each Area Municipality to maximize accessible and affordable housing opportunities within the Region.

The Region "strongly encourages the Area Municipalities to delineate extensive areas of potential new development as areas where comprehensive community planning is required". Also, the Area Municipalities will, "wherever feasible, fulfill the requirements of the *Environmental Assessment Act* concurrently with the requirements of community planning and other associated *Planning Act* processes so as to avoid delays in the approval of subsequent developments" (p.83).

Economic Vitality: Economic vitality needs to be balanced with "the need for a sustainable natural environment and resource base, and a safe and healthy community". The Plan is aimed at providing "a framework to encourage and sustain employment opportunities, income generation and economic well-being" (p.97).

The Region acts as an advisory body for the Area Municipalities. Area Municipalities are directly responsible for "the sale of serviced industrial land, the distribution of promotional materials, the provision of business development services and a range of other municipal actions which facilitate the growth of existing businesses and the attraction of new ones" (p.97). The Region conducts economic research, collects economic information, and acts as a facilitator with provincial planning and economic interests, thus complementing "the economic development efforts of Area Municipalities, Canada's Technology Triangle and other agencies such as the local Chambers of Commerce" (p. 97).

The Plan states that "the private sector consider the impacts of their day-to-day practices on the natural environment. …and work together to develop long range policies and plans which protect and conserve our natural resources". Also, "the size, location, nature and market influence of new commercial and retail establishments are rapidly changing the commercial sector of the economy. This Plan attempts to achieve a balance between addressing the significant Regional infrastructure, land use and retail impacts associated with these commercial establishments, and the need to accommodate changes in this sector of the economy" (p.97).

The principles underlying this section (p. 98-104) of the Plan consist of:

- the Region, Area Municipalities and the private sector need to work together to enhance the region's economic strengths.
- economic and business trends should be monitored and considered during the development of new Regional financing, servicing and planning policies.
- it is important to balance the changing land use and servicing requirements of new businesses with environmental concerns, development priorities, and the need for a safe and healthy community.
- viable Community Core Areas in the City and Township Urban Areas are important as continuing focal points of community identity and economic development.

The above principles are to inform

1. **Economic Development Initiatives** based on an Economic Strategy that will:
   - enhance the profile of the region and area municipalities as investment opportunities;
   - identify the career skills which will allow residents to find and maintain productive employment;
   - enhance means to promote the tourist and heritage attractions in the region;
   - improve competitive opportunities for local industries and businesses in markets within and outside the region;
   - strengthen the region's economic base through developing a greater diversification of markets for local products and services;
   - undertake data collection and research to develop and maintain a comprehensive regional economic information base, including the Economic Profile [to monitor the performance of the regional economy];
   - provide a means for monitoring up-to-date information on government policies, procedures and programmes affecting existing and new businesses; and
   - develop implementation and monitoring mechanisms for the Strategy.

The Economic Profile, prepared through co-operation involving the Region, Area Municipalities, and Canada Technology Triangle, will:

- guide the formulation of economic policy and promote economic development;
- target the most likely growth prospects by distinguishing the assets of the Region from competing areas;
- provide an indication of the pace of overall economic activity in the Region, including changes in employment and a record of economic initiatives undertaken in Cities and Townships;
- provide an indication of the status and changing composition of the Region's industrial and commercial base, including the completion of a Region-wide inventory of vacant industrial and commercial land and buildings;
- provide an indication of the changing characteristics of the regional labour force, including results from periodic employment surveys;
- develop economic indicators for use by the Region and Area Municipalities;
- prepare and maintain a directory of businesses in the Region to be used for economic promotion.

2. **Business Practices and the Environment:** The Region will:
   - develop educational guidelines to assist businesses in the establishment of practices and policies which are sensitive to the environment and natural resources;
   - in cooperation with Area Municipalities, continue to work with existing industries, or new industries proposing to locate within the region, to develop water conservation and waste reduction strategies to protect the Region's valuable water and land resources;

- consider assisting new industries in developing strategies to reduce water and wastewater treatment requirements;
- encourage Area Municipalities in their efforts to expand the existing economic base and provide opportunities for the redevelopment or conversion of vacant or obsolete non-residential structures to productive uses compatible with the surrounding community;
- encourage Area Municipalities in expanding programmes which promote redevelopment and rehabilitation of older industrial areas;
- assist Area Municipalities in efforts to promote the Region as a location for the development of environmentally-friendly, knowledge-based activities; and
- encourage Area Municipalities to designate mixed use districts in their Official Plans.

Human Services: The provision of human services (education, recreation, culture, transportation, legal and public safety, health, and social support) involves "co-ordination and co-operation among various levels of government, other government agencies, the private sector, and the community". The Plan provides "a planning framework for the provision of human services rather than specific directions to agencies or organizations" (p.105).

Planning for and the provision of human services are based on the following principles:

- human service needs should be considered early and comprehensively in the land use planning process to ensure that human services are planned and delivered in a co-ordinated and effective manner.
- the Region's health and social service programmes and facilities should be cost effective, accessible, equitably distributed and sensitive to the diverse needs of the community, including the changing demographic, ethnic and cultural mix.
- the Region supports health and social service programmes that provide preventative services and that involve innovative community partnerships.

Infrastructure: The Plan emphasizes the importance of wastewater treatment, water supply, and waste management capacities in the future development plans. Wastewater treatment, water supply, and waste management servicing options "must be based on a hierarchy which considers environmental, technical, and long and short term financial factors, to determine the appropriateness of the various servicing options for new development". Future developments in the Region's infrastructure must take place "in a sustainable manner". By providing services and programmes, the Region must assume a leadership position in "efficient use of energy, conservation of resources, and the protection of the environment" (p.110-125).

Regional facilities "will be provided to process recycled materials and to dispose of solid waste in a sanitary, economic and orderly manner in accordance with long-term plans for the location and development of suitable waste management facilities" (p.123). The Region's "waste management master plan" will be based on the following principles:

- the identification of potential sites and mechanisms for the disposal of solid waste, taking into consideration the social, economic and environmental impact of each site, and input from affected residents.
- waste management priorities stressing reduction first, re-use second, and recycling third as preferred alternatives to landfilling.
- targets established for the reduction and diversification of solid waste from sanitary landfills which balance financial, service level, community and environmental considerations.
- public education programmes and promotional activities to enhance the understanding of the Regional waste management master plan and how the public and private sector can contribute to its implementation.
- strategies for the marketing of materials recovered from Regional waste management facilities.
- broad consultation with Area Municipalities, the private sector, and the community on the direction and implementation of the waste management plan.

Transportation Opportunities: The Plan recognizes that "the transportation system is essential for planned growth, economic vitality and the quality of life in the region". The transportation system "must be safe, accessible, affordable, energy efficient, and sensitive to the environment". Also, recognizing the relationships between land use densities, mix and proximity of uses, trip generation and the vitality of various modes of transportation, the Plan "provides a policy framework for the development of a compact urban form, thereby reducing the need to travel, encouraging multi-purpose trips, and increasing opportunities to use modes of transportation such as transit, cycling and walking" (p.127).

5.3.4 Section D – Partnerships and Public Participation

This section describes measures to be used to implement and monitor the principles and policies of this Plan, and to involve the public in the planning process.

Implementation and Monitoring: The Region will "find mutually satisfactory solutions to planning issues, develop meaningful programmes for the involvement of the public in the Regional planning process, invest wisely in Regional infrastructure, undertake research on emerging planning issues, and monitor the effectiveness of policies in this Plan" (p.145).

The principles underlying this section of the Plan comprise:

- public participation in preparation, adoption, implementation and monitoring of Regional planning policies and decisions.
- inter-governmental co-operation and private/public sector partnerships in the implementation and monitoring of planning policies.
- implementing provincial policy statements within the context of the Regional mandate.

- reviewing the development approvals process, in consultation with the parties involved, to identify means of increasing its efficiency and effectiveness.

5.4 Regional Official Plan (Hamilton-Wentworth) – Synthesis [61]

Created in 1974, the Regional Municipality of Hamilton-Wentworth comprised six Area Municipalities: Towns of Ancaster, Dundas, and Flamborough; Township of Glanbrook; and Cities of Hamilton and Stoney Creek. The Region is renowned for its geographic, social, and economic diversity. Approximately 50% of the Region is prime agricultural land while 10% is designated environmentally sensitive. Running through the centre of the urbanized core area is the Niagara Escarpment which has been designated a UNESCO biosphere reserve by the United Nations. Like most regions in southwestern Ontario, the Region's prime agricultural and ecologically sensitive areas are under the threat of urban sprawl and infrastructure development while poor air quality represents a recurring health and environmental problem (ICLEI 1998a).

In the late 1980s the Regional Council used a multi-stakeholder approach (involving all affected parties) to address issues related to the Hamilton Harbour Remedial Action Plan and the Affordable Housing projects. Encouraged by the success of these two initiatives, the Planning and Development Department officially adopted sustainable development as its guiding principle and launched the Sustainable Community Initiative. In 1990, the Region established a Task Force comprising three regional councillors and sixteen citizens. The Task force was supported by an interdepartmental Steering Committee led by the Region's Planning and Development Department. Eight implementation teams were created around specific topic areas as follows:

- Agriculture, Rural Settlement and Rural Economy;
- Economy, Livelihood and Workforce Education;
- Community Well-being, Health and Quality of Life;
- Waste Management, Physical Services and Urban Growth;
- Transportation;
- Land Use Planning and Community Design;
- Cultural, Historical, and Recreational Uses; and,
- Natural Areas and Natural Resources.

In 1992 after a series of consultations with the community, the Regional Council unanimously adopted Vision 2020 as "the basis for Regional decision-making in Hamilton-Wentworth, including such policy documents as the Hamilton-Wentworth Official Plan, the Regional Economic Strategy, and the capital budget process" (ICLEI 1998a:27). The reports prepared by these implementation teams provided the basis for Vision 2020, released in January 1993. The Region has since attracted international attention for successfully incorporating sustainable development in planning and

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[61] On January 1, 2001, on command and direction from the Ontario provincial government, the six Area Municipalities in the Regional Municipality of Hamilton-Wentworth were joined together to form the "new City of Hamilton". The synthesis in this section draws on Hamilton-Wentworth's 1998 "Official Plan" and other documents relating to the period preceding the amalgamation.

community development activities. In the late 1990s, the Region was used as a model by the United Nations University to promote local sustainable development initiatives in developing countries. Hamilton-Wentworth's successes in community planning were also recognized by ICLEI, which in year 2000 granted the Region the "Governance for Sustainable Development Local Initiative" award (ICLEI 2000a).

The Hamilton-Wentworth Official Plan (1998) defines sustainable development as: "Positive change that meets the needs of the present without compromising the ability of future generations to meet their own needs [based on]:

- fulfillment of human needs for safety, clean air and water, food, education and useful and satisfying employment;
- maintenance of ecological integrity through careful management, rehabilitation, reduction in waste and protection of diverse and important natural species and systems;
- public involvement in the definition and development of local solutions to environmental and development problems; and,
- achievement of equity with the fairest possible sharing of limited resources among contemporaries and between our generation and our descendants" (page D-13).

The Region intends to achieve these goals as follows.

5.4.1 Part A - Introduction

The Region functions in a manner consistent with applicable provincial legislation and policies on Niagara Escarpment, Parkway Belt West Area, food lands, wetlands, aggregate resources, floodplains, housing, and growth management.

Table 16. Hamilton-Wentworth's Vision 2020

According to Vision 2020, in year 2020
• Hamilton-Wentworth supports a population consistent with the carrying capacity of the Region;
• People live in a region made up of compact urban core areas, surrounded by a rural landscape that includes productive family farms, hamlets and a continuous network of natural areas;
• The Region is an environmentally conscious community that cherishes the existence of all living things with fresh air to breathe and clean streams and lakes for drinking and recreation;
• Economically, socially, and culturally the community is diverse and encourages opportunities for individuals, reduces inequities and ensures full participation for all in community life;
• The community builds on existing strengths and attracts wealth-producing businesses that work in partnership with government and the community to create a diverse, sustainable economy;
• Economic growth incorporates non-polluting, energy efficient and environmentally friendly businesses, including traditional manufacturing industries that have been supported and helped to become environmentally sustainable; and
• Business, government, labour, and the community have great capacity for innovation in response to global change.

Source: Hamilton-Wentworth, 1998a: A2

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The Region and the Area Municipalities share interests and responsibilities in the management of natural areas and resources, planning for future population change, provision of housing, promotion and enhancement of economic activity within the Region, provision of an integrated regional transportation system, management of water supply and waste disposal systems, support and promotion of the cultural, historical, and recreational resources. The vision for carrying through these shared responsibilities is provided by "Vision 2020" (table 16).

The 1998 Official Plan is intended to direct and guide Regional, Area Municipal, public and private decisions and actions in a consistent and logical manner to manage change and growth within the Region, to year 2020. In broad terms, the Plan describes Regional involvement in land use and environmental planning, the provision of physical service, social and health care, open space, and economy. Area Municipalities are expected to adhere to the outlines as set out in this Plan (page A3). The remaining three Parts of the Plan are as follows.

5.4.2 Part B – Quality of Life

Quality of life is dependent on diverse factors and as such is a shared responsibility between public and private organizations. Broadly, these factors are responsive

Table 17. Elements of a Sustainable Regional Community – Hamilton-Wentworth

Responsive Government: to build a healthy and sustainable community through effectiveness, efficiency, accessibility, and accountability. A prerequisite for responsiveness is meaningful citizen participation in setting community goals, policy formation, and implementation.
Environmental Protection: to enhance the physical environment as a prerequisite for a sustainable future through monitoring and reporting programmes (State of the Environment reporting), promotion of energy conservation, and site remediation.
Shelter: to ensure the availability of adequate housing by involving development and construction industries, all levels of government, financial institutions, public non-profit development corporations, and other community based housing advocacy agencies, groups, and individuals.
Economic Opportunities: to promote economic diversification (including farming), revitalization (including redevelopment of older industrial areas), and human resource development (including training, education, and skills development).
Health: to become a healthier community by promoting and facilitating biological / environmental sustainability, healthy lifestyles, disease prevention, health promotion, and improved health services.
Social Well-being: to change the complex social structure to attain a sustainable regional community by promoting development patterns sensitive to the environmental, economic, social, and safety needs of the citizens.
Education: to provide future generations with the knowledge, skills, and values to meet the challenges of sustainability by improving the overall education level of the population including general and skills upgrade training.
Culture: to encourage cultural diversity and promote a coordinated approach to cultural activities through organizing festivals and other cultural events.
Historical Resources: to support heritage identification and preservation to maintain the link between the current, previous, and future generations.
Greenspace / Leisure Activities: to retain and enhance recreation areas and opportunities and promote a more harmonious relationship between humans and the ecosystems.
Public Safety: to maintain and enhance safety through requiring "safe planning" design criteria, such as supportive lighting, visibility, and other safety features.

government, environment, shelter, economic opportunities, health, social well-being, education, culture, historical resources, greenspace / leisure activities, and public safety (see table 17). Detailed land use policies and designations with respect to the above policy objectives are expected to be "enunciated through the Area Municipal Official Plans". The Regional Official Plan "will respect those planning interests that are the sole responsibility of the Area Municipalities" (page A3).

5.4.3 Part C – Land Use Strategy

The land use strategy necessary to accomplish Vision 2020 objectives is to be based on the protection and sustainable utilization of the diverse resources of the natural setting; and, on the enhancement of the human habitat through a sustainable regional development pattern and infrastructure (pages C1-42). The specific details of the land use strategy may be summarized as follows.

Resource Protection: Establish a framework for planners and resource management agencies at the Area Municipal and Regional levels as well as community groups that recognizes the overall system of natural areas in the Region. The system includes the Region's aquatic features (fish habitat and water quality) and wildlife habitats associated with watercourses, wetlands, and lakes; environmentally significant areas, flood plains, Lake Ontario and Hamilton Harbour, Niagara Escarpment, and Parkway Belt West (linking natural areas and protected utility corridors).

Resource Utilization: Protect from use and development or permit utilization for essential purposes, as well as protection of soil in general and agricultural soils in particular. Measures also to be established to minimize soil erosion and control sedimentation; minimize the adverse impact of minerals extraction; minimize adverse impact of land development on groundwater.

Regional Development Pattern: Establish a firm urban boundary that supports the anticipated population growth, maintains the farming base while protecting the natural resources in the rural areas. The compact urban form is to utilize mixed use areas; promote the role of business parks as major economic generators; diversify the traditional manufacturing area; and promote growth in retail, business, and personal services and institutional and public administration such as provincial and regional offices, hospitals, university and college functions, and training and cultural institutions to enhance the economic structure of the Region. Land use in rural areas is focused on promoting rural settlements as service centres for the rural community, restricting non-agricultural uses, and strengthening the rural economy.

Infrastructure: Support the compact urban form through energy efficiency, decreased pollution, recycling, waste reduction, and a commitment to the effective and efficient use of existing systems. Initiatives and programmes for meeting this objective to include transportation systems plan and water and sewer plan; utilities (safe and environmentally sound water supply, waste disposal, and power transmission systems); and integrated transportation system (improving the current road system and promoting alternative modes such as public transit, walking, and cycling).

5.4.4 Part D – Implementation

The means through which this Regional Plan will be implemented consists of:

Regional Responsibilities: to clearly define and reach consensus on the responsibilities of the Region and the Area Municipalities based on legislative, practical, and scale considerations.

Citizen Participation: to implement, wherever possible, alternative methods of public consultation beyond the statutory requirements of the Planning Act in order to seek maximum feedback on planning and economic development issues.

Plan Review: to respond to new issues and changing environmental, social, and economic conditions by reviewing the basis and policies of the Plan regularly (every five years) and making amendments where necessary.

Plan Interpretation, Amendments, and Boundaries: to prepare an *Implementation Guide* containing explanations, directions, and procedures to be used by the Regional and Area Municipal staff, consultants, developers, and the general public to better understand, interpret, and implement the Regional Plan. Any proposal conflicting with Parts A, B, C, and D of the Plan will require an amendment to the Plan. Amendments are to be evaluated based on conformity to the principles of sustainable development as defined in this Plan.

Conformity of Area Municipal Official Plans: Plans are to be consistent with the provision / distribution of Regional population, employment, and housing projections. These Plans are to also apply the principles of sustainable development, conservation, protection, and management of the Region's natural resources, environment and heritage, and efficient utilization of Regional infrastructure (e.g., sewer, water, transit).

Secondary / Neighbourhood Plans: to accommodate the projected population increase, Area Municipalities are to continue preparing and updating detailed secondary and/or neighbourhood plans for the Urban Areas and Rural Settlement Areas while remaining in conformance to the compact urban form objectives of the Regional Plan.

Development Approvals: to facilitate and expedite measures to eliminate duplication, consolidate responses, and reduce delays in the approval process.

Land Severance: to ensure that residential development in rural areas will be concentrated in Rural Settlement Areas as specified in the Regional Plan.

Watershed / Sub Watershed Planning: to carry out sub watershed planning in advance of or in conjunction with neighbourhood or secondary planning to produce environmentally sensitive forms of development. Sub watershed planning is to be overseen by the Region and adopted by Area Municipalities who will work in conjunction with Conservation Authorities.

Fiscal Responsibilities: to undertake capital works in accordance with a Fiver Year Capital Works programme to meet the objectives of the Regional Plan. No public work (by the Region or the Area Municipalities) is to be undertaken that does not conform to this Plan.

To provide a context, table 18 matches the broad themes from each Official Plan against the Federation of Canadian Municipalities' (FCM) "Guiding Principles" for sustainable development. FCM's role and mandate are discussed in some detail in chapter 2. To pursue its aggressive policy on sustainability, FCM focuses on such local issues as waste management, sewer and water management, management of environmentally sensitive areas, air quality, resource conservation, and management of community energy systems while recognizing the importance of the supra-local politics.

Table 18. An Overview of Guiding Principles

Federation of Canadian Municipalities	Waterloo (Table 14)	Hamilton-Wentworth (Table 16)
Stewardship: We must preserve the biosphere's capacity to evolve by managing human activities for the benefit of present and future generations.	**Environmental Integrity**	**Environmental Protection**
Shared Responsibility: All sectors and all individuals are corporately and personally responsible for the environmental effects of their decisions and actions.	–	**Responsive Government**
Consultation and Cooperation: Environmental problems can be successfully managed only by working in a spirit of consultation and cooperation. When urgent action is required, this principle, in some instances, may not apply.	**Partnerships; Public Participation**	**Responsive Government**
Prevention: The most responsible and effective means of dealing with environmental problems is to anticipate and prevent them. It should be recognized that there are historic environmental problems that need to be addressed.	**Planned Growth**	**Health; Environmental Protection**
Integration: Economic, social and environmental considerations must be integrated in decision making.	*Implicit*	**Social Well-being**
Thinking Globally, Acting Locally: Recognition of cumulative global and local effects must be given in local decision making. All orders of government must show leadership by setting the example with environmentally benign operations, and informing the public on environmental issues.	–	–
User/Polluter Pay: To instil environmental consciousness and economic feasibility of public environmental systems, users of publicly provided environmental systems and natural systems should pay for such systems on a true cost basis.	–	–
Quality of Life: Long-term quality of life considerations must take precedence over the short-term use of resources at an unsustainable rate.	**Safe and Healthy Communities**	**Health**
Sustainable Development: Although the implementation of Agenda 21 principles is the responsibility of national governments, local governments have the ability to act and support many of the actions proposed including developing their own Local Agenda 21.	"**Regional Official Policies Plan**" (ROPP) (1998) as the first step	"**Official Plan**" (Vision 2020) (1998) as the first step

Sources: Federation of Canadian Municipalities (2001a, 2001b), Region of Waterloo (1998a), and Region of Hamilton-Wentworth (1998a)

The most significant difference between the two Official Plans and FCM's Guiding Principles lies not in content but in implementation of stated goals. There are of course important differences in goals. The two Official Plans are particularly weak in recognizing "interconnectedness" and/or scale by failing to make the links between what occurs at the regional scale and at scales beyond the local. The Plans are also weak in spelling out policy instruments such as taxes based on the "Polluter Pays" principle.

5.5 Meeting Official Plan Objectives

The circular planning model of "policy, plan, implement, monitor, correct, review, policy" was used to assess how far each Region had gone to implement Official Plan objectives. Secondary data were reviewed in each case to gain insights into how (un)successfully each Region had managed to meet Official Plan objectives. Secondary

Table 19. Words vs. Action on Sustainable Development

	Canada	Ontario	H-W[3]	RW
Policy	√	√	√	√
Planning [1]	√	√	√	√
Implementation [2]	?	?	√	?
Monitoring	?	?	√	?
Review	?	?	√	?
Policy Revision	?	?	?	?

Assessment in this table is inferred from interviewee comments and government publications. A question mark indicates difficulty in identifying action. A tick mark indicates action. The level and the quality of action are not assessed.

[1] "Planning" refers to a reasonably detailed articulation of Official Plan policy objectives.

[2] "Implementation" refers to actual work carried out to meet policy objectives as described in Planning.

[3] Assessment in this column is based on pre-amalgamation information. Since assuming office in January 2001, the neo-liberalist government of the new City has withdrawn significant funding from numerous local sustainability initiatives (McLean 2002).

data for Ontario and Canada were also used to do preliminary assessment of actions by the province and the federal government to meet their commitment to sustainability. This latter assessment was carried out to provide a context for the assessment of the two Regions (table 19). A main source of secondary data in Hamilton-Wentworth was various government publications and studies. In the case of Waterloo, it was not possible to obtain government publications or studies on implementing the objectives of the Official Plan. Publications on "quality of life" by the Social Planning Council of Cambridge and North Dumfries were used to infer how Waterloo was progressing toward "a sustainable regional community".

5.5.1 Region of Waterloo

Compared to Hamilton-Wentworth's Official Plan, the Waterloo's Official Plan is detailed and elaborate. The specifics of most of the policies are spelled out throughout the Official Plan (Regional Official Polices Plan). There are no supplementary guidelines, tools, or public reporting mechanisms to plan, implement, monitor, take corrective action, and review policy in light of monitoring data. No major documents exist to provide insights into how, or how successfully, the Region is fulfilling its commitment to a "sustainable regional community". The Region faces many of the same difficulties being experienced by local communities throughout southwestern Ontario. Unlike Hamilton-Wentworth, however, Waterloo does not seem to have gone beyond the policy formulation stage in attaining a sustainable regional community.

Insights into whether and how the Official Plan has affected the Region is provided to some extent in a discussion paper titled "Waterloo Region Quality of Life Index", published by the Social Planning Council of Cambridge and North Dumfries (Brunswig, DeSantis, and Klassen 1998), and updated in 2000 (Vandebelt, DeSantis, and Beaulne 2000). The Social Planning Council undertook this project in order to identify factors that affect quality of life, stimulate awareness and discussion about the quality of life in the Waterloo Region, help decision-makers make more informed decisions in light of quality of life information, and support ongoing dialogue (Brunswig et al.1998:iv). The project selected twelve indicators, three from each of the four main categories of social, economic, environmental, and health (table 20).

Table 20. Quality of Life Indicators

Social Indicators:	Environmental Indicators:
Child Welfare Admissions to Care	Hours of Moderate/Poor Air Quality
Social Assistance Beneficiaries	Toxic Spills
Public Housing Waiting Lists	Tonnes Diverted to Blue Boxes
Economic Indicators:	**Health Indicators:**
Unemployed in Labour Force	Low Birth Weight Babies
Employed in Population of 15+ years	Long-term Care Facility Waiting List
Bankruptcies (consumer and commercial)	Suicides

Source: Social Planning Network of Ontario / Ontario Social Development Council, cited in Brunswig et al. (1998)

Using Statistics Canada data for the 1990-1997 period , the 1998 discussion paper reported upward trends in deterioration of child welfare, social assistance beneficiaries, public housing waiting lists, unemployed labour force (while the absolute number of those employed went up), bankruptcies, toxic spills, long-term care facility waiting lists, and suicides. A downward trend was reported for tonnes of garbage diverted to blue boxes. There was also a downward trend in the birth weight of newborns. The trend for number of hours of moderate/poor air quality was upward except for 1993 where the trend shows a downward spike. The combined "Waterloo Region Quality of Life Index" dropped down to lower than 50% of the 1990 baseline.

5.5.2 Region of Hamilton-Wentworth

On recommendations from a task force of 1,100 individuals, set up by the Regional government to implement Vision 2020, monitoring mechanisms were instituted in 1993 to establish and maintain a system of accountability between the Regional government and the community at large (Pearce 2000). Based on these recommendations, all Regional staff reports were to contain a "sustainable development" section where report objectives were assessed in terms of sustainability principles as defined by the Region. The decision making guide was intended to

- "evaluate new and existing policy, programme, and project decisions in relation to the goals of Vision 2020; and
- ensure all potential social, economic, and environmental impacts are identified and considered in a comprehensive and consistent manner when deciding on a course of action" (Hamilton-Wentworth 2001b:1).

Regional decision-makers were required to a) assess how consistent a proposed policy, programme, or project is with the goals of sustainable development, b) balance the principles of social, economic, and environmental well being, and c) prepare reports on findings for the Council.

To assess consistency, the decision-maker was to choose from a range consisting of "compatible", "unsure, low compatibility, or slight conflict", "conflicts / opposes", and "not applicable". Balancing the sustainability principles required identification and assessment of positive and/or negative effects of carrying the proposed policy, programme, or project. This part of the guide also required decision-makers to determine how potential negative aspects of a proposal could be reduced or removed and whether or not additional knowledge was needed before the proposal could be operationalized. The final step according to the decision-making guide was for decision-makers to assess how the proposal, once implemented, would contribute to or undermine the attainment of Vision 2020 goals, as well as how the proposal "balances the three legs of the sustainable community stool including any mitigation measures" (pages 2-4).

The task force also made a series of recommendations on how to spread awareness of Vision 2020 throughout the community. Town hall meetings, focus group discussions, vision working groups, implementation teams, community forums, and "Sustainable Community Day", were recommended as the means through which to institute a "public outreach process". In addition to adopting these recommendations, the Regional government in collaboration with McMaster University, local school boards, and community groups established an annual youth forum where students learned about the fundamentals of a sustainable community. Monitoring of progress toward meeting Vision 2020 objectives was carried out through a system of indicators developed in collaboration with McMaster University, the Health of Public project and ICLEI (Pearce 1995) with a benchmark year of 1993.

The Report Card generated through the monitoring programme reported on a total of 14 main indicators: Local Economy, Agriculture and Rural Economy, Natural Areas and

Corridors, Improving Quality of Water Resources, Reducing and Managing Waste, Consuming Less Energy, Improving Air Quality, Changing Mode of Transportation, Land Use in Urban Areas, Arts and Heritage, Personal Health and Well-being, Safety and Security, Education, Community Well-being and Capacity Building. Each indicator consisted of additional sub-indicators totalling 26 for 1998 and 27 for 1999. Assessments were made based on three categories of performance: "Making Progress", "Hard to Say", and "Needs Improvement". The most striking feature of the two Report Cards reviewed was the number of indicators assessed as "Hard to Say": 13 for 1998 and 12 for 1999. It was also difficult to determine the validity of some of the assessments because of the subjective component in each indicator.

A comprehensive review of Vision 2020 strategies was undertaken in late 1997 to determine what progress had been made to meet Vision 2020 objectives, solicit ideas and suggestions from the community on how best to implement Vision 2020, and recommend for endorsement by the Regional Council a series of recommendations on amendments to the 1993 Official Plan. Some of the recommendations were adopted for the 1998 update of the Official Plan. Recommendations concerning monitoring progress toward sustainability and a revised list of indicators were incorporated into a separate publication titled "Hamilton-Wentworth's Sustainability Indicators" (Hamilton-Wentworth 2000). Despite these efforts, implementation of Vision 2020 and the actions of the Regional government have not been immune to a series of misgivings and concerns particularly from citizens groups about how the Regional decision makers had failed to conform to the principles of sustainability as set out in Vision 2020, particularly around the Red Hill Expressway conflict.

Critics of the Regional government maintain that the government and business minds are set on building an expressway through the last remaining natural area around Hamilton. In addition, like much of southwestern Ontario, sprawl and growth pressures continually force the Hamilton-Wentworth / New City of Hamilton Regional government to make concessions to developers by honouring planning permits issued long ago and/or expanding the Urban Boundary to allow development of subdivisions or commercial spaces in the hope of meeting economic growth targets. The Region's new government has thus far demonstrated no resolve to save Red Hill Valley. Despite the commitment to sustainable development in the Official Plan and the availability of policy tools to ensure that all development projects meet sustainability criteria, the Region has also decided to rezone 185 hectares of prime agricultural land into urban land suitable for development (Advocate, 2000).

5.6 Conclusion

Secondary data sources suggest that there is a higher degree of "buy-in" and ownership of the Official Plan in Hamilton-Wentworth, at least among government officials. The interviews (reported in chapters 6 and 7) will further reveal that there is a higher level of awareness of Vision 2020 among non-government Hamilton-Wentworth interviewees. Perhaps because of this awareness, expectations of government action on sustainability issues (particularly the environment) also seem higher in Hamilton-Wentworth. Official awareness of "problem areas" in Hamilton-Wentworth has strengthened the resolve to

address some of contentious and acute environmental issues such as the remediation of heavily contaminated areas, including Hamilton Harbour. Hamilton-Wentworth "was the first of 57 'environmental hot spots' in the Great Lakes system to complete its 'Remedial Action Plan' … under the US-Canada Great Lakes Water Quality Agreement" (ICLEI undated).

On paper, Waterloo's Official Plan appears far more extensive than Hamilton-Wentworth's. The latter is simpler to follow however, partially because the language is broad, non-specific, and less prescriptive. Hamilton-Wentworth has won praises from regional, national, and international bodies for pioneering Vision 2020 and having had relative success in developing the policy into planning components. Perhaps as a result of this recognition and exposure, government officials approached for interviews were often happy to oblige and even volunteered others to be interviewed. There was general willingness by government officials to discuss their experiences in implementing Vision 2020 and share concerns and misgivings about the role of governments and other institutions. The accessibility and receptiveness experienced with Hamilton-Wentworth Regional officials was sharply contrasted in Waterloo where, with notable exceptions, there were reservations to engage in dialogue on the Official Plan as part of this study.

It appears that neither Region has made significant strides toward meeting sustainability objectives. A major issue highlighted by interviewees from both Regions and confirmed by interviewees external to the two Regions was the effects of political change at the provincial scale and how ideologically charged neo-liberal policies had undermined the Regions' capacities to provide essential services and follow through the policy mandates of the Official Plans. Interviewee comments on scale, politics, and other issues are analyzed in chapters 6 and 7.

Chapter 6: "Trust", Contradictions, and Sustainable Development

One thing I know is that if I have some resources [as a government agent], and some willingness to do something, then I look for partners. I don't care if these partners have an official statement on sustainable development or what have you. It doesn't matter. As long as the potential partner is willing to do something real, not just writing these big bad reports, then I try to use my authority and help them by releasing some of the money I am in charge of. That's precisely why you and I talk, because I can't deal with the rest of them. In the end though, it's the other people we have to work with. If you get a George W. or something in high places, there is a higher priority for bombing Iraq than doing something about environmental protection or social well-being
(Federal government key informant, 2001)

6.1 Introduction

Conceptualizations of "institutional thickness"(Amin 1999a; Amin and Thrift 1994; Schmitz 1993) and "negotiated economies" (Amin and Thomas 1996; Hausner, Jessop, and Nielsen 1993; Nielsen and Pedersen 1993; Jessop 1997; and Jones 1999), and Jessop's (1997) scalar articulation of inter-relations point to the centrality of trust in inter-relations as an instrumental factor in easing the tensions that arise from the contradictions inherent in the capitalist systems of production and consumption. According to these authors, trust is the defining feature of discourse aimed at resolving, albeit temporarily, conflicting interests and competing agendas to serve the common good.[62] Studying sustainable development needs to be based on an appreciation of the tensions between the regulatory "pulls" and "pushes" and their implications for trust in inter-relations at different scales. Gaining this appreciation requires close examination of inter-relations at the individual, organizational / institutional, and societal scales (after Jessop 1997:101-2). This hierarchy of scales must thus form the context of study.

This chapter and chapter 7 focus on the multi-scale system dynamics and barriers that define the mode of regulation at the regional municipality scale. This chapter underlines the factors that collectively constitute, or fail to constitute, trust in inter-relations vis-à-vis sustainability, focusing on the regional municipality scale. Based on interviewee comments this chapter highlights the links between trust in inter-relations on the issue of sustainability and perceptions of sustainability, cultural or religious convictions,

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[62] The "common good" may be instituting a learning region or economy, a negotiated economy, or sustainable development in some larger sense.

conflicting interests and competing agendas, discourse in policy development and implementation, partisan politics, regional specificities, and scale.

6.2 Perceptions of Sustainability

There were wide-ranging, sometimes contradictory, interpretations of sustainable development. A significant number of interviewees (approximately 30%) viewed "development" as synonymous with "growth" while some others objected to using development in conjunction with "sustainable". One interviewee observed, "to most people, councillors, and politicians here in town it means land use development and that kind of stuff, so, it really means sustainable growth" (HW-28-CG). Another suggested that sustainable development was an oxymoron and meant nothing more than

> trying to carry on much the same way we have been carrying on, doing all the things that we are not supposed to do but under a banner that hopefully allows us to get away with what we do. So, sustainable development is development in the current fashion that will last longer than development in the current fashion that won't last! (HW-29-CG).

Pointing to the ambiguity of the term one interviewee stated,

> Sustainable development doesn't really make much sense. At some point development can't sustain itself. The very word development means using more and taking over more, or how do you define the word 'development'? (RW-47-PO-A).

"Sustainable development" was said to mean many things to many people. One community activist stated, "Certainly, sustainable development is a controversial term. …When I hear it, part of my judgement of it depends on where I hear it or who I hear it from" (HW-29-CG). A regional government employee suggested that "the term sustainable development is a little bit misleading because people think that it is associated with actual [land / structural] development in the city" (HW-21-RG) while another senior civil servant stated that in his Region's policy documents, sustainable development was intentionally replaced with "'sustainable regional communities' because 'development' is usually seen as something that progressively gets bigger, and that is not necessarily the case with a sustainable regional community". However, the latter interviewee also observed that the term "sustainable regional community" had a good chance of being misappropriated by "gated communities that claim to be environmentally sustainable … like 'ecologically friendly' SUVs" (HW-27-RG).

A learning institution employee stated that he had a negative reaction to "sustainable development" and a positive reaction to "sustainable regional communities" because

> I have suspicions about the first term, given its origins…It sounds more like sustainable rhetoric, you know, it's a lot of talk about caring for the consequences of development, or addressing the consequences of development, but very little seems to be actually achieved. You know the myth that we can keep growing,

that's what development has been about…ever increasing growth. …I think the dominant definition of sustainable development is the growth thing. 'Sustain', [seems only to refer to] that one little figure … GDP" (RW-50-LI).

Table 21. Perceptions of Sustainability

Focus	Metaphors	Issues
Limits to Growth	Depletion (natural resources); Limits (to growth); Living off interest (natural capital); Living within one's means; Overconsumption	Economic development; Diversity; Friendliness; Good quality of life; Strong leadership; Opportunities; Growth and prosperity; Efficient use of renewable and non-renewable resources; Maximum use of renewable resources; Optimal utilization of resources
Balancing Priorities	Trade offs (social, economic, environmental); System maintenance; Negative impacts; Positive change; Equal legs in a 3-legged stool; Holistic community; Holistic bottom line; Triple bottom line	Social services, finance, economics, tourism, air quality, and the natural environment; Social, economic, and environmental concerns; Social, economic, and political spheres
Ecological Footprint	Sustainable over the long-term; Self-sufficiency; Human well-being within ecosystem well-being; Interdependency; Viability	Land-use; Export-import base
Nature Conservation	Destruction (social and environmental); Survival (human); Overconsumption; Unacceptable (environmental impact); Recreation; Sprawl; Redevelopment; Replenishment; Self perpetuation; Trees (acting like); Circle (of life as in nature) Rape (of the environment);	Social and environmental well being; Business development; Economic development; Economic growth; Environmental issues (address); Environmental impacts (minimize)
Future Generations	Killing the planet; Undermining future generations; Limiting / Improving choices; Making provisions; Offering equal advantage; Future needs; Future demands; Protect community's future; Mortgaging children's future; The planet is borrowed from future, not inherited from the past	Resource management; Efficient use of resources
Ecosystem Approach	Watershed planning; Bioregions; Self-reliance; Interdependence; Undermining other elements; Artificial boundaries; Cooperation; Coordination; Interaction; Genuine; Solid and sensible; Representative government	Ecological, cultural, and historical aspects of planning; Lifestyles; Community; Political jurisdiction; Environmental assessment; Ecosystem planning; Communication; Representative government
Integration	System; Agreeable; Configuration; Indefinite (sustainable); Big (larger "environment"); Ecosystem; Objectives; Scale; Holistic	Social, economic, and environmental concerns; Financial considerations; Social development
Quality of Life	Healthy communities; Holistic	Ability to live, work and play; Family; Spiritual values; Good community relations; High / Improved quality of life; Economic growth; Job creation; Caring for environment
Physical and Financial Means	Development and Health; Land; Tools; Treading lightly on earth; Survival; Preventive maintenance	Adequate financial resources; Adequate physical tools / technology; Sufficient land
Configuration of Infrastructure	Soft infrastructure; Hard infrastructure; Suitable infrastructure; Supporting future; Importance of the larger system	Recreation facilities; Roads and Transit systems; Government
Words vs. Action	Too much fluff; Wasting time and paper; Need for action; Too many clichés	Adequate physical tools / technology
Social Justice	Good jobs	Equitable employment
Change	Dynamics	Continual change; Assessment

"Sustainability" was said to be sometimes misinterpreted by business interests as "keeping the shareholders happy" (EX-2-LI). This observation was confirmed when interviewees with business links were asked about their perceptions of sustainable development. One business interviewee saw sustainable development as "business development, economic development, economic growth, taking care of the environmental issues, and minimizing environmental impacts" (EX-39-PO-I) while another offered "constant growth" (EX-15-PO-I) as an interpretation. To gain additional insight, interviewees were asked to think of words, expressions, or metaphors that best captured what sustainable development meant. Table 21 is a summary of the responses. Apart from the general objection to the word "development", interviewees had significant differences in focus, use of metaphors to describe problems underlined by sustainable development, and the main issues to be resolved in order to attain sustainable development.

Concern for the well being of "future generations" and "integration of social, economic, and ecological" considerations were raised by interviewees as the two most important foci (15% percent of the responses in each case) for sustainable development initiatives, followed by "equitable balancing of social, economic, and ecological priorities", "limits to growth", and "quality of life" (11% each), "ecosystem approach" (9%), and "nature conservation" (8%). Responses also varied in scale and specificity. For example, an interviewee used the planetary scale / time to comment "we have not inherited the planet, we are borrowing it from our children" (HW-31-RG) while another interviewee with a focus on employment and social issues commented that "you can't have a sustainable

Table 22. Distribution of Responses

Focus[63]	Number of "hits"			%
	External	**Hamilton-Wentworth**	**Region of Waterloo**	
Future Generations	2	6	4	15
Integration	5	2	4	15
Limits to Growth	2	2	4	11
Balancing Priorities	2	4	2	11
Quality of Life	2	1	5	11
Ecosystem Approach	4	1	2	9
Nature Conservation	2	1	3	8
Ecological Footprint	1	1	2	5
Configuration of Infrastructure	-	-	4	5
Physical and Financial Means	-	-	2	3
Words vs. Action	2	-	-	3
Change	2	-	-	3
Social Justice	1	-	-	1
%	33%	24%	43%	100

community with everyone working for McDonald's" (EX-19-TU). Yet others commented on the need to examine the infrastructure, the configuration of the economy, and the financial means in attempts to move toward sustainability. Some expressed frustration

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[63] The foci identified here were extracted from the interviewee responses to a specific question on defining sustainable development. Responses to other questions that might have contained these foci were not searched for the construction of this table.

with numerous reports and communiqués from public and private institutions on the importance of committing to sustainable development while offering little or no incentive to fulfill this commitment.

The foci that emerged from scanning the interviewees' perceptions of sustainability (table 21) in the first round of analysis were used to do a slightly different analysis of the interview datasets (EX, HW, and RW) for further illumination. The results are summarized in table 22. As this table shows, the RW participants had the highest number of hits for key words expressing the foci for sustainable development. The RW participants underlined "quality of life", "future generations", "integration", "limits to growth", and "configuration of infrastructure" as the most important foci for sustainable development while HW participants emphasized the importance of "future generations" and "balancing priorities". The concern for the well being of future generations by the HW participants, expressed in the highest number of hits for this focus in table 22, could perhaps be traced back to the origins of Vision 2020 as a guide to action and a strategy to deal with Hamilton's profound social and economic problems in the post-recession, late 1980s period.

"Ecosystem approach" and "integration" drew the highest frequency among participants external to the Hamilton-Wentworth and Waterloo Region key informants. The external participants were also the only group to draw attention to the "words vs. action", "social justice", and "change" foci. Pointing to the lack of progress toward attaining sustainable development mandates by private and public institutions one external participant complained,

> a lot people participated in sustainable development roundtables [and] we have a library of reports. … You have to translate sustainability, operationalize the idea. But we just write these reports and papers, and piles and piles of paper, I think it's a waste of time and paper. … Personally, every time I receive something through e-mail on 'sustainable development', I press the delete button. It's a catch phrase (EX-3-FG).

Another notable observation about the responses from the external participants was the underlining of "integration" as the most important focus for sustainability efforts (table 22). The emphasis on the larger scale perspectives mainly came from interviewees whose institutions were external to the two regions, played a macro role, or had macro policy mandates. Interviewees were asked to comment on why there were varied perceptions of sustainability. The theme emerging from the analysis of the responses seemed best captured by "misplaced convictions", discussed in the next section.

6.3 Misplaced Convictions

Misplaced convictions may be results of cultural and religious beliefs. One interviewee, a theologian, pointed to the Christian tradition as the main source for the dichotomy between human economic activity and the environment stating, "in general, when you're looking at the Christian tradition there is the whole idea that the world is a backdrop for life and the only important thing is humans and human life – everything is there for our

use and our domination" (EX-2-LI). This view continues to be reinforced by the Judeo-Christian-Islamic institutional belief in the afterlife according to which "our only home is in heaven", a sharp contrast to "the oriental spiritual traditions or the native or the aboriginal spiritual traditions [where] you don't have this [human over nature] problem. You have different problems but the thing is they see humans as part of the world" (EX-2-LI).

Religious institutions and charity work were identified as not only solutions to some of the most acute social and environmental problems but also as contributing factors. To elaborate on this point, the theologian interviewee referred to the "Mother Theresa Syndrome" which "looks at the good work of heroes, who are actually quite well meaning and heroic, without asking the question 'why are people lying on the sidewalks in Calcutta, instead of having a roof over their heads?'". Doing good deeds at an individual level was said to run the risk of accepting the societal relationships that cause social hardships: "…the Mother Theresa syndrome actually works to maintain the current social structures [which] generate poverty". In part, the large questions are not being asked for fear of being labelled or branded by the proponents of the status quo who operate according to a different set of convictions:

> It's like that in guy in South America [who] said 'If I give food, shelter, and clothing to the poor I am called a Saint. If I ask why it is that the poor have no food, shelter, or clothing, they call me a communist (EX-2-LI).

One interviewee noted that misplaced conviction may be institutionally induced, and promoted by individuals who merely tow the institutional line because these individuals are all too aware of institutional inertia. The interviewee further suggested that there is a much higher degree of dissent within institutions with macro (policy) role than is publicly known. To illustrate, reference was made to an internal poll taken at a national institution responsible for economic development in developing countries. The poll revealed that the economists working for the institution publicly promoted the institution's official position on the benefits and the inevitability of globalization while privately "almost none of them believed in these positions – they couldn't say this on record for fear of criticism and ridicule. .. I find it's the same here at [my institution]…" (RW-50-LI). There are also many individuals who pursue narrow institutional agendas based on conviction. For example,

> the Chamber's [of Commerce] position and philosophy is that its role in any given situation is to ensure that the outcome is what's best for business. … The expansion of Highway 7 [between Waterloo and Guelph] and its benefits for local business, for example, is more important than the fact that it would go through wetlands. So, they kind of care for sustainable development when it doesn't interfere with normal business activity. …To the Chamber members, the idea of sustainable development is nice when the economy is good. .. As soon as the economy goes down, then the business community will not care too much about the environment or sustainable development (RW-34-IN).

Putting the economy first is based on the belief that a high quality of life is directly linked to "sustained economic growth" (RW-34-IN). One regional official stated that because regional governments are focused on drawing more and more external firms into their jurisdictions, environmental protection and management often are pushed lower on the list of priorities:

> If a company is interested in relocating here from Toronto, the first thing we do is to give them a list of all available greenfields sites and real estate contacts, and other information they might need in terms of support in this area, hoping that they will relocate (RW-44-RG).

The list usually consists of rezoned agricultural land, presumably because incoming firms find greenfields more attractive for development than previously zoned land, or so are convinced the regional officials. The official complained that there was no strategy in place to redevelop brownfields through providing relocation incentives to incoming firms. The focus on developing greenfields for industrial and residential uses in Waterloo has resulted in a serious shortage of "land stocks" (RW-44-RG).

Some interviewees expressed disapproval of government action based on its belief in the efficacy of the private sector and efficiency of the market. One interviewee observed:

> City Councils, although they have explicit programmes to sustain housing and improve transportation and so on, vote with the big corporations against actually doing something positive. So, broadly they may be for sustainability, but when it comes to specific issues, that's a different story (RW-41-LI).

Similarly, a regional official referred to the experience of developing a low income housing project, funded by the province:

> We consulted with the school of architecture students and faculty and developed a model for community-based housing that apparently appealed to more than the low income people. Because we were so successful, the construction industry lobbyists complained that they were suffering from unfair, subsidized competition. Under the new provincial government, our funding was withdrawn and the project was shelved. That to me is pretty unsustainable (RW-46-RG).

A belief in economic growth at all costs seemed to feature large in local government thinking and strategy:

> We have been asked by the [Council] Chamber why our economic development committee is not a strong voice for the development of Highway 7. So, immediately there's the impression that the economic development committee is going to come out pro-business, which is pro-growth, which means let's have Highway 7 built and get it over with (RW-44-RG).

Economic growth was also underlined as the rationale for preference at all levels of government for expanding the "new economy". A trade union official complained that politicians are more concerned about attracting high tech industry than maintaining and

developing the current structures (EX-19-TU). Convictions, misplaced or not, form a range of conflicting interests and competing agendas often characterized by uneven political weight. The next section highlights some of the main points of contention.

6.4 Conflicting Interests and Competing Agendas

Numerous interviewees complained about a lack of understanding and/or recognition of the diverse range of interests represented by special interest groups. Conflicting interests, most interviewees suggested, were often caused by incompatible or competing agendas. One community activist related,

> when you approach Stelco and put to them that sustainability is a three prong thing consisting of social, economic, and environmental concerns, you are painted as a radical. Now, in reality the radical is the Chamber of Commerce which wants to put this Expressway down the last of the original streams in Redhill Valley (HW-28-CG).

More broadly, it is not possible to collaborate with business on equal terms because businesses have a disproportionate share of power and no real interest in the community: "Stelco, Dofasco, they are not in the business of making steel, they are in the business of making money. And all of these businesses in this community are the same" (EX-19-TU). Local Chambers of Commerce were also criticized for "…just sort of waiting around for handouts … [and] having a good cigar with the Region's officials" (EX-14-PO-I). Given their mandate as a special interests group, "Chambers of Commerce are strictly there to look after their own members" (EX-19-TU). Similarly, industry peak organizations are "basically industrial lobbyists. …You cannot really rely on them in addressing sustainability issues" (EX-3-FG).

In terms of collaboration among special interest groups and reaching consensus on policy issues, a trade union official related:

> When you are a labour person sitting on a committee with nine business people, you can see the conflicts. They would like to see us privatize the garbage collection services, for example, because three of them work for environmental clean up companies… They are not sitting on City Council and they are not voting on it but as a committee they have the power to make recommendations for policy (EX-19-TU).

Viewing consensus as an end to itself was seen as a major flaw in the decision making process. A community activist suggested that his Region's problems were

> a function of sitting around these committee tables where the operative word is 'consensus', usually meaning being nice to each other. … What happens to the process when one or more stakeholders withhold information? An example is the leaking landfill site [in Hamilton]…. Some interested parties knew the problem, the pieces, they knew it was leaking, but didn't tell anybody. This kind of

behaviour undermines the whole idea that stakeholders can work together in the process, you know, on a consensus based on trust (HW-28-CG).

In the case of Hamilton-Wentworth business interests seem to have gained the upper hand in the discourse on environmental issues and sustainable development because

the problem with the original visioning [for Vision 2020] was that it was for the most part done by the elite. Maybe that's why the social side didn't get as much attention because the elite running the show weren't overly concerned about our social problems. In retrospect, when people are struggling to survive, to put food in their mouth, they're not going to sit down and have an academic discussion about sustainability. They are just interested in bloody well surviving. So, I think we've got to do a lot more work internally to fix this situation (HW-27-RG).

According to another Hamilton-Wentworth regional official

people and organizations have in the past referred to [Vision 2020] as a basis to support their own agenda. The trouble is someone would use it to support something, and someone else would use it against the same thing. A perfect example is this whole Expressway debate. Vision 2020 is used to support the project by developers who quote Vision 2020 on [the need] for efficient transportation system, blah, blah, blah. But Vision 2020 also talks about transportation as a main source of air pollution, and that sort of thing, you know. That the Valley area is an environmentally significant area, and that kind of thing. So, it's been kind of used politically but unfortunately it's been used as a kind of debate ammunition as opposed to a basis to support good initiatives" (HW-21-RG).

Part of finding out how conflicts around sustainability were being resolved was to understand the "pecking order" among the various social and political groupings examined for this research. The participants were asked to name the most important institutions that acted as "movers and shakers" in attaining sustainable development. The question put no limits on how many institutions each interviewee could identify. The responses, summarized in table 23, reveal important additional insights.

Table 23. "Movers and Shakers"

Respondent Groups	Institutions							
	Govt.	QG	PS	LI	E/NGOs	CI	TU	MM
Government (Govt.)	11	2	9	6	3	3	0	2
Quasi-Government (QG)	7	0	4	3	1	1	0	0
Private Sector (PS)	5	0	4	2	2	0	0	0
Learning Institution (LI)	3	1	2	3	1	1	1	0
E/NGOs	3	0	1	0	1	0	0	0
Cultural Institution (CI)	2	0	0	0	2	0	0	0
Trade Union (TU)	2	0	0	0	1	0	1	0
Mass Media (MM)	1	0	0	1	1	0	0	0

It is apparent from table 23 that according to the key informants, government is the most important agent for (or obstacle to) change followed by quasi-government institutions, the private sector, learning institutions, and E/NGOs. Mass media was brought up by a few interviewees as an institution not doing enough for changing people's attitudes toward sustainability and often acting like a barrier to change (HW-26-RG; HW-27-RG; RW-41-LI). Key informants from government, E/NGOs, and trade unions pointed to the role of trade unions as agents for positive societal change. Trade union and learning institution key informants selected government as the most important agent of change while government key informants emphasized the importance of the private sector, second only to government. Interviewees from the private sector picked out government as the most important agent of change, followed by the private sector, and E/NGOs and learning institutions.

These responses seem to indicate that even in the era of "self-regulation" and "voluntary" codes of conduct, informed business commentators continue to see a major role for governments as agents of change, contradicting the stereotypical business wisdom that the days of governments as agents of change are over. Quasi-government organization key informants also selected government as the most important agent of change, followed by the private sector and learning institutions. Interestingly, quasi-government key informants did not point to quasi-government institutions as agents of change. One key informant viewed government and the private sector as agents of change with quasi-government organizations playing a facilitation or "go between" role between higher and lower levels of government and the private sector (EX-6-QG).

Table 23 also highlights the potential for the formation of strategic alliances on sustainability. If the private sector views government as the main agent of change, and government views the private sector as the most important non-government change agent, the "rational" outcome of this mutual recognition should be to form alliances to address common issues or shared concerns. Such alliances would need to be significantly different from the current modes of "partnership", predominantly a one-way arrangement to "assist" industry to act responsibly. New alliances to meet environmental[64] objectives are being formed through such quasi-government organizations as the Federation of Canadian Municipalities (FCM) at the national level and the International Council for Local Environmental Initiatives (ICLEI) at a global level. Much of the facilitation role traditionally played by the federal government is now delegated to FCM which works directly with municipalities, in effect bypassing the provincial governments. In a sense, the existence of and actions by FCM confirm Jessop's (1997, 1999) assertion that a "hollowing out" process is taking place at the nation-state level in terms of functions and responsibilities but not in terms of governance and exercise of power. Governments continue to govern and exert control by working through quasi-government institutions such as FCM or special interest institutions such as business lobbies.

Some interviewees expressed strong reservations about governments and their capacity to manage things at the ground level. For example, one stated, "I don't have a lot of hope for governments. Token democracy is all they represent….Governments to me represent

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[64] "Environment" is not synonymous with sustainability.

centralization and centralization usually means uneven power" (EX-2-LI). Engaging other institutions in government work was also a practical matter. According to one federal government official, many businesses were more knowledgeable than the government in dealing with community concerns because "[businesses] live it… they've been around for a long time [and] know how to consult with their communities" (EX-4-FG). So involving the private sector in environmental management for example, while perhaps politically motivated, was thought to be practical because of the private sector's "real life" experience. This latter view was questioned for overlooking the "steering" role of special interests and conflicting agendas in partnerships and collaborative arrangements. A federal official suggested industry associations and business interests "exist, in the main, to obstruct" (EX-3-FG) and opted instead for collaborative arrangements between E/NGOs and governments to address sustainability issues.

To ensure that goals are attained, government has to alternate between "policy with a stick [and] policy with a carrot". The regulation of industrial activity (the stick) discourages deviation while reduced property or other taxes (the carrot) encourage adopting new modes of behaviour (EX-14-PO-I). Government at all scales "should just take a facilitating role" by making information and funding available to E/NGOs, "to empower them to build capacity and awareness around sustainability for all other stakeholders" (HW-13-QG). A trade unionist concurred,

> community organizations and trade unions are important institutions because these are the mechanisms through which people express their interest. Governments can make policy, and trade unions and community organizations can actually organize and mobilize the social forces to do something (EX-16-TU).

Only through strategic alliances, i.e., agreements to attain specific goals without any of the parties making concessions on their mandates or principles, can governments take a leadership role (HW-32-RG) and "start to walk the talk" (HW-21-RG). The effectiveness of strategic alliances does however depend on transparency in the decision-making process and discourse in policy development and implementation. Interviewee comments on these issues are examined in the next section.

6.5 Discourse in Policy Development and Implementation

Success or failure to develop and implement policy at the regional or local level depends largely on how well government at these levels works with other institutions and entities. Working well, however, does not come without a price:

> If you have the best plan in the world but nobody is willing to work with you, there is not much chance of success. So, in the process …[of] developing an official plan, we have to provide a basis for cooperation that I think maybe waters down what needs to be done. We compromise because otherwise we won't get to the point of an acceptable policy document (RW-43-RG).

The regional government official also pointed out that watering down principles to reach consensus can sometimes lead to misunderstanding and potential conflicts among the

stakeholders during the implementation process, an issue explored in the previous section. A related flaw in consensus building exercises is misrepresentation through participation. Participants who do not adhere to the final outcome of consensus based consultation processes are sometimes listed as subscribers to the outcome on the basis of the initial intent to participate. As a result, adversaries could be presented as "supporting things they do not support" (EX-19-TU).

The adversarial approach of the Ontario provincial government was cited as a major area of concern by a trade union official and a religious peak organization member. Under the current political regime in Ontario, discourse on social issues and transparency of political positions have been superseded by discriminatory politics: "a women's shelter that receives money from the provincial government would be reluctant to criticize the government because its funding may be cut" (EX-19-TU). The religious peak organization member expressed concern that "the [Ontario] government is looking at the tax numbers and funding of all groups that are spending significant amounts of their time speaking out against government policy. … There's this fear that if we speak out, then our funding would be affected". The internalization of the province's adversarial approach results in a religious institution "… putting out a statement on work, but not criticizing the 60-hour work week forced by the Harris government" (HW-25-PO-R). At the firm level, internalization of adversarialism produces work environments not conducive to discourse on complex, fundamental issues such as sustainability (EX-19-TU).

Downloading and amalgamation initiated by the Ontario provincial government were pointed to by one interviewee as having a significant impact on the quality of discourse between the public and the government:

> We have gone through the amalgamation process and it's a little difficult to determine what all the implications are. … The fact is that we have greatly reduced the number of elected officials, we have enhanced the power of those who have money, and made the structure of government further dilute from the public at large (HW-29-CG).

Similarly, a senior regional official complained:

> The impact of the provincial government's policies is quite adverse on communities like ours. I am not a Bob Rae or a socialist, but I am very strongly involved and certainly know about these tendencies against communities taking place. I think the change in the political climate has had an unfortunate impact on this community (HW-30-RG).

The current political climate encourages the exclusion of certain stakeholders such as trade unions while affording disproportionately higher weight to private sector interests. One interviewee observed:

> It's funny that on everyone's list trade unions are always at the bottom. They are dismissed because of the political climate. … There are very few collaborations

with trade unions [in Ontario] compared to, say, in Germany where some of these Unions have very good research organizations (RW-41-LI).

To maintain economic growth, regional governments

> ignore the infrastructure, sewers, and roads that are falling apart like crazy. Instead, money is taken out of the maintenance budget and put into the capital budget to provide for 'growth', to expand, to sprawl and have 'sustainable growth' (HW-28-CG).

Some interviewees felt that the workings of the market needed to be brought under more stringent control as the market economy encourages short-term, profit centred strategies often detrimental to social and ecological well being. Such strategies could not possibly account for "the next 100 years…. The government can't do it, the corporations can't do it. It's like the profit motive is the tail wagging the dog" (EX-2-LI). From a private sector perspective

> There's so much going on that when you prioritize, the sustainability stuff just falls off from the bottom of the list of things to do. One thing that comes up when businesses are considering whether to launch environmental or social initiatives is that these initiatives might actually put them at a competitive disadvantage (EX-1-FI).

To offset the market's insatiable need to induce sprawl, some interviewees suggested that there needed to be more transparency in the decision-making processes and more inclusive discourse and consultation mechanisms on policy matters. Land use planning frameworks could then respect sustainability principles and municipal governments would be compelled to prohibit the use of greenfields for residential and commercial construction (RW-44-RG; RW-47-PO-A)[65]. However, the sentiment expressed by numerous key informants was one of concern that transparency and discourse had given way to partisan quest for political hegemony with significant implications for "institutional inter-relations", a theme explored further in the following section.

6.6 Institutional Inter-relations and Partisan Politics

Interviewees from government and quasi-government institutions, trade unions, industry, learning institutions, and citizens groups expressed concerns about consequences of changes taking place under Ontario's neo-liberal government. In particular, the key informants pointed to the recent disruptions in the workings of long-established governance mechanisms, the impacts on institutional inter-relations, and their implications for the two case study regions. An industry peak organization interviewee

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[65] There was significant difference between the two regional municipalities in terms of key informant awareness of official policy on sustainable development. All key informants from Hamilton-Wentworth were aware of Vision 2020, thanks to consultation prior to the formulation of the Official Plan and a successful awareness campaign to engage the community in implementation of the Plan. In Waterloo only 63% of the key informants were aware of the Region's Official Plan. Two Regional Officials were aware of the Official Plan but did not know of the statement on "sustainable regional communities".

complained of a dismantling of relations between his organization and the current government of Ontario (EX-15-PO-I) while a provincial government key informant related:

> We used to facilitate 'institutional inter-relations' until the new government came in. Our aim was to try and intensify these inter-relations through local workshops with people from different organizations and institutions by trying to bring everybody together and trying to create networks. We could provide a minimum of financial support. We used to have funding for this kind of work. … The Green Community Program was all about developing partnerships and strengthening networks. In 1995, I believe with the change of the provincial government, it all of a sudden stopped. …As field officers we [lost] all credibility with businesses we were supposed to lead (EX-18-PG).

Collaborative arrangements involving firms, unions, and government agencies to increase workplace health and safety and buffer changes in the labour market were also adversely affected by the change of provincial government:

> If [workers] were going to get laid off, we'd give them some tools so they could go on to other workplaces… [But,] then all of a sudden the political climate changed. The province pulled out of the relationship, the [federal government] questioned it, and the business representatives basically said we don't need this (RW-53-TU).

Amalgamation of two-tier regional governments into one-tier "city" governments such as Hamilton and continual change in the mandates of provincial government agencies since 1995 were said to have significant impacts on inter-relations at all levels. In the period preceding amalgamation in Hamilton-Wentworth for example, droves of key individuals who had played quite central roles in articulating and implementing Vision 2020 were let go through early retirement or marginalized through attrition. Older, experienced personnel with accumulated tacit knowledge were replaced with new personnel whose formal knowledge, gained mainly through education, and inexperience failed to fill the vacuum left with the departure of the old guard.[66] Continuous change was said to be driven by a political desire to weaken social democracy and centralize power and control in a fewer hands with increasingly fewer means to challenge this centralization (EX-16-TU).

At the municipality level, the progress toward sustainability by communities like Hamilton-Wentworth is curtailed or undermined "with each change in the political leadership [in the province]" (EX-17-QG). A quasi-government official stated,

> if a good, effective programme is not 'permanent', and keeps being treated like a football by politicians, depending on who may be in power, it loses steam and

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[66] Various references were made by Hamilton-Wentworth key informants to the detrimental impact of the loss of key staff as a direct result of amalgamation. Many of the key informants interviewed for this thesis have since taken early retirement or taken on non-government employment.

even credibility in the eyes of those whom it is supposed to serve. We need continuity (HW-13-QG).

Exasperated, a federal government official rhetorically asked, "In Toronto a thousand people die every year because of bad air quality. So, what do we need as evidence? Still the federal government is trying to play volleyball with the province" (EX-3-FG). The reason for this seemingly irresponsible course of action was given by a quasi-government official as the inability or unwillingness of politicians to think in terms other than electoral campaigns and retaining office or not viewing sustainability as "a longer term thing" (HW-13-QG).

Two regional officials gave examples of how decision making processes and management forms had changed due to the predominantly neo-liberal mode instituted by the provincial government. When Hamilton-Wentworth was in the process of drafting Vision 2020 in early 1990s, senior regional officials provided the field officials with

> a free rein to go out and experiment through mixing and matching various interested parties in different forums. This latitude was the main reason for our initial success. The new regime [in charge of amalgamation] is not interested in experimentation as much… Administrators are being replaced with corporate managers who view [the Region] as a business operation, complete with its 'cost centres' and the priority to become 'efficient' at the expense of effectiveness (HW-22-RG).

Hamilton's new government does have specific requirements for effectiveness and quality, but

> it'd bloody well better be efficient, and we'd better see tax reductions. …There isn't that recognition [that deterioration in services will eventually set in]. The motivator should be facts… the informal position is: 'if you can still deliver a great programme and still come in $10,000 under the budget, ok, if you can't, it's your problem… There is something wrong with this. It doesn't make sense to us [as service providers]" (HW-33-RG).

The expectation of the provincial and regional governments for "efficiency" in service provision was attributed to the priority afforded to "taxpayers" who according to the prevailing political ideology rule supreme:

> Once you introduce the political element, all this sustainability talk becomes a political football. …One has to understand that when politicians get into power they have to get votes. And the way to get votes is by demonstrating that they are doing something good for the people that count. Serving individuals who happen to share the ideology of the day is not necessarily good for the public. You've got to be good for the whole, for sustainability (HW-27-RG).

Weakened academic independence was also related to provincial government interference based on partisan politics. Universities now have to become "sensitized" to private sector needs and expectations or else risk reduced funding (RW-41-LI). A

regional official expressed concern that the current provincial government had, through the "red tape review" and in the name of efficiency, effectively dismantled a planning process of very high standards established under the previous provincial government (RW-45-RG). A significant number of interviewees expressed bewilderment at the provincial government's actions. For example,

> The provincial government has withdrawn the funding for transit…. It doesn't seem to be particularly interested in protecting the environment. It doesn't seem to have a particular commitment to dealing with sprawl. It is proposing new highways rather than trying to deal with the transportation issue in a sustainable fashion (HW-29-CG).

With a slightly different focus, another interviewee stated,

> reductions in the size of government, governments encouraging urban sprawl and businesses usurping public goods like good agricultural land, great percentages of layoffs in the public sector… these things don't help sustainability (RW-41-LI).

Yet another interviewee observed, "if politicians feel that when times get better, they can pick up [sustainable development] again, we'll lose all the momentum that was created previously" (HW-26-CG).

The looming amalgamation of area municipalities within the Region of Waterloo has exacerbated the historical friction between Cambridge, other area municipalities, and the Regional government strengthening a sentiment in Cambridge against being ruled by "somewhere north of the 401" and for "going it alone"(RW-42-RG). Other interviewees alluded to regional differences in geography, political landscape, and history as factors that defined regionally specific characteristics. Some of these characteristics examined next.

6.7 Regional Specificities

Fears concerning changes in lifestyle and "sticking to what you know best" are not specific to individual behaviour. There are also regionally specific political mindsets and decision-making frameworks: "[In Hamilton-Wentworth], it's the politicians that don't want to or fear change" (HW-26-CG). The slower than hoped for pace of Hamilton-Wentworth toward sustainability was attributed by one community activist to Hamilton's history as a town dominated by a fairly small political elite that has not embraced sustainability or taken a leadership role in that direction (HW-29-CG). The latter interviewee stated that parochialism among the political elite in the City of Hamilton in particular had on numerous occasions undermined pro-sustainability initiatives by the provincial and federal governments.

The two regions shared a tendency to "repackage" existing and ongoing projects as initiatives undertaken specifically for sustainable development. A federal official observed,

even in the absence of the [Vision 2020] plan, [the federal government] and the [Hamilton-Wentworth] Region would probably still do what we are doing now anyway because of the environmental problems down there. They fit these joint activities under the umbrella of Vision 2020 because it's there. It's like repackaging something (EX-3-FG).

Waterloo was also said to have repackaged the provision of basic services under sustainability and as implementation of objectives stated in the Official Plan. The Region's policy on the protection of water resources (RW-36-RG) and housing (RW-46-RG) were cited as two on-going projects that had been repackaged to demonstrate commitment to sustainability.

Most interviewees did not view the regional industrial makeup as an issue since adverse social, economic, and environmental impacts were said to be associated with all types of economic activity. A region should, however, attempt to diversify its industrial base regardless of the mix (HW-21-RG). There is no "ideal" mix for sustainability:

> You have to work with what you have….you know that some areas in your region are predominantly agricultural and some are predominantly industrial. The challenge is how you integrate it all (HW-13-QG).

Planning and land use policy combined with selective recruitment of investors were underlined by numerous interviewees as the most effective tools for the protection of natural areas and agricultural lands and the diversification of the economic base. However, applying these tools for sustainability would have to mean shifting the focus from economic growth to economic development. The application by Toyota to develop a vast parcel of prime agricultural land near Cambridge, facilitated by the Region of Waterloo, was cited as one example of how the planning and economic development tools at the Region's disposal were not used to pursue sustainability: "We need to ask, what else could have been done with that land? Could Toyota have been stuck somewhere else?" (HW-25-PO-R).

Suburban sprawl and short-sighted infrastructure development projects, allowed through planning and land use policy based on the "growth" model, take up vast tracts of natural area and agricultural land, historically valuable assets that characterize both Regions. The Red Hill Valley Expressway in Hamilton and the expansion of Highway 7 in the Waterloo Region, both proposed, were cited by numerous interviewees as examples of growth oriented development policy with significant adverse impacts on natural areas, agricultural lands, and the quality of life. By most accounts, developers stand to gain the most from these two projects which at best only temporarily deal with traffic congestion and unemployment without eliminating the sources, i.e., inadequate public transit infrastructure and lack of a diversified economy respectively. That the 401 corridor is now almost completely built up between Toronto and Waterloo should give planners an indication of what is to come if either of the two projects are given the go ahead (HW-26-CG).

The disconnect between planning decisions and sustainability commitment is in part due to planners not asking the "right" questions. For example:

> We have contaminated lands in Hamilton but [policy makers] tend to be not knowing about them. It's like burying you head in the sand. If we don't study contaminated sites or attempt to find out about them, then we are not responsible for not knowing about them (HW-29-CG).

To tackle the problem of contamination, the conventional faith in heavy manufacturing needs to be questioned:

> At some point you have to look at the number of jobs that heavy manufacturing creates and look at what else can happen to [Hamilton] Harbour. Maybe overall the steel makers will become a net loss as far as sustainability is concerned (HW-28-CG).

In the case of Waterloo, failure to achieve stated policy goals was said to alienate those committed to sustainability:

> We rally people around for nine years and in the tenth year we still have not made significant strides around the Uniroyal problem and the proliferation of box stores (RW-38-CG),

or,

> we do exercises like 'Imagine Waterloo' and plan for the next 5 to 10 years while we watch the disparity between the rich and the poor increase in the community and compared to other places (RW-49-CG).

These failures result in part from inadequate institutional support for policy implementation (RW-41-LI). According to one interviewee there has been a regression in development toward sustainability in the Waterloo Region:

> We now have soup kitchens as a permanent entity within the community… soup kitchens are now an 'institution'. There are families that live in church basements and eat food from the food banks and that's how they get by now. It's not very sustainable, is it?" (RW-46-RG).

At the same time, over the last 10 years the Region's economy has been moving toward high tech, high capital, high paying industry with a more polarized population as a direct result. The polarization was said to be occurring because the infrastructure is being reorganized to provide services to high income families and individuals. With the arrival of more high tech companies,

> we'll give developers our prime land to build houses for the dot.com entrepreneurs. We cannot lose sight of the fact that the low income people like cafeteria workers who serve these firms also have social and housing needs (RW-46-RG).

Regional specificities and particularities, e.g., unique ways of conducting business or engaging community, were perhaps not as easily discernible or pronounced as had been expected prior to conducting the interviews in part because the interview questions did not invite direct comments on these issues. However, one interviewee offered an interesting observation with implications for the regions and the province. Comparing the popular and electoral cultures in North America and Europe, the interviewee rhetorically asked:

> Could Jesse Ventura have been elected to office in a European country?…. Under the current [Progressive Conservative] government in Ontario there is no relation between the personal skills of the cabinet ministers and their responsibilities. They have a car salesman for the Minister of Transportation and a small time businessman for Economic Development. … In Holland, where I come from originally, you usually get ministers in the cabinet who are knowledgeable about their portfolios. Yes, we have a lawyer for solicitor general, an engineer for the minister of transportation, and also, we have a doctor for the minister of health and someone with a PhD for the minister of education. Why is Ontario so out of line with this? No wonder we don't do most of what we have written down, maybe nobody is interested in reading them (HW-32-RG).

The heavy-handed approach exercised by Ontario's neo-liberal provincial government since election in 1995 has had significant implications for regional municipalities throughout the province. Since assuming office the provincial government has attempted to redefine the mode of regulation at the local scale by tightening funding arrangements and restructuring government functions through amalgamation (see chapter 2). Interviewee comments were analyzed to gain insight into the implications of these changes for the quality of inter-relations at different scales. The results of this analysis are reported in the next section.

6.8 Scale of Inter-relations

The amalgamation process, aimed at "streamlining" municipal governments in Ontario and coupled with the downloading, with the exception of education, of essential services by the province onto the municipalities has created in effect systems of meta-governance through which the province is governed. To provide the services downloaded onto them, municipalities, amalgamated or not, have to bid for funding by presenting a convincing "business case" to the provincial government – a system that effectively undermines the ability of regional municipalities to address local needs in such areas as housing and transit. A senior regional government official suggested,

> implementing a vision for the urban structure, like public transport, should be removed from the party politics and local politics. … Because of the governance structure, and especially because of the assessment system [forcing municipalities to compete for funds], everybody is supposed to get a piece of the [provincial funding]. Well, you can't really divide up the money for things like transit – that would be asking for chaos. We've basically hit the wall right now where the costs

of infrastructure continue to rise, and quite frankly, no amount of good planning [within the region] is going to fix this kind of chaotic environment" (RW-45-RG).

Another regional official stated that since the change in the political environment in Ontario there has been a confusion of roles and a blurring of the division of labour between the province and the regional municipalities:

> The local government has always been a service provider. A lot of the issues we are faced with right now in the Region are things like skewed income and wealth distribution. We also find ourselves dealing with financial issues that are more sort of macro-policy questions, and I don't think that's right. I'd like to see [the province] get back to doing macro government and let us be the hands-on service providers because we are very good at that (RW-46-RG).

Beyond the local and provincial scales, there is a fundamentally structural issue that needs to be addressed:

> Here in the northern world, the typical family has two full-time wage earners, spends increasingly long periods of time in the workplace, and pays through taxes for lots and lots of infrastructure to sustain an unsustainable lifestyle. Most people have stressful jobs, severe shortages of time to do social and community oriented things, very short holidays… it just seems like a hopeless situation. The provincial government works actively against sustainability, the federal government does a few things and pays lip service, and so it goes…" (RW-41-LI).

Another interviewee observed, "from an agricultural perspective, produce travels 2,600 kilometres to reach my table. …I have no problems with free trade but this is ridiculous". Working toward sustainability requires questioning trade practices that run counter to attaining sustainable development, consumption patterns in northern industrialized societies, overdependence on imports, and placing excessive loads on the planet's carrying capacity (RW-55-PO-R).

These comments resonate with assertion that a "sustainable regime of accumulation" needs to be based on linking economic development to simultaneously resolving "problems of unemployment, environmental sustainability, and competitiveness" (Hudson and Weaver 1997:1652). Crucial to this process of change is "radically to revise the regulatory framework of state policies [on public expenditure and tax and benefit systems]" (page 1653) and a more active role by national governments. The authors readily recognize that there will continue to exist tensions between the emerging, locally governed, economic regions and supranational authorities. Part of the challenge in operationalizing sustainable development is to understand the complex inter-relations that underpin the tensions at different scales.

Using the field data, the tensions identified by Hudson and Weaver (1997) were explored in the context of Jessop's (1997) three levels of "embedded" social organization and the problems of governance arising from them. These levels, existing in "a complex, de-centred societal formation", are "social embeddedness of interpersonal relations,

institutional embeddedness of inter-organizational relations, and societal embeddedness of functionally differentiated institutional orders" (Jessop 1997:101-2). Clearly, understanding the dynamics that constitute a more or less cohesive set of inter-relations based on trust (institutional cohesiveness) requires careful examination of scales at which inter-relations occur. To accomplish this task, the data collected through the interviews were grouped and analyzed under Social Embeddedness, Institutional Embeddedness, and Societal Embeddedness (after Jessop 1997) as follows.

6.8.1 Social Embeddedness

There were not many direct comments on trust among individuals, indicating perhaps that trust at the individual scale was not as important as trust at higher (institutional / organizations and societal) scales. Commenting on the role of individuals broadly, one interviewee observed that collaboration on issues of sustainability requires commitment from "the mayor, the business leaders, and champions in business organizations and government institutions who have the vision and the ability to do things on the ground" (EX-14-PO-I). However, another interviewee pointed out that behavioural change in individuals that could translate into institutional or organizational change was very difficult to accomplish (EX-6-QG). Part of the problem is the absence of structures and super-structures that nurture sustainability by steering individual behaviour in certain directions. In North America, the focus on the individual scale has meant being content with comparatively small-scale accomplishments:

> We seem to be super concerned with the individual scale of doing things here…
> We operate a blue box programme [and] people seem to be happy to put their
> stuff in the blue box thinking they have done their part… We don't stop to think
> where the blue box actually ends up… Compared to European countries we are
> way behind [in overall accomplishments]… I compost my vegetable scraps and
> garden waste, but I don't think that is the way to go, and the way to go is to worry
> about the systems that handle the waste once it's on the curb (HW-32-RG).

Another factor constraining behavioural change was identified as parochialism. For example, "there are people who for 20 years have lived in Flamborough and say that they live in Waterdown [a town no longer in official existence]" it is difficult to imagine a working relationship based on trust among individuals from different backgrounds forced to work together under amalgamation (HW-33-RG). Unless grand designs and amalgamation policies are adopted by local communities,

> 'new' cities like Hamilton are never going to work because of the way local
> communities and the regional government interact, or don't interact, right now…
> When it comes to implementation, Cambridge is different, Kitchener is different
> from Waterloo, and it's different in Elmira (RW-34-IN).

Local politicians contribute to this lack of collective resolve by being "too local" (HW-33-RG), while provincial, federal, or continental decisions-makers may be insensitive or dismissive of local needs for practical or other reasons. Individual inter-relations have a

direct relationship with how effectively or ineffectively institutions and organizations work together (EX-18-PG; HW-13-QG).

Conflicting interests also contribute to a lack of trust among individuals:

> [My E/NGO] to some extent …been painted …as obstructionist or difficult to deal with. … Some of these characterizations are extreme and describe us as criminal in a number of situations. … We are painted as enemies in the community… (HW-29-CG).

A quasi-government organization member related that if his organization came out against proposed development projects too often, "…we have our hands slapped by the regional council for being too hard nosed and against economic development…" (RW-35-QG). Yet, there was widespread recognition among the interviewees that individuals could play important roles as champions despite organizational / institutional inertia and political meddling. The issue of trust was more discernible in interviewee comments on institutional and societal inter-relations. These are explored next.

6.8.2 Institutional Embeddedness

Asked how successful the efforts had been to promote local / regional sustainability, a federal institution interviewee responded: "We haven't gone outside of the department". Elsewhere during the interview the same interviewee stated categorically, "really, we don't do a lot of the stuff at the regional level, we tend to do things at the federal level". The failure to promote sustainability nationally was attributed to a three-tier system of government:

> We also have to be careful, there is always tension between different levels of government, you know, the feds and the provinces and the municipalities. So we are conscious that we don't step on anyone's toes (EX-4-FG).

These comments are particularly significant in the context of the Auditor General of Canada's calls in 1995 and 2000 that all federal government departments have to adopt and adhere to the principles of sustainable development. This policy stance does not seem to have translated well in operational terms. The establishment of environmental management systems and recycling programmes at works and administrative centres and instituting reasonably extensive "green" procurement policies are well documented but do not constitute adherence to sustainability principles as prescribed by the Auditor General (see chapter 2).

The federal government's efforts to pursue its environmental[67] agenda seem to be centred on providing financial support to quasi-government organizations such as the Federation of Canadian Municipalities with little buy-in from the provinces. This operational strategy has been supported through the "Green Funds" to be disseminated by FCM to support local environmental initiatives. Green Funds are intended for projects deemed

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[67] Distinction is made here between "environmental" management / greening exercises and sustainability.

"too risky" by conventional funding agencies but promising in terms of providing better environmental management and protection. To get around the "turf" problem between the federal and the provincial governments the federal government works with quasi-government organizations, effectively establishing a system of meta-governance.

During one interview, the interviewee asked for and was provided with a broad outline of what sustainable development entailed for a financial institution funding development projects worldwide. After some thinking, the interviewee said:

> You know, I am just, I hadn't thought before about the idea that we should be looking for 'opportunities'….the whole idea blows my mind. We are so busy attending to our core business. To do sustainability stuff, we need a staff of 50 people and I don't think that is what we do (EX-1-FI).

The institution does not have criteria for assessing the sustainability implications of the massive funds it releases for development and investment projects worldwide. Furthermore,

> The public sector [should be responsible for sustainable development since] that is what they do, they do things that benefit everybody more than an individual or even an institution can. So I think that the public sector has to coordinate some of these initiatives (EX-1-FI).

The interviewee did not specify the means through which the public sector could fulfill this function.

Isolated commitment to change for sustainability by organizations, institutions, or regions although necessary, is not sufficient: "the critical thing… is going to be the collective authority of these entities, people's authorities and institutions, that's what we have to fix" (EX-16-TU). The collective authority could in part be established

> when a big company like Stelco or Dofasco becomes involved in something and talks it up, it helps to promote the concept amongst other sectors. If you don't get the big players involved, Vision 2020 is just a little fringe group of people off to the side, it's not going to go anywhere (HW-20-CG).

To make sure that the private sector does its part, governments have to think of innovative ways of making private sector organizations conform to certain standards and work toward a common goal. An industry peak organization interviewee gave the example of memoranda of understanding between industry and federal and provincial agencies and that "No MOUs are signed these days unless they have a commitment to the New Directions [a model developed for industry by industry and E/NGOs for environmental protection] principles" (EX-39-PO-I).

Operational autonomy of business associations and industrial sectors was, however, underlined by one private sector interviewee as a possible explanation for the absence of a coordinated effort to effect sustainability initiatives (EX-3-FI) capable of tackling larger environmental / sustainability concerns such as air pollution. Given the enormity,

complexity, interconnectedness, and interdependencies that characterize such issues as air pollution, much of the understanding, direction, coordination, and execution has to originate from multiple institutions at higher scales. Interconnectedness and interdependencies continuously disorganize and reorganize the autopoietic state of existence aspired to by many single entities, large and small. The resultant uncertainty seems less manageable given the general absence of checks and balances that characterizes free trade and globalization. Some of these themes are explored further in the next section.

6.8.3 Societal Embeddedness

The importance of interconnections, as in: "You can't just do environmental stuff, you can't just do economics stuff, you have to understand the interconnections between these systems, … we really are integrally connected" (RW-40-QG), enormity of problems, as in: "It takes a lot to fix the air quality in Toronto" (EX-3-FG), and the need for collective action, as in: "Nobody can pursue sustainability in a vacuum" (RW-37-RG), capture the flavour of the sentiments expressed during the interviews in response to questions on what interviewees perceived as the main problem in relation to sustainability and how best it could be overcome.

Interconnectedness was brought up by numerous interviewees as a phenomenon often overlooked by decision makers and activists at all scales in efforts to move toward sustainability. One interviewee commented,

> to consider yourself a sustainable community without caring about that which lies outside your area just isn't sustainable (EX-2-LI).

The local perspective has to be placed within a spectrum of scales to ensure that "the betterment of one region is not at the expense of another part of the whole system" (EX-2-LI). Isolationism also causes other unsustainable trends, such as inequity and lack of diversity, within the larger system because "as an isolationist, chances are you are living at somebody else's expense… and you tend to get noticed by those you have isolated" (HW-27-RG). There needs to be a willingness to "examine sources of [societal] problems including their history and to make a financial commitment to making [the necessary] changes" (HW-29-CG). In addition, there has to be more consistency across scales:

> We have people working for the same multi-national in Brazil and in Canada. Our workers in Brazil are paid 10 cents an hour. If we don't stay on top of this wage differential issue, how are we going to ask for dollars here in Canada and the U.S.? (EX-19-TU).

It is difficult to think about the sustainability of a regional municipality in the global context when one thinks of "rural communities in Africa and compares them to regions in the industrialized world" (HW-13-QG). The approach toward sustainability has to be multi-scale:

to revive an economy like Hamilton's – it's too connected to other economies. ….
You are not going to do it through tax cuts and things like that in Hamilton alone
(EX-19-TU).

Conversely,

the moves toward a global economy kind of stands in the way of sustainable
communities [by] weakening the ability to do things at the local level (RW-35-
QG).

Sustainable development should mean that,

when we address issues in the social, economic, political, and environmental
areas, we do not undermine the whole system. We have to move things on all
fronts…. There needs to be adequate infrastructure, monitoring system, available
information, feedback, regulatory framework, and enforced regulations" (HW-20-
CG).

In other words, the approach to sustainability needs to be multi-system, multi-scale, and
integrated. The necessity of focusing on the long-term, despite short-term urgencies, was
highlighted by some interviewees as a continuous challenge to making decisions and
taking actions consistent with long-term sustainability:

Politicians only think in terms of being elected, but sustainability is a longer term
thing. The systems have to be there, and they have to be implemented regardless
of who the politicians are (HW-13-QG).

Similarly,

people have to look beyond their perceptions that they can have the cake and eat
it… Change will cost money and ultimately [affects] the bottom line, and may not
be recoverable… We have to switch from short-term to long-term views (RW-35-
QG).

Numerous interviewees from a reasonably wide institutional base felt that the focus on
the short-term could be shifted to the long-term through planning modes based on the
natural environment characteristics such as watersheds or bioregions, as opposed to
planning based on political jurisdiction:

What separates between Hamilton and Oakville? It's a line. They can't even talk
to each other on the phone without paying the long distance fee. Are these real
communities? (EX-2-LI).

Also,

It is very difficult if not impossible to address infrastructure issues such as transit
because the scope needed for thoughtful planning does not fit the scale we have to
work with (HW-32-RG).

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The policy direction on issues such as transportation, health, and housing needs to come from "higher up… what we can do at the lower level is to bring issues to light" (HW-32-RG). Attaining local sustainability is an almost impossible task not least because of the absence of sustainability or commitment to work toward sustainability in the neighbouring municipalities and in the local, provincial, and federal political structures (EX-4-FG). Watershed planning means that the local municipality "can only control what it can control" and has to work with others on what it cannot control through political agreements (RW-45-RG; RW-40-QG). The issue of "local" or watershed control, however, becomes increasingly complicated because of globalization and what regional sustainability means at the global scale (EX-17-QG).

The imposition by the provincial government of single-tier local governments through amalgamation was viewed by a quasi-government interviewee as a preferable political scale for planning on such issues as transportation, land use planning, and watershed management (EX-6-QG). Some interviewees viewed the two-tier local government system as creating unnecessary fragmentation which delayed a coming together of area municipalities under the leadership of the regional government. Amalgamation was said to provide a better framework for planning and implementation leading to a situation where regional governments could act decisively (HW-21-RG). A regional official cautioned, however, that the question is not whether there is one- or two-tier local government:

> [The issue] is to clearly define the regional policy mandate as covering things like transit where the implementation of a solution means looking at the needs of 420,000 people [in the Waterloo Region] instead of 100,000 [in Waterloo alone] (RW-45-RG).

Many major concerns clearly lie beyond the reach of the single or two-tier municipal government:

> Income distribution in the Region… increased homelessness, increased need for food banks… we shouldn't need these …arrangements to deal with real social issues like poverty. Poverty is a macroeconomic matter and as such has to be addressed by provincial and federal governments (RW-46-RG).

At the same time, increased autonomy for regional municipalities allows for more effective response to issues of sustainability at the local scale. But there should be a stronger link between regional municipalities and the federal government because the federal government has the final authority (EX-17-QG). One regional official eloquently summed up the complex interplay between scale, development policy, politics, and sustainability as follows:

> Internal strife within institutions such as ours, competition between area municipalities themselves and between them and the Regional government puts up barriers for having this big broad discussion about what kind of economic development we want for all of southern Ontario, say. …I mean the concept of sustainable development is that there is different scales, one is at a kind of a local

municipal / regional and then you've got to look at it from the … provincial and federal [scales]. So, depending on what issue you want to address or the role you want to play, you have to think about the scale. The direction of what needs to be done has to come from higher [provincial and federal] levels with Regions translating it in local terms to follow the same general direction… As it stands, local scale politics are interfering with the ability to make decisions on sustainability (RW-36-RG).

There is in addition a global cultural dimension that needs to be considered:

Somewhere in Africa…the World Bank is trying to get people to sell their land, to get money to invest in their own communities. Those people wouldn't do it because to them, land is not something that can be traded, it's something that was passed on to them by their forefathers… you just can't do that. So, … how do you try to bring about the concept of sustainable development as understood by us westerners to these people? (HW-13-QG).

It is therefore necessary to have

a marriage between the bottom-up and top-down approaches [because] you are never going to have total empowerment or control to do the things you want to do… We have to have the support of the federal and provincial governments, …we have to have champions in every sector, and we have to have expertise here to do what we want to do (RW-40-QG).

There is also room for practicing "meta-governance" though formal institutions such as the Federation of Canadian Municipalities (FCM) that pursue federal policy direction semi-independently from the federal and local governments.

Managing the federal government's commitment to sustainable development is difficult in part because of strained relations between federal government departments, the federal and provincial governments, and the provincial and municipal governments. To work directly with regional municipalities, the federal government relies on quasi-government organizations. FCM represents more than "added institutional capacity" and is viewed by many as a "strategic institution" (EX-6-QG). Because of its strategic orientation, FCM manages to maintain strong links with regional municipalities and pursue environmental initiatives at the regional level despite the tendency by the federal and other levels of government to reduce funding on environmental protection when "times are bad… and there is a need to maintain basic services such as picking up the garbage and ploughing the streets" (HW-26-CG). It has to be noted that part of FCM's success lies in being endowed with leading individuals driven by conviction and an agenda for change, constituting uniquely strong internal cohesion in that institution.

Collective, strategic action involving the municipal, provincial, and federal governments is needed to address such issues as transit and the clean up of contaminated sites (HW-29-CG). The question is not whether or not a community is or should be sustainable within its geographic boundaries:

We should look at southern Ontario [and how it] depends on products and resources from outside its regional limits… [then] we can look at lifestyle issues and see that we are moving away from [sustainability] rather than towards it (RW-35-QG).

Attaining sustainable development at the local level was said to be "just dreaming on the small scale instead of the big scale" (RW-50-LI), however. In practical terms,

a small local group can play a big role at the local scale which may seem pretty insignificant in the larger scheme of things. But we know that we probably have more influence on the local level than on the provincial and federal levels… (RW-55-PO-R).

Sustainable development, in other words, does not mechanically start at one scale and end at another.

6.9 Conclusion

This chapter focused on factors that define the mode of regulation at the local scale. It is apparent from the analysis of the interview data that perceptions of sustainability by individuals play a key role in determining individual actions and how individuals view the actions of their and other institutions. Perceptions are not formed in a vacuum however. Misplaced convictions based on cultural and religious beliefs, or reinforced by organizational and institutional inertia, conservatism, self-protection, political and social positioning, and short-sightedness seem to underpin misplaced convictions about the incompatibility of economic activity and social and environmental well-being.

Misplaced convictions in turn seem to form the foundation for conflicting interests and competing agendas that characterize the contentions around the issue of regional sustainability. Uneven distribution of political power in favour of business interests has made it difficult to form lasting and equitable collaborative arrangements to address sustainability objectives at the local scale. Most interviewees recognized that sustainable development had potentially enormous implications at all levels and looked to governments as the main change agent or facilitator to lead the way. The attention by the key informants to the role of government led to analyzing interviewee comments on discourse in policy development and implementation.

Differing perceptions of sustainability, convictions (misplaced or not), and the resultant conflicting interests and competing agendas create a volatile environment for consensus making to attain sustainable development. The approach to consensus making was said to be abusive to the under-represented in some cases and more generally based on a "watering down" of sustainability principles. The election of a neo-liberal government in Ontario in 1995 and the subsequent weakening of social democratic institutional arrangements seem to have deepened the socio-political polarization at the provincial and local scales, undermining discursive mechanisms built over many years by a consortium of conventionally conflicting stakeholders. Downloading and amalgamation, imposed by the provincial government and accompanied with reduced or "targeted" funding, have

exacerbated the tensions within and between regional municipalities and between regional municipalities and the provincial government.

In broad terms, regional specificities do not appear to influence matters of sustainability, in part because of issues of scale, interdependencies, and interconnectedness. However, there are differences between the two regions in terms of culture, history, and approach to discourse on policy development and implementation. Both regions were noted for their "creativity" in repackaging development initiatives or service delivery as fulfilment of sustainability commitments. Both regions were also noted for their similarities in contentions over divisive infrastructure issues: Hamilton-Wentworth for the proposed Redhill Expressway and Waterloo for the proposed expansion of Highway 7. Contention was more pronounced in the case of Hamilton-Wentworth.

Aside from beliefs, perceptions, convictions, and social and political positioning individuals are also influenced by institutional settings. Individual creativity and initiative to effect change is often checked by institutional rigidity closely tied to a socially, economically, and ecologically unsustainable regime of accumulation. The tensions between conflicting interests and competing agendas, exacerbated by an ideologically charged provincial government in Ontario since 1995, have adversely affected "trust" in inter-relations at different levels. The analysis of the interview data in light of Jessop's (1997) "levels of embeddedness" reveals that the issue of trust is of particular concern at the organizational / institutional and societal levels of embeddedness.

At the inter-organizational / inter-institutional level, mistrust is particularly apparent in comments by federal government officials on the strained relations with the provinces. Mistrust is also apparent in comments by E/NGOs on the private sector. The most "disembedded" sector seems to be the private sector which for the most part appears to view social and environmental responsibility as added, often voluntary, tasks.

There was widespread recognition, at an intellectual level al least, among interviewees of interconnectedness and interdependence of social, economic, and ecological systems. The failure by organizations and institutions to reflect interconnectedness and interdependence in cohesive sets of inter-relations is largely due to a belief of religious proportions in an economic system that overlooks or downplays the ecological imperative and most root causes of social and economic inequity. The political persistence to stay the current productivist trajectory for the economic system is likely to strengthen existing, or generate new, barriers to attaining sustainability. Chapter 7 will identify and categorize the scalar and multi-system barriers to sustainable development in a regional municipality context.

Chapter 7: Barriers to Regional Sustainable Development

The word "synergy" is almost invariably nonsense…. Synergy is a fig leaf. If synergy really worked, so would socialism. But the essence of our capitalist system lies precisely in the fact that focus and accountability are worth far more than vague visions of collaboration
(Evans 2002)

7.1 Introduction

There is substantial evidence and widespread agreement among government and non-government institutions and organizations that progress toward the objectives of Agenda 21 has been less than satisfactory. In 1997, based on a reasonably aggressive agenda for sustainable development and a critical analysis of case studies from around the world and surveys ICLEI compiled a list of obstacles to local implementation of sustainable development (table 24). Except for "Land Use Policy" over which local municipalities exercise some control, all the other obstacles identified by ICLEI relate to areas of control beyond the municipal scale.

Based on the field data, chapter 6 highlighted some of the factors that determine the mode of regulation at the local scale focusing on the Regional Municipalities of Waterloo and Hamilton-Wentworth. The analysis in chapter 6 and the review of secondary data suggest that the changes in the political landscape of Ontario since 1995 have had significant repercussions in these two locales, particularly in Hamilton-Wentworth. Stringent financial controls and the diminished facilitation support by the provincial government have strengthened existing, or created new, barriers to sustainability at the local scale. This chapter identifies five "Barrier Categories", ranging from macro to micro. These are: Systems-related Factors; Politics- and Policy-related Factors; Inter-relational Factors; Resource-related Factors; and Organizational Factors.

At the macro scale there are barriers, or inadequacies, over which single institutions or organizations have minimal or no control. Institutionalized linear thinking and obsession with economic "growth" compound inadequacies in the policy-making, political, and the education systems allowing, and frequently promoting, a narrow perception of sustainability.[68] As a result, the "environment" is often viewed as an add-on to business

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[68] In much of the secondary data sources reviewed for this project, and in comments by numerous key informants, sustainable development is often equated with "the environment", failing to simultaneously focus on the social, economic, ecological components.

as usual and a burden on decision-making on development and job creation. At the micro scale there are physical and inter-relational factors that work against the attainment of sustainability. Inadequate funding mechanisms and lack of knowledge and/or skilled personnel could undermine the ability of an institution or organization to strive for sustainability. Absence of trust may cause an organization or institution to have "low quality" inter-relations with other entities. Indeed, an entity may itself suffer from particularly poor internal inter-relations due to lack of trust among its members.

Table 24. Obstacles to the Local Implementation of Sustainable Development

Fiscal Framework: Most countries have financial and fiscal frameworks that undermine Local Agenda 21 objectives, initiatives, or programmes. At the local scale, statutory municipal development plans and budget priorities do not reflect sustainable development objectives. At the macro level, governments provide subsidies and other economic incentives / disincentives that encourage unsustainable practices.
Land Use Policy: Most municipalities apply old land use, building and public health requirements that discourage the design of neighbourhoods that support public transit or of buildings that use new technologies for water, energy, and waste water management.
Budgetary Control: Most municipal funds are regulated and restricted through a centralized (provincial or national) system which also decides on how to allocate funding to municipal projects. Capital projects such as road and highway building, often nationally run or nationally subsidized, can contradict local initiatives to promote the use or extension of local transit systems, for example.
Regulatory Framework: Without a comprehensive, effectively enforced state or national scale regulatory programme, little can be done at the local scale. The municipalities that take the initiative to improve local environmental conditions through regulatory programmes run the risk of being marginalized or economically undermined. Water quality control, waste reduction, and pollution prevention can only be meaningfully managed through establishing and enforcing national performance standards. Deregulation creates a dual barrier to local implementation of sustainable development – it both legalizes practices that cause social and environmental problems and increases the complexity of holding institutions accountable for the problems they cause.
Downloading: National or state/province level governments regulate and control the revenue generation options of local governments. The downloading of essential services to local municipalities has not been accompanied with the transfer of control over locally raised revenues. The increased responsibility for essential services has made for more vulnerable, not stronger, local governments. Without new sources of local revenues, downloading will continue to weaken public sector capacity to implement new social and environmental mandates.
Globalization: The development of resource efficient, socially vibrant cities requires local control of development according to clear, locally-determined strategies and principles. Transnational corporations, increasingly present in local economies through branch plant operations, have little incentive to be accountable and committed to local development strategies.
Product Design: Unsustainable consumer product design and packaging have a significant impact on local solid waste stream, contain high levels of toxic substances, and rarely employ best available technology to maximize energy and water efficiency. Since this is a macro scale problem, little can be done by local governments to control or change consuming habits in their jurisdiction.

Adapted from: *Local Government Implementation of Agenda 21* (ICLEI, 1997: 22-23).

As the analysis in this chapter will show, ICLEI's conclusions are confirmed by the findings from this research. However, this analysis emphasizes perhaps more explicitly than ICLEI's conclusions the importance of scale and scalar interplays and tensions. The Barrier Categories developed in this chapter are then used to re-interpret ICLEI's obstacles to attaining sustainability at the local scale. This chapter concludes with elaboration on the strategic and institutional implications of the findings.

7.2 Barriers to Sustainable Development

During the interviews, the key informants were invited to comment on the quality and the scale of institutional inter-relations. Specifically, the interviewees were asked to identify the factors that prevented their institutions from contributing to sustainability. In tables 25-29 the right hand column contains the main affiliation and the territorial designation of the interviewee(s) who identified the factor. The number in brackets after an institutional affiliation indicates the number of interviewees from that institution type. Discussion of and elaboration on selected factors under each category appear in the pages following each category table.

7.2.1 Barrier Category 1: Systems-related Factors

These are factors of a "macro" nature, those over which institutions individually have minimal or no control. These factors include inadequate education system; tendency to think and act in a linear fashion practiced by individuals and institutionalized and encouraged by institutions, resulting in inadequate planning and decision-making frameworks; inadequate institutional capacity; inadequate infrastructure; lack of standardized performance assessment frameworks; unsustainable economic system; enormity of scale of problems; and consumerism.

Table 25. Barrier Category 1: Systems-related Factors

Factor	Interviewee Affiliation / Territory
Inadequate Education System	National Trade Union; RW Quasi-government Organization
Linear Thinking / Lack of "Systems Thinking"	Federal Government (2); National Quasi-government Organization (2); National Trade Union; External Learning Institution; RW Regional Government; RW Citizens Group; RW Learning Institution
Inadequate Planning Frameworks	National Quasi-government Organization; HW Regional Government; RW Information Network; RW Regional Government; RW Quasi-government Organization; RW Peak Organization – Agricultural RW Learning Institution
Inadequate Decision-making Frameworks	National Quasi-government Organization; RW Learning Institution
Inadequate Institutional Capacity	National Quasi-government Organization; National Peak Organization – Industry; Federal Government; Provincial Quasi-government Organization; HW Regional Government; RW Regional Government
Inadequate Infrastructure	HW Regional Government; RW Quasi-government Organization; RW Regional Government; RW Citizens Group
Lack of Standardized Performance Assessment Frameworks	National Quasi-government Organization; HW Regional Government (2); RW Citizens Group
Economic System	HW Citizens Group (2); HW Regional Government; RW Quasi-government Organization; RW Citizens Group; RW Regional Government; RW Learning Institution
Enormity of Scale of Problems	National Trade Union; RW Quasi-government Organization; RW Learning Institution
Consumerism	RW Quasi-government Organization; RW Learning Institution (2); RW Citizens Group

H-W: Region of Hamilton-Wentworth; RW: Region of Waterloo

Discussion of these factors follows.

Education: A trade union official expressed frustration with the common business practice of separating workplace health and safety issues from environmental protection and the broader well being of workers (EX-16-TU). Collaboration between learning institutions and trade unions was said to be key to change unsustainable business practices. The collaboration thus suggested runs in slight contrast to attempts by numerous learning institutions to forge partnerships with businesses for "greening" or "networking" initiatives without paying sufficient attention to the trade unions or the internal contradictions of the workplace.

Linear Thinking vs. "Systems Thinking": "Every change affects everything else…" (EX-16-TU), or, "what goes around, comes around…" (EX-2-LI) were sentiments expressed in counterposition to the prevalent institutional mindset. Government key informants were particularly critical of how government departments are structured:

> We are very compartmentalized. So we are these parts, one part works on water, one guy works on waste, one guy on labelling, and none of them talk to each other (EX-3-FG).

Similarly,

> Recently we had a federal inter-departmental meeting to discuss strategy to more concertedly pursue the federal government's sustainable development mandate. The guy from Natural Resources thought that sustainability was really a question of resource consumption and conservation. The guy from Health thought it was primarily a community health issue. The guy from Environment Canada thought it was a question of pollution prevention. The technical people thought it was a question of adopting appropriate technology and pursuing appropriate research. The human resources guy thought it was a question of appropriate training and HR development resources, and so on it went. There really is no agreement on what the term [sustainable development] means or what exactly we [the federal government] are collectively supposed to do about it. No wonder we have had dismal success in most of our initiatives and programmes (EX-5-FG).

Federal funding, instrumental to effect change at the local scale, is inadequate because it is not based on an appreciation of the scale of issues or the extent of problems:

> The transportation network has to be rethought substantially, especially when you consider things like funding for mass transit, or public transit which is considered a subsidy, and yet, building roads is considered investment in the infrastructure… (RW-45-RG).

It was further suggested that there is, under neo-liberalism, a tendency to undo the foundations on which sustainability is to be built. The closing of core area schools was cited as an example of how cash strapped decision makers at the provincial and regional scales fail to see the "bigger picture" and gut core areas, discourage family living in urban centres, and contribute to sprawl by moving schools from inner to outer city areas all because these actions seem to "fit the current ideological thinking … 'if it doesn't meet the quota, shut it down'" (RW-45-RG).

Planning and Decision-making Frameworks: Planning frameworks employed by government agencies are too rigid at the federal and provincial scales (EX-6-QG) and too flexible at the regional scale (RW-34-IN) resulting in failure to incorporate sustainability considerations in the planning process. At the federal and provincial scales, planning frameworks often pay only lip service (EX-3-FG) while at the regional scale, the two-tier government system nurtures inter-area municipality competition and leads to a watering down of good planning principles set up by regional governments (RW-36-RG). Also, the current planning rules do not allow reversing decisions on some previously approved planning permits (RW-37-RG) which, based on what planners know today, should not have been granted. On decision-making frameworks, one interviewee questioned the focus by the "holders of the purse strings" on monetary considerations in isolation from other "value adding" features of proposals for expenditure (RW-51-LI).

Institutional Capacity: There are some signs of erosion in institutional capacity, possibly due to changes in the structures of governance in the last few years. A quasi-government

organization with a mandate to facilitate closer inter-relations among regional municipalities complained that

> …everybody wants to work with us…[and] it's almost impossible to manage the demands of our time. Environment Canada, Natural Resources Canada, Human Resources Development Canada, various national institutions, they all want to work with us. We're working as quickly as we can set things up, but it's really overwhelming at this point…(EX-6-QG).

Infrastructure: Various interviewees commented on the unsuitableness of infrastructure in general, and transit in particular. The main question related to the scale of planning for infrastructure: area municipality versus region, region versus province, province versus federal, or watershed / bioregions versus political jurisdictions (HW-32-RG; RW-35-QG; RW-45-RG) suggesting that using "wrong" scale(s) in planning and development has meant that the current infrastructure cannot support sustainability (RW-48-CG). Still other key informants, notably from Hamilton-Wentworth, felt that infrastructure was a relatively minor issue compared to the political implications of sustainable development (EX-19-TU; HW-28-CG; HW-29-CG).

Performance Assessment / Monitoring: There is insufficient means for reporting on performance in meeting sustainability objectives (EX-12-QG). Evaluation could be done through a coordinated approach to find out "how we achieve our goals" (HW-21-RG). Inadequate feedback on performance can adversely affect future policy development. However, the problem often is not in receiving feedback but in choosing to ignore feedback (HW-27-RG).

Economic System, Scale, Consumerism: Given the focus on conventional economic indicators such as the GNP, the economic system is not "designed to achieve sustainability… There has to be a paradigm shift in order for people to change their values and realize that more is not necessarily better…" (RW-35-QG). To attain sustainability, "we, collectively, whether NGO or government or whomever, have to really get our heads around the limits to growth" (RW-38-CG). The current economic system continues to hold sway however, partially because of unsustainable individual behaviour: "take an individual who lives here in Waterloo who is very worried about growth and what that means for the quality of life. Plop this individual in a company, put a business hat on him, and his perspective will more than likely change. It's the same with people who are for affordable housing, but not in 'their' neighbourhoods" (RW-44-RG). Individualistic behaviour is nurtured by a system which tends to "forget" about such problems as global warming or the increasing gap between the rich and the poor:

> [Why is it] that a couple of weeks after the Globe and Mail reports on icebergs breaking up at an alarming rate, glaciers disappearing, temperatures rising in polar ice cores, and so on, an editorial appears in the Globe and Mail about how global warming is all a myth and that there is no science or solid evidence behind it? …People live their lives day to day and don't make the connections between lifestyle and consciousness, a little bit like sleep walking. This is probably

because unconsciously people understand that if they were to confront their unsustainable ways, they'd really have to change the way they live…(RW-50-LI).

In addition, the economic system encourages sprawl and forces individuals to "mess up their lives with massive purchases, to work endlessly to try and fulfill larger desires for more massive purchases, a vicious circle really… not much happier than when people had very little by today's standards" (RW-41-LI).

7.2.2 Barrier Category 2: Politics- and Policy-related Factors

Individual institutions have limited political power to effect change. This limitation is compounded by "sustainability fatigue". Other factors under this category are: interference in policy making and implementation driven by partisan politics; inadequate legislative framework; lack of incentives; lack of resolve or political will to "make things happen" for sustainability; unwillingness of decision makers and politicians to experiment with new ideas and take risks; counter-positioning of "jobs" against "environmental protection"; equating "environment" with sustainability; international trade agreements such as NAFTA and its negative social, economic and environmental impacts on local communities and national systems; and no clear definition or understanding of exactly what sustainable development means.

Table 26. Barrier Category 2: Politics- and Policy-related Factors

Factor	Interviewee Affiliation / Territory
"Sustainability Fatigue"	Federal Government; National Quasi-government Organization; HW Regional Government
Political Interference from Elected Officials	Federal Government; HW Peak Organization – Religious; HW Regional Government; HW Citizens Group (2); RW Information Network; RW Regional Government; RW (branch) Trade Union
Inadequate Legislative Framework	National Quasi-government Organization; HW Regional Government; RW Regional Government (2)
Lack of Incentives	HW Citizens Group
Lack of Resolve / Political Will	National Quasi-government Organization (2); Provincial Government; Provincial Quasi-government Organization; HW Citizens Group (4); HW Regional Government (3); RW Quasi-government Organization (2); RW Learning Institution (2); RW Citizens Group
Unwillingness to Experiment / Risk Taking	National Quasi-government Organization; HW Regional Government (2)
"Jobs vs. Environment" Dichotomy	National Trade Union; HW Citizens Group (2); RW Quasi-government Organization; RW Regional Government
Environment = Sustainable Development	National Quasi-government Organization; National Financial Institution; National Peak Organization – Industry; HW Citizens Group; HW Regional Government (2); RW Information Network; RW Quasi-government Organization (2); RW Regional Government; RW Learning Institution; RW Local Firm
International Trade Agreements	National Trade Union; National Quasi-government Organization
Absence of a Working Definition for Sustainable Development	Federal Government; HW Regional Government (2); RW Quasi-government Organization; RW Learning Institution; RW Regional Government; RW Peak Organization – Religious

H-W: Region of Hamilton-Wentworth; RW: Region of Waterloo

These factors are discussed in further detail below.

"Sustainability Fatigue": Some interviewees expressed frustration that work to date on sustainable development at all levels has consisted primarily of numerous policy statements and reports with little or no meaningful evidence on the operationalization of sustainability. A senior federal official said that his immediate reaction to electronic communiqués with the words "sustainability" or "sustainable development" in the subject line was to press the "delete" key on his keyboard because he was tired of seeing them (EX-3-FG). The official also said that he was very weary of "big, bad reports" on sustainable development and saw them as a waste of time and paper. A quasi-government organization official stated, "I don't know how many bloody sustainable development plans I've reviewed for various federal departments, I'm sick of looking at them…" (EX-6-QG).

Political Interference by Elected Officials: An interviewee, asked whether his institution acted to facilitate closer institutional inter-relations, responded: "We did, until the new [provincial] government came" (EX-18-PG). A trade union official concurred, "The reason for less cooperation and collaboration now is the political climate, absolutely the political climate" (RW-53-TU). In government organizations, senior managers either try

to "second guess what the politicians want" or are told by politicians what to do. This situation persists despite the change in the partisan orientation of government, at least at the federal level (EX-3-FG). Winning favours from politicians to protect own jobs or advance career goals were given as possible explanations for this seemingly sterile environment. Attention was also drawn to the practice of self-censorship by government critics as a direct result of political intolerance by or hegemony of elected governments (EX-18-PG; HW-25-PO-R; RW-43-RG; RW-48-CG).

The political system nurtures political interference:

> One has to understand that when politicians get into power, they have to get votes. And the way to get votes is by demonstrating that they are doing something good for the people that count. Doing favours for individuals, or groups of individuals, who happen to share the ideology of the day is not necessarily good for the public. You've got to be good for the whole, for sustainability (HW-27-RG).

The resultant petty, turf oriented work environment nurtured by the current political conservatism has meant that "increasing knowledge, and increasing understanding of how to do things [to attain sustainable development], are not put to good use [by government institutions] because of party politics and competing agendas" (RW-45-RG).

Inadequate Legislative Framework / Lack of Incentives: The legislative framework does not encourage strong working relationships between different layers of government on sustainability issues (EX-17-QG). At the micro level, legislation supportive of sustainability issues such as environmental protection is ineffective because there seems to be a lack of general awareness among the populace (RW-50-LI). At a general level this is a matter for public education while at the institutional level it could be because "our politicians have firstly a poor understanding of what [sustainable development] is, and secondly, they seem to have a habit of paying lip service" (HW-32-RG). Paying lip service has meant that fundamental issues like unsustainable lifestyles remain outside the realms of decision-making and societal behaviour and a failure to introduce sustainability-oriented incentives and educational programmes (EX-6-QG). At a formal regulatory level, conflicting economic priorities and lack of universality in the legislative framework, play a significant role in undermining region-wide attempts to address sustainable development or develop close inter-governmental relations (RW-45-RG).

The cases of the Cities of Waterloo, Kitchener, and Cambridge were cited as examples by interviewees from the Region of Waterloo of how different local (area municipality) by-laws caused friction among the area municipalities. Because of inconsistencies in the area municipality by-laws, a firm barred from locating to Waterloo or Kitchener because of its significant pollution potential is often encouraged to move to Cambridge, renowned for its lax environmental by-laws relative to Waterloo and Kitchener. While it could be argued that Cambridge is attending to the "other two prongs of sustainability", i.e., economic, and because of creating more jobs, social considerations, there is strong sentiment in the other two area municipalities against Cambridge's opportunism and short sightedness. Uniform legislation was said to have the potential of resolving some of these inconsistencies (RW-36-RG). Amalgamation was said to offer the potential of

eliminating constant bickering between the area municipalities and between the Regional government and each of the area municipalities (RW-45-RG; RW-34-IN). Incentives such as taxes to steer commercial activity toward sustainability were suggested as an additional support factor (EX-6-QG; HW-26-CG).

Lack of Resolve / Unwillingness to Experiment and Take Risks: Commitment to sustainable development has to go beyond formal policy and vision statements (EX-18-PG). The potential to go beyond official statements "is always there, but … it is not always harnessed because environmental[69] concerns seem to always be an easy trade off in addressing other problems… We have to get passed the idea that cooperation and collective commitment to sustainability are threats to competitiveness" (HW-20-CG). The low level of experimentation in operationalizing sustainability principles was attributed in part to institutional inertia. Inertia was also held responsible for missed opportunities and misappropriation of funding (HW-21-RG; HW-26-CG; HW-29-CG; RW-46-RG). Institutional inertia is compounded by a substantial majority of the population attached to, or aspiring to become attached to, the current unsustainable lifestyle of "having three or four cars in the driveway" (HW-26-CG).

"Jobs vs. Environment" Dichotomy: There is a widely held belief that safeguarding the environment and attention to social well being leads to job losses (HW-20-CG). In terms of the environment: "In the larger system everything affects everything else… When you want to change something for the better, it affects jobs… You have to have a solution" (EX-16-TU). Such solutions have to originate at the macro level through government intervention to ensure that temporarily displaced workers are provided for through retraining and re-employment programmes (EX-16-TU; HW-20-CG).

"Environment" = Sustainable Development: As the earlier discussion of the interviewees' perceptions of sustainability demonstrated (chapter 6), there are varying and conflicting perceptions of what constitutes sustainable development. A prominent feature in these perceptions is the repeated equation of "the environment" in the narrow sense (of conservation, preservation, and restoration of natural areas) to sustainable development which is / should be concerned with equitable integration of social, economic, and environmental needs. This definitional narrowness is reflected in policy documents from the two case study regions, provincial and federal government agencies, quasi-government institutions, private sector institutions, and learning institutions.

Lack of a working definition of sustainability has led to the misappropriation of the concept. One Hamilton-Wentworth regional official observed that there has been a problem with the implementation of Vision 2020 mainly because "the original visioning was done by an elite that wasn't overly concerned about social issues" (HW-27-RG). Because there is no working definition for sustainability, developers in Hamilton-Wentworth justify building an expressway through the Red Hill Valley because the new road will contribute to "sustainable transportation" (HW-21-RG). One interviewee offered, "when you scratch the surface of this sustainability stuff there is a lot of unsustainable stuff going on" (HW-27-RG). To most people being sustainable "often

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[69] The equation of "environmental" and sustainable development is notable in this interviewee's comments.

does not go beyond contributing to the Blue Box programme or other minimalist initiatives" in part because of the official focus on "the environment" as opposed to sustainability (HW-32-RG).

International Trade Agreements: Trade agreements such as NAFTA, left unchecked, have the potential to become formidable barriers to local and even national sustainability initiatives. Interviewees cited the recent victory by the town of Hudson, Quebec, over a pesticide manufacturer's claim that the town's banning of pesticide use ran contrary to the provisions of NAFTA on free (unimpeded) trade as one example of why it was important to exert more stringent control over the imperatives of an inadequately regulated market (EX-6-QG; EX-17-QG). A number of other interviewees expressed concern about the threats to the health care and education systems in Canada due to "opening up the market for competition" under NAFTA.

7.2.3 Barrier Category 3: Inter-relational Factors

This Category comprises interviewee comments on the "quality" of the institutional inter-relations. Factors identified by interviewees as affecting this quality include: lack of trust between organizations and institutions due to the institutionalized tendency to protect proprietary information (not always for competitive reasons); lack of cooperation between organizations and institutions in general; lack of cooperation between levels of government; low awareness and lack of communication; negative or passive role of mass media in promoting inter-relations around sustainability; isolation of elected officials and decision makers; disproportionate credence afforded to business lobbyists; blaming "others" for the lack of progress toward sustainability; fundamental cross-religion / cultural belief in dualism (humans and nature); and a general lack of compassion. These factors are explored next.

Table 27. Barrier Category 3: Inter-relational Factors

Factor	Interviewee Affiliation / Territory
Lack of Trust Between Organizations / Institutions	Federal Government; National Quasi-government Organization; Provincial Government; Provincial Quasi-government Organization; National Trade Union; RW Quasi-government Organization (3); RW Learning Institution; RW Mass Media
Lack of Cooperation	Federal Government; National Quasi-government Organization National Trade Union; HW Regional Government (2); HW Citizens Group; RW Information Network; RW Learning Institution (3); RW Quasi-government Organization (2); RW Regional Government (2); RW Peak Organization – Religious
Low General Awareness / Lack of Communication	National Peak Organization – Industry; HW Citizens Group; HW Regional Government; RW Quasi-government Organization; RW Citizens Group (2); RW Regional Government (2)
Negative / Passive Role of Mass Media	HW Citizens Group (3); HW Regional Government; RW Mass Media
Isolation of Decision Makers	External Learning Institution; HW Citizens Group RW Learning Institution (2); RW Quasi-government Organization
Business Lobbyists	Federal Government; HW Regional Government; HW Peak Organization – Religious; HW Citizens Group; RW Information Network
Others' Resistance to Change	Federal Government; National Trade Union; Provincial Quasi-government Organization; HW Regional Government
Mainstream Religious Beliefs in Dualism	HW Citizens Group; HW Peak Organization – Religious
Lack of Compassion	HW Regional Government

H-W: Region of Hamilton-Wentworth; RW: Region of Waterloo

Lack of Trust between Organizations and Institutions: A number of interviewees took issue with a general lack of trust as a factor preventing the formation of collaborative arrangements around a shared vision. The federal government's "EcoLogo" programme was cited as one example of how trust put into the private sector by the federal government could be abused for marketing advantage:

> We give EcoLogo to a certain company. They sell their product to Loblaw's. People who go to Loblaw's buy the product. At the same time, by giving the product the federal government's approval, you've [also] given the company your approval and a marketing advantage, but the company is still polluting like hell…. It's a very frustrating process (EX-3-FG).

It was recognized that there were many companies with admirable track records in environmental performance. But there were numerous others that claimed to be doing a great job "and you just know that it can't be true because they are not capable of doing it or don't have the infrastructure for doing it, really" (EX-12-QG). Several factors contribute to the occurrence of these situations. First, there is a significant degree of fragmentation or "compartmentalism" within government institutions, often rendering these institutions quite ineffective (EX-3-FG). Second, the compartmentalized set-up makes federal government departments vulnerable to external pressures by special interest groups such as business lobbies or self-interested experts (consultants) whose

solutions for one department might undermine or duplicate the work of other departments. Third, there seems to be indignation by some federal government officials wanting to do the "right thing", willing to pull strings, and able to provide funding to quasi-government or non-government organizations, only to be disappointed by less than useful "deliverables" such as supplementary studies or reports in place of concrete proposals for action.

Fourth, in matters of environmental protection there seems to be a tendency to focus on the "end of pipe" as opposed to the whole process. In the EcoLogo example, the federal government focused only on one aspect of the production process: the final product. This situation occurred probably "because the guys in labelling don't talk to the water guys…" and the approval process did not consider all facts (EX-3-FG). Fifth, as discussed earlier (Category 2, above), the equation of "the environment" and sustainable development limits the need and opportunities for multi-disciplinary / inter-disciplinary interactions within institutions and inter-relations between institutions including government departments. Perceiving water quality as an engineering / technical problem, for example, could potentially leave little room for discussing the "aesthetics" or the ecological benefits of clean water.

Some of the mistrust between organizations and institutions results from irreconcilable differences based on actual or perceived social positioning. According to a trade union official,

> We are always going to have a dissident position on multi-stakeholder committees because of what we represent [as a trade union]…[Similarly,] our opinion is that business interests are short-sighted because of what they represent…" (EX-19-TU).

According to another interviewee,

> lack of cooperation with other agencies is not for lack of trying on either part, I think it is just a case of not understanding what you want to do about sustainable development… As far as the private sector, the profit motive could sometimes be the cause for the lack of cooperation (HW-33-RG).

Unwillingness to share information was also seen as contributing to the mistrust among organizations and institutions. This unwillingness is partly due to the proprietary nature of the information (RW-51-LI) and partly due to a perception that the receiving entity would not put the information to the intended use because of ulterior motives. A media person conceded that there is a general mistrust of mass media by non-government organizations as a means to publicize community-oriented initiatives (RW-54-MM).

Lack of Cooperation: Lack of cooperation is in part a manifestation of compartmentalized institutional set-ups, particularly in the case of government departments. Additional strain on inter-relations between the levels of government is created by a conscious effort "not to step on anyone's toes" (EX-4-FG; EX-17-QG), leading to a failure to gather momentum through a coordinated approach toward

sustainable development (HW-21-RG). Tensions between individual area municipalities and between area municipalities and regional governments were also underlined as causes for the lack of cooperation within the two regional municipalities (HW-21-RG; RW-36-RG; RW-34-IN).

The intensity of cooperation between levels of government is sometimes determined by the political climate. For example, regional initiatives could be undermined because the provincial government changes priorities, decides not to cooperate with the region on initiatives such as water issues, and withdraw funding (RW-45-RG). Lack of cooperation is sometimes due to there not being "suitable" institutions to cooperate with on matters of sustainability (RW-41-LI). Changes in staffing could make an institution unsuitable to cooperate with because the point of contact, or the expertise, within the targeted institution may have been lost due to departure or reorganization (RW-51-LI).

Cooperation has to be based on a shared understanding of issues or challenges. Without shared understanding,

> there may be an agreement, a lot of people might even agree that it is important that we have sustainable development in this region, but they don't agree with each other on what it means or what needs to be done (RW-55-PO-R).

Failure to find common ground on what needs to be done is due in part to "elitism, or the experts with the information holding on to their information" thus contributing to a lack of cooperation (RW-51-LI).

Low Level of General Awareness / Lack of Communication: Small and medium sized industrial firms operate under continuous market pressures to remain competitive, and likely to compromise environmental responsibility by "turning a blind eye to all the information that's out there" (EX-39-PO-I). In the meantime, lack of understanding of what constitutes sustainable development affects what is communicated in terms of the requirements of sustainable development (HW-13-QG). While there is communication between institutions, the contents of what is being relayed is open to interpretation by government agencies, academic institutions, community groups, and lay people (RW-38-CG). There is a void that needs to be filled by institutions that can provide information on "organizing work, working with each other, the way government works, where to intervene… this is where the developing of social awareness occurs… " (RW-49-CG).

Negative / Passive Role of Mass Media: That there is only one local newspaper and one local radio station in Hamilton limits the opportunities to reach a large number of people whose only sources of information are the local mass media:

> The media could play a tremendous role but unfortunately it has seen its role in the past as criticizing and picking apart new ideas like Vision 2020… and how dare anybody have a vision in such a hostile environment … (HW-26-CG).

Similarly, the local newspaper "has not been very supportive of environmental struggles" (HW-29-CG), and,

You can't really rely on the media to promote or carry the message on sustainability. The media is in the business of selling newspapers or advertising time. If it sells, they'd be into it (HW-27-RG).

There is also the added difficulty of "purchasing" publicity for sustainability in mass media because of prohibitively high costs:

If we want to do certain things, like a TV commercial or something like that [to promote sustainability ideas], we need lots of money…That kind of money is better spent on actually doing things like restoration or whatever… (HW-28-CG).

Asked why mass media are usually singled out for lack of sympathy toward sustainability, a media person commented: "Well, ignorance could be a good reason [and sometimes] it is not entirely our fault" (RW-54-MM). The same interviewee was asked to speculate as to why he was not aware of Official Plan's commitment to a sustainable regional community. He thought that perhaps the press release or other publicity on the Plan was not aimed at, or did not reach mass media "although usually we are pretty good at being kept on mailing lists". Media's hostility toward sustainability initiatives in the case of Hamilton was possibly a local phenomenon: The media in Hamilton was said to be "particularly rearing for anti-labour, anti-communist, anti-anything left" (HW-29-CG).

Isolation of Decision Makers: In Hamilton,

there is a siege mentality among the elite here. They haven't seemed to be able to find a way to work cooperatively with all the elements. Maybe that's true of other communities but it's really pronounced here… There is a real antipathy for anyone who hasn't accepted who is in charge here… (HW-29-CG).

More generally, isolation occurs because "the leadership becomes self-serving and the institution as a whole becomes less interested in, or becomes opposed to sustainability" (RW-41-LI). Institutionalized "ivory tower mentality" was said to isolate learning institutions from policy makers (RW-51-LI). Ivory tower mentality could be lessened or compounded depending on the dominant political ideology (HW-29-CG).

Role of Special Interests: A regional official related that vagueness in visions of sustainability is often used by special interests to further their agendas in the name of sustainability whereas in fact the opposite is being proposed (HW-21-RG). Development industry lobbyists were said to have things worked out to the advantage of their members because conventionally industry has had close relationships with regional municipalities and local governments (HW-29-CG; RW-46-RG). There is a mindset among decision makers in Hamilton-Wentworth that,

the idea of sustainability is a compromise between jobs and the environment… there has always been a perception of the contradiction [between jobs and the environment] (HW-29-CG).

This mindset also seemed prevalent in the case of Waterloo:

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The idea of sustainable development is a nice idea when the economy is good….As soon as the economy goes down, then the business community will not care too much about the environment and sustainability (RW-34-IN).

Developing collaborative arrangements and forming partnerships to address environmental or sustainability issues needs to recognize convictions, contradictions, and counterpositions:

The people I deal with from industry associations, they may put on a greener jacket, but they are basically the same old animal. They talk green, some are doing good things, because of competitiveness and other considerations… so things are improving, but in the main, I cannot really wish that [the industry associations] behaved because they won't. These industry associations are paid by their members, private firms, to talk and slow you down by delaying regulations (EX-3-FG).

Others' Resistance to Change: Numerous interviewees pointed to rigidity in other institutions to embrace change. This rigidity was said to come from an unwillingness to question long-held political convictions and beliefs or breaking old behavioural patterns.

Mainstream Religious Beliefs in Dualism: Resistance to change was in part attributed to cultures evolving around religious beliefs in dualism:

I would say that Judaism, Islam, and Christianity have very little to say about the natural environment… they are not very environmentally friendly religions. They view the natural environment in a utilitarian way – it's there to be used (HW-21-RG).

Lack of Compassion: Greed was said to be at the heart of modern society's ills because it is often accompanied by unwillingness to share with others:

As a young person you are usually willing to share perhaps because you don't have much. Once you get older you become much more conservative and want to hang on to what you have got….Of course, affluence is good. It is the circumstances surrounding affluence that have a detrimental effect on people without affluence (HW-27-RG).

7.2.4 Barrier Category 4: Resource-related Factors

Physical resources and material factors that can undermine the ability of institutions to function. These include: inadequate funds; insufficient number of personnel for the tasks at hand; lack of skilled personnel and experts to facilitate striving for sustainability at an institutional level; and lack of experience in implementing sustainability initiatives. A brief discussion of these factors follows.

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Table 28. Barrier Category 4: Resource-related Factors

Factor	Interviewee Affiliation / Territory
Inadequate Funds	National Quasi-government Organization (2); National Peak Organization – Industry (2); National Trade Union (2); Federal Government (2) Provincial Government; Eternal Learning Institution; HW Citizens Group (4); RW Citizens Group; HW Regional Government (6); RW Quasi-government; Organization (2); RW Regional Government; RW Peak Organization – Agriculture; RW Learning Institution
Insufficient Number of Staff	National Financial Institution; Federal Government; National Trade Union (2); Provincial Government; National Peak Organization – Industry (2); HW Regional Government (2); HW Citizens Group; RW Regional Government; RW Quasi-government Organization (2); RW Peak Organization – Agriculture; RW Learning Institution; RW Peak Organization – Religious
Lack of Expertise	National Quasi-government Organization; National Peak Organization – Industry; National Trade Union; HW Regional Government (2); RW Citizens Group; RW Regional Government (2); RW Peak Organization – Agriculture
Lack of Experience	HW Citizens Group; RW Regional Government; RW Quasi-government Organization; RW Learning Institution; RW Citizens Group

H-W: Region of Hamilton-Wentworth; RW: Region of Waterloo

Inadequate Funds: Over half of those interviewed made explicit reference to the inadequacy of available funds as a significant barrier for their institutions to make real strides toward sustainability. However, one citizens group interviewee was adamant that funding was really not the issue since he could accomplish rather a lot with little funding and lots of help from volunteers (RW-48-CG). Or, as another interviewee put it, "We all have a limited budget. We have to make a commitment and prioritize" (EX-3-FG).

Insufficient Number of Staff / Lack of Expertise/ Lack of Experience: Stringent staffing policy aimed at cost minimization in most institutions undermines institutional capacity to effect sustainable development initiatives. Turnover in staffing, particularly in turbulent times such as experienced in Ontario in 1995 and in Hamilton-Wentworth in 2001, seriously undermines organizational / institutional capacity: Accumulated tacit knowledge is not as easily transferable as formal knowledge. Conversely, formal knowledge cannot fully compensate for accumulated tacit knowledge. In the cases of Ontario and Hamilton-Wentworth, staffing levels were reduced, droves of personnel with many years of experience parted with these government institutions taking with them much accumulated expertise and experience.

7.2.5 Barrier Category 5: Organization-related Factors

This category consists of entity-centred factors that undermine nurturing sustainability ideals within the institution. These include: inadequate mandate; concerns about "competitiveness"; additional "cost" of sustainability to the institution; focus on short-term considerations and "efficiency" at the expense of effectiveness; undemocratic organizational structure; absence of "champions" for sustainability within institutions;

incompetent senior managers incapable of incorporating sustainability considerations into day-to-day functions; incompetent and/or debilitated managers who go from crisis to crisis; and organizational inertia. As the discussion of these factors shows below, the issue of trust between individuals within organizations and institutions is a recurring theme in this Barrier Category.

Table 29. Barrier Category 5: Organization-related Factors

Factor	Interviewee Affiliation / Territory
Inadequate Mandate	External Learning Institution; National Quasi-government Organization (2); National Peak Organization – Industry (4); National Trade Union Provincial Quasi-government Organization; HW Citizens Group; HW Regional Government; RW Information Network; RW Quasi-government Organization; RW Regional Government (3); RW Learning Institution (2); RW Peak Organization – Religious; RW Local Firm
Competitiveness	National Financial Institution; HW Citizens Group; HW Regional Government (2); RW Regional Government; RW Learning Institution; RW Local Firm; RW (branch) Trade Union
Undemocratic Organizational Structure	National Trade Union
Focus on Short-term	National Trade Union; HW Citizens Group; RW Quasi-government Organization; RW Local Firm
Absence of Champions	RW Quasi-government Organization
Incompetent Senior Managers	Federal Government; National Peak Organization – Industry
Crisis Management	Provincial Government
"Cost" of Sustainability	National Quasi-government Organization; HW Citizens Group; RW Information Network; RW Local Firm
Organizational Inertia	National Quasi-government; Organization Provincial Government; HW Regional Government (2); HW Citizens Group; RW Citizens Group; RW Information Network; RW Quasi-government Organization (2); RW Regional Government; RW Peak Organization – Agricultural; RW Learning Institution (2); RW Mass Media; RW Peak Organization – Religious
Amalgamation	HW Citizens Group; HW Peak Organization – Religious; HW Regional Government; RW Quasi-government Organization
Two-tier Local Government	HW Regional Government (2); RW Information Network; RW Regional Government (2); RW Quasi-government Organization
Efficiency for Effectiveness	HW Regional Government (2); HW Citizens Group

H-W: Region of Hamilton-Wentworth; RW: Region of Waterloo

Inadequate Mandate: A substantial number of interviewees felt that inadequate mandate at the organizational and institutional levels represented a significant barrier to sustainability. Much could be revealed about an organization by asking the question, "what drives the mandate or who sets the mandate" (EX-2-LI; RW-35-QG). If an issue is not formalized in the mandate, it must follow that the issue "simply falls outside the mission of the organization" (EX-11-QG). A regional government opposed to industrial pollution in its jurisdiction would be more successful against potential polluters if it made its mandate known through a formal policy or similar means (EX-15-PO-I; HW-20-CG; RW-34-IN).

Organizational Inertia / Absence of Champions: In Hamilton, a general "institutionalized" inertia was noted because the town is

> historically dominated by a fairly small political elite, and that political elite has certainly not been one which has embraced sustainability or taken a leadership role in that direction… the elements that dominate the local scene here, don't want to switch to new ways of doing things (HW-29-CG).

Inertia could result from the political climate, relations with other institutions, and personalities in leadership positions (RW-40-QG). Citing the attitude of an area municipality government as a typical example of institutional inertia, one interviewee asked:

> Why is it so hard for [the area municipality] to become part of the TransCanada bike route? Why can't they just finish the bloody trail? … What is the problem, when the Region is talking about spending millions of dollars on other transportation projects? (RW-48-CG).

Cultural and social backgrounds of persons in leadership positions and the social context were also cited as causes for organizational inertia:

> This [learning institution] is made up of middle-class Canadians, and middle-class Canadians haven't confronted the environmental crisis in all of its seriousness. I don't think it's anything special about the institution that prevents it from doing anything [about sustainable development], it's simply that we are an institution created by a culture that has created the environmental crisis. And almost ipso facto we're not very good at addressing the environmental crisis. It's almost like we can't, you know… (RW-50-LI).

In addition, concerns about job security could suppress the desire to effect change internally within an organization. Inertia could also be the result of the bureaucratic "I looked at all options and nothing else works" defence of doing things "the way we've always done them" (RW-51-LI).

Competitiveness: Competitiveness is a recurring issue for most, particularly business, organizations when considering whether or not to launch environmental or social initiatives because of the implications for the bottom line (EX-1-FI). A business interviewee felt that bottom line concerns should be viewed in the long term. Sustainable development needs to become mandated so that long term well being is not overridden by concerns on short-term costs (RW-52-LF). Sustainable development was said to be attractive as long as the economy was healthy (RW-34-IN). Collaborative arrangements between business and other institutions, including government agencies and trade unions, generally tend to fall apart when competitive pressures set in. In survival mode every business will question its collaborative obligations (RW-53-TU).

"Cost" of Sustainability / Focus on Short-term: Failure to recognize the long-term value of sustainable development (for short-term concerns) often results in unwillingness, across a wide spectrum of organizations, to make the commitment (HW-20-CG; EX-12-

QG). Focusing on the short-term is a particularly acute problem with business firms. An interviewee related:

> There is this technical company that offers its services on pollution prevention to manufacturing firms for free in return for a cut in savings after implementation, and businesses will still not bite because they see pollution prevention as a cost item and not something tangible (RW-34-IN).

Undemocratic Organizational Structure / Incompetent Senior Managers / Crisis Management: Bureaucratic rule within private organizations bolstered by the current neo-liberal political climate was cited by a trade union official as a barrier to discussing and developing initiatives based on sustainable development (EX-19-TU). In the public sector, "there is general incompetence …and a lot incompetent senior managers…"(EX-3-FG). Some this incompetence may be due to a "lack of education" of senior managers and inability to fully understand the implications of sustainable development (EX-14-PO-I). The combination of unhealthy organizations, incompetent senior managers, and a general tightening of financial purse strings often results in getting into action only when crisis break out (EX-18-PG).

Amalgamation vs. Two-tier Regional Government: Opinions were divided between amalgamation of regional municipalities into one-tier city governments, e.g., the "new city of Hamilton" amalgamating six area municipalities under one government, and maintaining the two-tier system, e.g., the Region of Waterloo consisting of a regional government and seven area municipalities each with its own government. Macro issues such as transit could be more effectively addressed in a one-tier system (RW-42-RG; RW-45-RG; RW-34-IN) while representation of local concerns and expression of neighbourhood specificities would become more difficult (HW-30-RG).

Efficiency vs. Effectiveness: The neo-liberal focus on efficiency has had repercussions at the local scale. To achieve maximum cost efficiency, the province has downloaded services to regional municipalities and placed numerous constraints on funding. In addition, at the regional scale,

> administrators are being replaced with corporate managers who view the [Region] as a business operation, complete with its 'cost-centres' and the priority to become 'efficient' at the expense of effectiveness. These corporate managers have shown a tendency to 'dump' or to de facto contract out a lot of the municipal government's functions to volunteers with token funding. This is convenient…. responsibility gets diffused and volunteers get the blame if anything goes wrong (HW-22-RG).

There are no guarantees, however, that downloading and amalgamation will lead to cost savings and operational efficiency. Inefficiencies are likely to occur because in the new expansive jurisdiction a single government will have difficulty balancing the diverse interests and needs of different communities, remain accessible, and maintain accountability and transparency (HW-23-RG; HW-26-CG; HW-33-RG).

7.2.6 Overview of Barriers to Sustainable Development

Table 30 summarizes the responses by interviewees to questions on barriers to attain sustainability. The numbers under each Category represent the number of times reference was made to barriers in that Category by interviewees grouped according to their main institutional affiliation.

Table 30. Barriers to Sustainability and Institutional Affiliation

Institutional Affiliation[1]	Barrier Category				
	Category 1	Category 2	Category 3	Category 4	Category 5
Federal Government	3	3	5	2	1
Provincial Government	0	1	1	2	2
Regional Government	12	16	15	15	17
Quasi-Government Organization	12	13	13	8	12
Trade Union	4	3	2	5	4
Peak Organization – Agriculture	1	0	0	3	1
Peak Organization – Industry	1	0	0	5	5
Peak Organization – Religious	0	2	4	1	3
Community / Citizens Group	9	10	10	9	8
Financial Institution	0	0	0	1	1
Information Network	1	2	3	0	4
Business Firm	0	0	0	0	4
Learning Institution	9	4	7	4	6
Mass Media	0	0	2	0	1

[1] Association summary is based on the tables for Categories 1 to 5 on preceding pages. Interviewees with more than one affiliation were associated with the institution with which they had the strongest affiliation. **Category 1**: Systems-related Factors; **Category 2**: Politics- Policy-related Factors; **Category 3**: Inter-relational Factors; **Category 4**: Resource-related Factors; **Category 5**: Organizational Factors.

The distribution of responses among the Categories by Institutional Affiliation of interviewees indicates that interviewees from the federal, provincial, and regional governments, quasi-government organizations, trade unions, and citizens groups identified barriers in all categories. Interviewees with regional government affiliation put the most emphasis on barriers under *Category 5, Organization-related Factors*. Interviewees with business firm, information network, and peak organization-industry affiliation also placed a higher emphasis on barriers under Category 5. Also notable is the emphasis on barriers in *Category 1, Systems-related Factors* by interviewees affiliated with regional governments, quasi-government organizations, and learning institutions. Interviewees from these last three institutions recognize the importance of external factors even though the activity domains are primarily local. Table 31 provides a summary of the five barrier categories.

Table 31. Scalar Barriers to Local Implementation of Sustainable Development

Systems-related Factors: Macro scale factors over which single institutions have minimal or no control. These included inadequacies in the education system, planning and decision-making frameworks, institutional capacity, and infrastructure. Interviewees in addition pointed to "linear thinking", a growth driven economy, absence of accountability mechanisms to report on performance against commitment to sustainability, enormity of scale of problems and tasks pertaining to sustainable development, and social behaviour based on consumerism.

Politics- and Policy-related Factors: Also of a macro nature, these factors lay beyond the control of single institutions. Listed under this Category were "sustainability fatigue", political interference based not on need but ideology, inadequate legislative framework and lack of incentives to encourage sustainable behaviour by individuals and institutions, lack of resolve by elected officials, shunning risk taking and experimentation, the widespread fallacy of "jobs versus the environment", misinterpreting sustainable development as solely an "environmental" issue, negative impacts of free trade on general well being, and absence of a working definition of sustainable development.

Inter-relational Factors: Factors that affect the "quality" of institutional inter-relations are grouped under this category. These consist of lack of trust between organizations and institutions, lack of cooperation, low level of awareness of sustainability mandates and initiatives, lack of interest by mass media in promoting sustainability, isolated decision makers, negative role of business lobbyists, resistance by individuals and institutions to change, fundamental cultural values that discourage a systemic approach, and lack of compassion for the well being of others.

Resource-related Factors: Inadequate funding, insufficient number of personnel, lack of specialized expertise, and lack of experience seriously undermine the ability of institutions to pursue policy goals on sustainability.

Organization-related Factors: Entity-centred characteristics undermine the pursuance of sustainability at an organizational level. Most organizations and institutions have inadequate mandate for sustainability. This is in part a product of market pressures on private organizations to maintain competitive edge, undemocratic organizational structure, focus on the short-term by private and public organizations, absence of champions, incompetent senior managers, crisis management approach, organizational inertia, and universal application of private organization norms to public organizations and institutions. These factors undermine the effectiveness of public service provision. Depending on the issue, amalgamation and two-tier local government can both act as deterrents to attaining sustainability at the local scale.

The scalar barrier categories in table 31 underline the importance of scale in understanding the barriers to attaining sustainability. For further illumination, interviewees were asked to identify the scale at which their host institutions inter-related with other institutions. However, the responses to this question did not highlight significant disconnects in scalar inter-relations – the concern by the overwhelming majority of the key informants about the poor quality of institutional inter-relations seemed to take precedence over the existence or the frequency/quantity of inter-relations at different scales. Although the intent of the foregoing analysis has not been to "test" ICLEI's findings, it is possible to make some linkages between the five scalar barrier Categories summarized in table 31 and ICLEI's broad conclusions (table 24). These linkages are highlighted in table 32.

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Table 32. Scalar Re-interpretation of ICLEI's "Obstacles to the Local Implementation of Sustainable Development"

ICLEI's Obstacles	Parallel(s) in "Scalar Barriers"
Fiscal Framework: Most countries have financial and fiscal frameworks that undermine Local Agenda 21 objectives, initiatives, or programmes. At the local scale, statutory municipal development plans and budget priorities do not reflect sustainable development objectives. At the macro level, governments provide subsidies and other economic incentives / disincentives that encourage unsustainable practices.	**Systems-related Factors:** Macro scale factors over which single institutions have minimal or no control, e.g., inadequate planning and decision-making frameworks. **Politics- and Policy-related Factors:** Also of a macro nature, these factors lay beyond the control of single institutions, e.g., inadequate legislative framework. **Resource-related Factors:** Physical resources and material factors, e.g., inadequate funding, insufficient number of personnel, lack of specialized expertise, and lack of experience limit institutional capacity.
Land Use Policy: Most municipalities apply old land use, building and public health requirements that discourage the design of neighbourhoods that support public transit or of buildings that use new technologies for water, energy, and waste water management.	**Systems-related Factors.** **Politics- and Policy-related Factors.**
Budgetary Control: Most municipal funds are regulated and restricted through a centralized (provincial or national) system which also decides on how to allocate funding to municipal projects. Capital projects such as road and highway building, often nationally run or nationally subsidized, can contradict local initiatives to promote the use or extension of local transit systems, for example.	**Politics- and Policy-related Factors.** **Resource-related Factors.**
Regulatory Framework: Without a comprehensive, effectively enforced state or national scale regulatory programme, little can be done at the local scale. The municipalities that take the initiative to improve local environmental conditions through regulatory programmes run the risk of being marginalized or economically undermined.	**Systems-related Factors.** **Politics- and Policy-related Factors.**

Table 32. Scalar Re-interpretation of ICLEI's "Obstacles to the Local Implementation of Sustainable Development" (Continued)

Downloading: National or state/province level governments regulate and control the revenue generation options of local governments. The downloading of essential services to local municipalities has not been accompanied with the transfer of control over locally raised revenues. The increased responsibility for essential services has made for more vulnerable, not stronger, local governments. Without new sources of local revenues, downloading will continue to weaken public sector capacity to implement new social and environmental mandates.	**Politics- and Policy-related Factors:** Also of a macro nature, these factors lay beyond the control of single institutions, e.g., inadequate legislative framework. **Resource-related Factors:** Physical resources and material factors, e.g., inadequate funding, insufficient number of personnel, lack of specialized expertise, and lack of experience limit institutional capacity.
Globalization: The development of resource efficient, socially vibrant cities requires local control of development according to clear, locally-determined strategies and principles. Transnational corporations, increasingly present in local economies through branch plant operations, have little incentive to be accountable and committed to local development strategies.	**Politics- and Policy-related Factors.** **Inter-relational Factors:** Factors that affect the "quality" of institutional inter-relations, e.g., trust and cooperation.
Product Design: Unsustainable consumer product design and packaging have a significant impact on local solid waste stream, contain high levels of toxic substances, and rarely employ best available technology to maximize energy and water efficiency. Since this is a macro scale problem, little can be done by local governments to control or change consuming habits in their jurisdiction.	**Politics- and Policy-related Factors.** **Organization-related Factors:** Entity-centred characteristics that undermine the pursuance of sustainability at an organizational level, e.g., inadequate mandate, competitiveness, organizational inertia.

It has to be noted that web-like linkages could be made between all barrier Categories and all ICLEI conclusions. However, table 32 attempts to depict only the strongest linkages between the two sets of findings. The most consistent linkage according to the associations in table 32 is between all of ICLEI's conclusions and the "Politics- and Policy-related Factors" barrier Category. The second most consistent linkage is between ICLEI's conclusions and the "Systems-related Factors" barrier Category. In the remaining sections of this chapter the macro implications of these two barrier Categories will be more closely explored to draw out the strategic and institutional implications of attaining sustainable development at the regional scale.

7.3 Strategic Implications of Regional Sustainability

ICLEI's conclusions are perhaps best viewed as resulting from scalar tensions between the local and the supra-local modes of regulation. Such scalar tensions become more complex as one moves "up" on the scales from the local to the global. Tensions are continually created as national governments and continental trading blocs promote free trade and globalization while globalization assumes its own sets of dynamics to shape and inform, respectively, politics and policy making at the continental, national, state/province, and local scales. More significantly, it is evident from ICLEI's conclusions that at the local scale the fiscal framework and land use policy are unsuitable for pursuing sustainability. This finding is also evident in the reviews of the Official Plans from the two case studies (see chapter 5). Recognizing that the local does not function in isolation from the supra-local, ICLEI also underlines supra-local obstacles to local sustainability such as macro budgetary and regulatory frameworks and policies, downloading (imposed from higher scales), unaccountability of large corporations encouraged by free trade through increased globalization, and design of unsustainable consumables.

The "wish-list" that could be derived from ICLEI's analysis would have regional governments drawing on ecological economics to articulate financial and fiscal frameworks that support, through incentives / disincentives, sustainable economic development and promote Local Agenda 21 objectives, initiatives, and programmes. The ideal scenario for ICLEI seems to be one that comprises the ecological modernization of the systems of production and consumption to eliminate, minimize, or responsibly manage the adverse ecological impacts of economic activity through innovative land use policy and product design. According to this scenario, land use policy would accommodate human needs and promote ecosystem integrity while products and production systems would be re-designed for minimal impact on the well being of ecosystems. This scenario further implies that the regulatory framework delineates the boundaries in which the market "self-organizes" and defines forums and institutions through which divergent voices of the citizens can be heard and responded to. To minimize the impact of globalization pressures on national / local government policies, international forums and institutions will have to assume central roles in facilitating the discourse on sustainability.

In sum, to overcome the "obstacles to the local implementation of sustainable development" identified by ICLEI requires tackling extremely complex issues simultaneously in different systems (social, ecological, economic) and at different scales (from local through to global) over an uncustomarily long period of time. Based on ICLEI's implied course of action and focusing on institutional inter-relations, the key informants were asked to comment on the strategic implications of commitment to sustainability for their, or other, institutions. The analysis of the interviewee responses reveals tensions between the short-term, conventional priorities and the long-term requirements of sustainability including the "ecological modernization" of systems of production and consumption. These tensions are explored further in the next two sections.

7.3.1 Short vs. Long-term Strategies

Private and public sector obsession with short-term financial implications of long-term sustainability objectives has to be addressed at a macro level. Sometimes long-term objectives for sustainability can only be pursued if their costs are evenly distributed among all parties (EX-1-FI). However, business cannot be relied upon to create a level playing field. Regulation, economic incentives and disincentives imposed by governments at the macro level are needed to set the standards for environmental and social responsibility (EX-2-LI; EX-14-PO-I; EX-39-PO-I; HW-26-CG; RW-35-QG). Apart from regulating current business activities, macro incentives and disincentives could be used to shape future development. The "box store" phenomenon, aesthetically unpleasant structures generating minimum wage employment and taking up valuable agricultural land in the outskirts of cities, could be effectively kept in check by local governments through the property tax system (HW-25-PO-R).

Similarly, tax incentives could be used to encourage redevelopment of previously developed land or brownfields in inner city areas. The reason why box stores often end up in greenfields is because the property tax system allows it (RW-44-RG). Fiscal and regulatory incentives and disincentives can be used to encourage certain modes of behaviour such as increased use of public transportation (HW-32-RG). If effectively and equitably enforced, regulations could lead to innovation in organizational processes and the prevention of rogue behaviour by individuals and organizations (RW-43-RG). But because of the focus on the short-term, "incrementalism"[70] often prevails in most policy discourses on sustainability.

The contrast between the incrementalists and those seeking fundamental change is perhaps best captured in the comment from a federal government official:

> I'd like to see incremental progress because I think if you set your goals over there [far], you'll never get there. But if you set them here [close], you can make shorter 'hops' to get there, and tomorrow you can make a hop to the next point, and the day after next….That's my thing (EX-4-FG).

The linearity of this line of reasoning is of course startling. Making a successful "hop" to point A does not guarantee success in hopping to points B and C. This comment is even more startling coming from a senior official in charge of a federal department's "SD work". In contrast, a quasi-government interviewee was adamant that

> to achieve sustainability, we need to move beyond small incremental improvements. Continuous improvement is an important concept, but we need to drive communities to actually take the leap, to build a foundation and achieve significant reductions in material and energy use, maximize use of renewable

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[70] Generally, there is no agreement among the incrementalists on how big or small an increment should be. The phrase "incremental change" is often associated with shallow, inoffensive, and superficial reforms such as industrial greening. Incremental change is also often counterposed to calls for fundamental change in the structure of the political economy to better serve sustainability.

resources, and so on, by taking up what we call the 'systems approach' (EX-6-QG).

The political implications of adopting a systems approach to policy-making and policy implementation are enormous, however. To engage the interviewees in a dialogue on the political implications of structural change for sustainability each interviewee was asked to read a brief introduction to ecological modernization theory and then comment on how economic activity and ecological integrity could be reconciled. The responses are analyzed in the next section.

7.3.2 Ecological Modernization

Numerous interviewees alluded to visions of sustainability more or less consistent with the various tenets of ecological modernization theory. As described in chapter 3, ecological modernization is focused on "harnessing the power of human ingenuity for the purposes of harmonizing economic advancement with environmental improvement". This harmonization could be facilitated through environmental reforms in social, economic, and industrial policy making and institutional (re)designs to safeguard humans' sustenance bases (Cohen 1997; Mol 2000). Tenets of ecological modernization include: anticipatory planning practices based on the precautionary principle; transformation of core social institutions of modernity as manifest in science and technology, production and consumption, politics and governance, and the market's institutions at multiple scales (local, national, and global); and governments that take the lead in promoting innovation in environmental technology through strict, proactive, and goal driven regulatory regimes. Ecological modernization theory has been criticized for insufficiently emphasizing the social dimension of sustainable development, however (Gouldson and Murphy 1998).

Perhaps the most significant aspect of ecological modernization is the emphasis on the macro scale of change. In Canada, however, the regulatory impetus is not in place to effect macro change in a serious way:

> If you look at the history of pollution in Ontario and Canada, really, there are not many hard regulations relative to other countries like the U.S. …We lag behind the U.S. by about 10-15 years when it comes to air quality regulations and we are paying an incredibly dear price for this (EX-3-FG).

Change at this macro scale requires challenging "the traditional roles and responsibilities" (EX-12-QG). This proposition seemed intuitive to one business interviewee who observed,

> if you have an industry-wide or sector-wide initiative, it is a lot more palatable for people to make the necessary changes. There may be synergies, too, ten businesses doing something together is not ten times more expensive than getting one to do it (EX-1-FI).

A quasi-government interviewee stated,

a third of municipal government spending is on environmental services [such as] water, waste, transport, etc. This money could be spent wisely to promote energy efficiency and lifecycle effective products in all of their purchasing. The same approach should be followed for infrastructure development (EX-6-QG).

But governments are not taking these obvious steps because "any change is a risk and the current infrastructure does not support risk taking". Measures to encourage experimentation have to include "additional funding, peer teaching, facilitating the creation of joint committees, and networking…to create conditions that support risk taking (EX-6-QG). Without these measures, "you are not putting your money where your mouth is, really" (HW-26-CG).

With ecological modernization as the goal and equitable discourse as the process, the strategy will need to go beyond "just making up regulations" as a reaction to what has gone wrong within the system (EX-12-QG). Underrepresented social groups such as E/NGOs and trade unions need to be more centrally involved in the discourse because the former are capable of offering alternative perspectives while the latter are affected by changes in the production system (EX-16-TU). In addition to structural changes to the economy, ecological modernization requires a shift of focus from looking for the next major employer to set up shop in the region at any cost to instituting small scale, home-grown, and diverse local economies supplemented with externally recruited businesses that "fit" the local economies (HW-28-CG; RW-35-QG).

In line with this inward approach, brownfields could be redeveloped to eliminate the need for appropriating valuable agricultural land for industrial activity and "sustainable landscaping and design and implementation of energy efficient operations could be made mandatory for industry" (RW-35-QG). This approach requires

> shifting our focus from the 'growth cycle' to development and sustainability…. We need to determine through our planning activities what we can afford now and in the future (HW-30-RG).

This change of focus must be instituted through a system of incentives and disincentives aimed at restructuring the economy (HW-32-RG) and supported by "people who create new ideas with lots of energy and ability, and an institutional backup to facilitate implementation of these ideas" (RW-41-LI). Slowing and directing economic growth, developing effective public transit systems, and prevention of sprawl would mark this change of focus (RW-44-RG). Most importantly, "there needs to be a plan so that you can integrate priorities over a period of time, not just for the moment" (RW-46-RG).

Ecological modernization concepts are based on empirical observation of cases where state intervention has facilitated structural change, particularly in Germany, The Netherlands, and Denmark. It is important to note that these countries began a process of modernization and renewal as a result of commitment to protect the environment. Based on the European cases and the comments from the key informants interviewed for this research, it appears that not striving for ecological modernization has less to do with lack of knowledge and "innovative capacity" and more with unwillingness of leading

individuals bolstered by institutional / organizational inertia. But institutionalized rigidity could be overcome through careful persuasion by governments. For example, one reason why businesses are all of a sudden interested in "corporate social responsibility" is because

> they are scared shitless [of] what the Broadbent Commission is going to end up pushing in terms of legislation, saying to corporations what they can and cannot do. That's why businesses are interested in 'social responsibility', like Shell (EX-2-LI).

Also, all the complaints about lack of resources to attend to "non-business" issues are unfounded: "When the commitment is not there, people just blame it on the lack of resources. … " (EX-3-FG). An example of commitment to sustainability followed by prioritization to attain it was provided by a key informant from Hamilton-Wentworth:

> Back in the 1980s…we were losing thousands, tens of thousands of jobs that were paying very, very good wages to people. …We saw Agenda 21 as an opportunity to involve the community in the solution to our problems…Nobody would disagree with making this community happier and healthier with clean water and air… The only question then was how we were going to accomplish that…Having this agreement [Vision 2020] as the basis allowed us to prioritize with support from the community and to gain international status as a success case (HW-27-RG).

In contrast,

> part of the problem [in Waterloo] is that no one has gone through a process and really asked what the problems are, or ask what we need to do to be sustainable. …[We need to] look at issues relating to growth versus development (RW-36-RG).

These comments seem to suggest that because Waterloo has not experienced the same magnitude of social and economic hardships as Hamilton / Hamilton-Wentworth in the recent past, impetus has been weaker in Waterloo to operationalize the Official Plan's "sustainable communities" objective. However, with or without socio-economic problems as incentive to adopt Agenda 21 or other visions of sustainability, a major factor in facilitating ecological modernization is the political will of the elected officials. One interviewee observed,

> we are sending people over all the time to have a look at and learn from these successful [sustainability initiatives]. They come back and say 'it's the political people who are pushing the sustainability agenda'. Somehow this conclusion doesn't really compute here in Canada (HW-26-CG).

The failure to "compute" is in part attributable to inadequacy of or the inequity in the current means of discourse on sustainability. At the educational level, for example, there is a divide between studying and what is being studied (EX-2-LI). At a higher scale, the interviewee suggested,

we need to engage the people that stood on the streets in Quebec City [during the anti-FTA demonstrations] with business people. We need to do this if we are to understand why these people are being locked out behind the fortress built for the event (EX-2-LI).

Similar sentiments were expressed by a trade unionist who complained that much of the decision making at the macro level takes place without consultation with the many workers whose lives are affected by government decisions or by actions of large corporations (EX-16-TU). To be effective, governments have to engage people from all walks of life, including unionized workers (HW-26-CG). There is also a disconnect between governments and the "governed". A major obstacle to instituting discourse between government and ordinary civilians is the attitude: "I pay my taxes, government should fix everything" which hampers opportunities for broader public dialogue on sustainability (RW-36-RG). Non-participation by individuals, certain social sectors, or token participation by adversaries, leads to decisions whose outcomes may be less than satisfactory (RW-43-RG). To increase inclusiveness in the discourse process at the local scale, there needs to be a focus on

> supporting municipalities in undertaking stakeholder consultations in their communities around [sustainable development] initiatives … and helping municipal governments be more accountable (EX-6-QG).

In summary, change for attaining sustainable development at the local scale seems, in part, to hinge on clearly defined roles and responsibilities, the presence of champions in the discourse process, conscientious and continuous facilitation by governments as catalysts, and recognition of and respect for conflicting interests and competing agendas. These themes are explored in the next section.

7.4 Institutional Implications of Regional Sustainability

Carrying through commitment to sustainability at the regional, provincial, or national scale requires, among other measures, the re-institutionalization of some basic civic responsibilities:

> There is all this talk on partnership….If we are a regulatory agency, then we should do regulatory work. Just like private firms are clear about what they have to do to maximize their return on investment, we have to know what our purpose is… (EX-3-FG).

To have clearer lines of responsibility, respective roles in partnership arrangements have to be carefully (re)defined. Without clarity on the rules of partnership, including the imposition of penalties and other punitive measures and incentives, partnerships likely result in failure to deliver (EX-3-FG). A trade union official complained that it is often difficult to tell who represents what interests at partnership meetings. Sometimes government representatives come across more ardently pro-business than the business representatives (EX-19-TU). The current approach to partnership development will not lead to fundamental change in the total system because it is not aimed at bringing about

behavioural change in individuals and institutions or changing institutional decision-making processes (EX-6-QG).

Changes in individual and institutional behaviour can only be effected on the basis of real commitment: "You need the mayor, you need the business leaders who are committed to the cause, you need more champions in business and government who have the vision and the ability to do things on the ground" (EX-14-PO-I). A group of actors from a diverse set of institutions, working together on sustainability as a common cause will ultimately lead to a change in how institutions function (EX-15-PO-I; EX-16-TU). It is also important to identify which institutional players can play key roles in attaining sustainability. This could be done by

> compiling an inventory of all institutions as a starting point, identifying those institutions that are most likely to align with sustainable development goals, and establishing working relations with them to resolve shared issues (HW-21-RG).

Such extensive preparatory work requires commitment and resources:

> You have to go after these actors to get their participation in the process. Some of them don't read newspapers or listen to announcements. They're not going to answer to your call for consultation or whatever. You've got to put time in drawing them in (HW-27-RG).

Some risks are associated with regional governments acting as facilitators, however. Those being facilitated could become "too institutionalized and stagnant" (HW-28-CG). Government facilitators need to strike a balance between maintaining the independence of E/NGOs and keeping relative peace among participants. This is a tenuous position. One regional official observed:

> When you bring in those groups that were left out, the first thing they want to do is to sort of whip the shit out of you because you haven't done this, and this and this. And when it first happens, it sort of blows you away because you ask yourself 'what the hell am I doing here listening to this bullshit'. The truth is, you have to listen if you want progress… You can't arbitrarily decide who to exclude… you have to be patient and you have to bring them in because if you don't, they'll come back and bite us, and we'll never achieve a sustainable community (HW-27-RG).

From an E/NGO perspective, an inherent danger in "institutionalized" participation arrangements is the "consensus syndrome". A member of a relatively conciliatory E/NGO reported,

> we are thinking of starting a new organization, one that does not shy away from calling the kettle out of whack. We are going to take the approach: 'This needs to change. If it doesn't change, we'll see you in court' (HW-27-CG).

The interviewee was quick to point out that generally the preference is to be collaborative and non-confrontational. But, recent experiences with developers in the Red Hill valley

Expressway conflict had convinced his group that the only way to "get through to these people" was to act as an adversary (HW-27-CG).

7.5 Conclusion

Sustainable development is ultimately a question of governance of local economic spaces in a context that is arguably increasingly globalized. Global politics influence continental and national policies and politics while in Canada at least, continental (NAFTA imposed) and national policies have direct social, economic, and environmental implications at the provincial and local scales. There are in addition instances where locally driven trade issues are resolved through supra-national mechanisms such as NAFTA.[71] It is clear from the data analyzed in this chapter and chapter 6 that the governance of the local economic space does not take place in isolation from other scales / spaces. While it is possible to maintain some local identity and remain "dependent" on a historically determined local path, it is also likely that new, historically unprecedented local paths can emerge (at least in the short-term) as products of political change and scalar tensions. The significant leaps away from sustainability in Ontario since 1995 and the new City of Hamilton since 2001 serve as illustrative examples of unprecedented, significant changes in institutional arrangements that may be short- or long-term.

The analysis in this chapter also points to the instrumentality of the supra-local regulatory factors in shaping the local regime of accumulation and determining the closely associated social and environmental states. More generally, the interplay between the sets of institutional cohesiveness at the sub-national, national, international, and global scales shapes the outcomes of sustainable development or other policy mandates at the local scale. Based on successful contestations against continental / global regulatory forces as exemplified in the case of Hudson, Quebec and the findings of this research it is reasonable to conclude that institutional cohesiveness is simultaneously context-specific and scalar. However, the evidence presented in this chapter and chapter 6 weigh heavily in favour of the precedence of the supra-local, macro regulatory forces in the governance of local economic spaces.

With some notable exceptions, modes of social regulation at supra-local scales define and determine the local regime of accumulation. The rate at which supra-local forms succeed in replacing or modifying local forms (modes of regulation) is in part dependent on the cohesiveness of institutional inter-relations at the local scale to contest, or embrace, the externally imposed forms for the regime of accumulation. The local is vulnerable to pressure from higher scales because of size and relative weakness. Local contestations against supra-locally imposed forms often result in modified or changed mode of regulation at the local scale. Put differently, during times of conflict such as exemplified through the deterioration of relations between the Ontario provincial government and the Ontario regional municipal governments, regulation seems to flow downwards from the top (higher scales) to the bottom (local scale), seldom the reverse. However, top-down

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[71] The legal challenge by a pesticides manufacturer against the Town of Hudson, Quebec ban on the use of pesticides on residential property is but one example of a locally driven initiative being (unsuccessfully) challenged in a supra-national forum with a binding outcome.

regulation aimed at instituting new forms to address chronic social, economic, or environmental concerns requires buy-in and cooperation from the bottom-up. Such cooperation often needs to be nurtured and developed by higher scales and based on increased trust in inter-relations at different levels between scales and over relatively long periods of time.

In chapter 8 the contributions of this research are discussed, followed by a synthesis and discussion of the findings and elaboration on the policy and future research implications.

Chapter 8: Institutional Thickness and Sustainability: How "thick" is thick enough?

Change and instability are the norm … the appearance of stability of "things" or systems is what has to be explained
(Harvey 1996:54)

Planners involved in [implementing sustainable development] must be multi-talented – facilitator, leader, networker, negotiator, promoter, entrepreneur, events co-ordinator, fundraiser, advocate, team-builder, consensus builder, and conceptualizer – and able to take risks. They must be able to recognize the boundaries in which they are working, yet at the same time know that these boundaries can change from day to day and from project to project. …Activities and actions cannot be entirely calculated or planned. [Sometimes] creative solutions develop out of spontaneous actions. Within such an unstructured environment, planners must be able to identify and nurture this creativity
(Pearce 1995:27)

8.1 Introduction

This thesis set out to examine how institutional inter-relations shape the outcome of plans to meet policy objectives on sustainable development at the local (municipality) scale. The subject of study was institutional inter-relations while "the institution" was selected as the unit of analysis. "Institutional cohesiveness" was adapted from institutional thickness to gauge success or failure in attaining strategic goals such as sustainability. Adopting a "post-disciplinary" approach, a framework was developed to assess institutional cohesiveness based on data collected from the two regional municipalities of Waterloo and Hamilton-Wentworth. The research tool was a questionnaire for conducting semi-formal, in-depth interviews with key informants drawn from formal institutions within and outside the two Regions. Textual analysis of transcribed field interview data and reviews of secondary documents were used to generate and discuss themes (highlighted as subheadings) in chapters 6 and 7. Based on a synthesis of the analyses in chapters 2, 5, 6, and 7, this chapter highlights the main findings of this research, discusses the significance of the findings for broader theory, and draws out the implications of the findings for policy and action, and future research.

8.2 General Observations and Findings

The strategy during the interviews with key informants was to gain as much insight as possible into the institutional inter-relations that defined the regulation of economic activity at the regional municipality scale. Jessop's (1997) levels of inter-relations were used to assess the suitability of institutional cohesiveness at the individual, organizational, and societal levels for attaining sustainability (chapter 6). The barriers that prevented the forging of institutional cohesiveness for sustainability were grouped and discussed under five scalar categories comprising: Systems-related Factors, Politics- and Policy-related Factors, Inter-relational Factors, Resource-related Factors, and Organization-related Factors (chapter 7). For insight into the "societal" level of inter-relations, sources and quality of information on sustainable development were explored to gain appreciation of how the interviewees viewed own and other institutions in terms of sustainable development.[72] It is apparent from the analysis that individuals, organizations and institutions, local specificity, politics, and scale play varyingly important roles in determining the outcome of regional sustainability mandates. But this is hardly an original finding.

More importantly, this research makes the case that the central question is not whether or not there should be more or new inter-relations through additional networking, partnership, and collaboration. For sustainability the central question must concern how existing and future inter-relations can be based on mutual trust and focused on a common resolve. Individuals operating singly cannot effect systematic change to protect and promote the collective good. In a democracy, that is usually the function of elected governments and/or constitutional organizations and institutions through which individuals express their ideals for societal change or maintaining the status quo. It is perhaps based on this understanding that an overwhelming majority of the interviewees identified "government" as the most important institution in effecting change for sustainability.[73] As "movers and shakers" governments are expected to facilitate, lead, network, negotiate, promote, co-ordinate, provide funds, build consensus, and articulate what is needed for sustainability.[74] But because governments are not neutral, policy making on sustainability is highly contentious. And because of its strong policy implications, sustainable development lies firmly within the realms of politics.

Within and outside the two Regions there is certainly no shortage of key organizations and institutions with a commitment to some vision of sustainability. Neither is the issue a lack of information on the need to act on sustainability. The quality and diffusion of the information and the difference the possession of information makes to the functions of recipient institutions are issues that warrant closer examination. To illustrate, many key informants in Waterloo including government officials were not aware of the Region's commitment in the Official Plan to sustainable development. In contrast, all interviewees from Hamilton-Wentworth were aware of Vision 2020. However, the widespread awareness of Vision 2020 in Hamilton-Wentworth had not always translated into

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[72] See appendix 2 for analysis and discussion.

[73] As an aside, this view of government is worth contemplating in the age of hollowed out, small governments overshadowed by institution-based "governance" systems.

[74] I am indebted to Bill Pearce for these adjectives.

decisions or policies that served sustainability or the good of the community. Future research could be directed at assessing first and second order[75] learning on sustainability, for example.

Table 33. "Agent" Factors Determining the Mode of Regulation for Sustainability

Perceptions of Sustainability: There seems to be no agreement on exactly what constitutes sustainability or sustainable development. Perceptions of sustainable development ranged from the "limits to growth" imperative to planning concerns and quality of life. Concerns for future generations and integration of social, economic, and environmental considerations were ranked the highest by the interviewees as the main purposes of sustainable development.

Misplaced Convictions: Part of the explanation for mixed perceptions of sustainability is cultural and religious beliefs based on a dualism that separates humans from their natural environment. There is also widespread and misplaced conviction that human hardship can be overcome through the hard work and the good deed of individuals, a view that overlooks the causes of hardship, inequality, and inequity. Placing the onus on the individual to alleviate societal hardships through personal sacrifice diverts attention from collective responsibility and political accountability.

Conflicting Interests and Competing Agendas: It is fallacy to think that individuals operate on the basis that "we are all in this together". Conflicts are based on professional and institutional loyalties, differences in personal material wealth, political or religious beliefs that allow and justify a particular social positioning or class, or quest for power. Conflicts may be also based on misunderstanding or ignorance. Resolving societal problems or pursuing complex goals such as sustainable development requires recognition of these conflicts and preparedness through instituting norms and forms to address them.

Institutional Inter-relations and Partisan Politics: Institutional inter-relations are affected by politics. Ideological preferences by individuals or groups of individuals can and do manifest themselves as disruptions to the painstaking process of establishing inter- and intra-relations with historical adversaries. Disruptions may occur due to changes to the funding arrangements, changing mandates, removing key persons from points of contact, and legislation. While inter-relations may outlast four yearly elected governments, their effectiveness can be seriously weakened by disapproving political regimes. The current Ontario provincial government was cited by numerous interviewees as having had exceptional success in undermining or dismantling long-nurtured institutional inter-relations.

Movers and Shakers: In situations of conflict there are always actors who have, or are perceived to have, more power than others, making for a playing field that is far from level. According to the interviewees, governments, the private sector, learning institutions, and E/NGOs are the four most important actors to effect or prevent change. There is mutual recognition by government and the private sector of each other as main actors. The behaviours of these two actors are difficult to explain however. Governments seem to want to "partner" and work with (for?) the private sector while the hardline private sector proponents would ideally like to see an end to government "interference".

Governments, educational institutions, and E/NGOs are the most important sources of information and diffusion of knowledge on sustainability. Governments at all levels have articulated what needs to be done but have not, in most cases, defined the "codes of conduct" and the boundaries of organizational activity, or provided leadership and resources for meeting sustainability objectives. Governments at the regional, provincial, and national scales have effectively failed to facilitate, lead, network, negotiate, promote, co-ordinate, provide funds, and build consensus around sustainability (see chapter 2). Such failures are often attributed to "organizational inertia" in public and private

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[75] Second order learning refers to the conceptualization of knowledge by individuals exposed to it (first order).

institutions and organizations. Inertia, a constant disabling factor in effecting change, is often treated as a "given" in strategies for fundamental change. Systemic causes of or means to overcome inertia also warrant more in-depth examination.

The ability of educational institutions to provide independent commentary on and criticism of the unsustainable mainstream thinking is seriously compromised by societal, political, and financial pressures. Erosion of academic freedom and independence through continual reductions in actual funding by provincial governments increasingly holds educational institutions hostage to corporations' "benevolence" and the market's whims. The role of E/NGOs as important sources of feedback to the policy-making framework is similarly undermined. E/NGO input can supplement, confirm, or challenge government or business policies and conduct on sustainability. There is inadequate government facilitation, including funding, to sustain consistent E/NGO activity.

The volatility of commitment to sustainability by governments indicates that sustainable development has not, as yet, been institutionalized at the local, provincial, or federal scales of governance and thus is vulnerable to changes in the political regime. There is no evidence of "permanency" or "institutional persistence" in relation to sustainable development at the local, provincial, or federal scales of governance. Interference based on unsympathetic political ideology undermines long established local governance norms and forms, mainly through withdrawal of enabling funds. Similarly, governments sympathetic to sustainable development provide impetus for citizen involvement and local initiatives through increased or new funding. Formal commitments to sustainability are often and easily broken for short-term political, financial, and other considerations. There is little evidence to suggest that in practical terms decision makers view sustainable development in terms of system embeddedness and interdependencies.

In both case study Regions there is significant gap between the objectives of the Official Plan and what has to date been accomplished on the ground. The persistence of the unsustainable status quo was related in chapter 6 to two sets of factors. At the institutional level the agent's ability to pursue sustainability objectives appears to be frustrated by misconceptions, political differences, and power relationships (table 33). At the structural level regional specificities, methods of discourse on policy and action, scale or jurisdictional issues, and the quality of inter-relations have not constituted a "negotiated" form of governance (table 34). Hamilton-Wentworth seemed to be more oriented toward sustainability relative to the Region of Waterloo, however. This orientation is particularly evidenced in the process preceding the formulation of Vision 2020 and apparent in the evaluation of Vision 2020 and Waterloo's Official Plan against FCM's criteria for regional sustainability (table 18, chapter 5). However, many of the gains made toward meeting Vision 2020 objectives have been under serious threat by the neo-liberal, pro-growth local government that assumed formal responsibility for the "new" City in January 2001.[76]

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[76] As of May 2002, the new City budget imposes major cuts on libraries, social housing, public health, disabled transit, cemeteries, recycling, a long list of environmental programmes, park maintenance, Seniors tax rebate programme, and termination of the Clean Air Hamilton programme (McLean, 2002:1-5). The City will stop responding to noise complaints and is planning to stop enforcing a number of other by-laws

Table 34. "Structural" Factors Determining the Mode of Regulation for Sustainability

Regional Specificities: Hamilton-Wentworth seems to have a stronger sense of community (centred mainly in Hamilton) than Waterloo. The urban core of Hamilton-Wentworth is centred around Hamilton while industrial activity in Waterloo is dispersed by comparison. The Regions are comparable in terms of population size, growth pressures, mixes of agricultural and industrial activity, threat of sprawl, and having a contentious pending project (Red Hill Valley expressway in Hamilton-Wentworth and Highway 7 expansion in Waterloo) with significant economic, social, and environmental impacts. There are differences in the local history and culture, however. There were suggestions of a higher degree of parochialism in Hamilton-Wentworth than Waterloo, for example.

Discourse in Policy Development and Implementation: The discourse component of policy-making and implementation is influenced by a number of factors. Overemphasis on consensus often waters down basic principles, making for shaky alliances with little resilience. Yet, tactical compromises to overcome cultural and ideological differences have to be made to meet common objectives on sustainability. Discourse and consensus are directly influenced by the political system which may favour one group of contenders over all others. Privileged positioning within the political system can upset the balance in the compromise, weaken the discourse process, and ultimately undermine previously reached consensus.

Scale of governance: Partially because amalgamation was already underway in Hamilton-Wentworth and a likely prospect for Waterloo when the interviews were being conducted, much was said about the most effective scale at and through which municipalities should be governed. While the two-tier local government gives more voice to the city and township communities, macro projects such as transportation are more effectively and efficiently implemented through single tier governments because of scale efficiencies. As far as globalization effects and the politics of scale beyond the Region, it does not much matter whether there is one- or two-tier local government – little can be done against reductions in funding, for example, often imposed on regional governments by regulatory regimes at higher scales.

Levels of Inter-relation: Trust among individuals at the social scale, among individuals at the organizational and/or institutional scales, and among organizations and institutions at the societal scale have implications for the quality of inter-relations that constitute cohesiveness. The consistency of individual, organizational, and societal norms and values with the principles of sustainability defines the volatility of contestation in the governance of socio-economic spaces. Higher levels of consistency, or institutional cohesiveness, should result in less contestation and more "negotiated" settlements in the implementation of economic policy.

Reviewing the findings from a regulationist perspective, it is clear that adoption of formal policy on sustainable development in general and in the case study Regions in particular is the result of external and internal pressures on the productivist regime of accumulation. At the formal level this pressure takes the form of "keeping up" with the provincial and federal government institutions by articulating commitment to sustainability in the Official Plan. Informally pressure may come from enlightened and/or concerned Regional government officials who strive for sustainability, in part responding to citizens-based E/NGOs that continually confront the Regional government for failing to adequately address the social and ecological concerns of the community. Agents with

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as part of $26 million in budget cuts. In pursuit of its neo-liberal ideology, the new City's government will increase residential taxes to reduce business taxes by $7.1 million. The construction of Red Hill expressway remains a council priority despite uncertainties on construction and maintenance costs and the long, bitter and divisive history of local opposition to the project. The budget cuts proposed by the new City are far from final. The significance of the proposed cuts is their contrast to what had been taking place in the ten or so years preceding the formation of the new City and the election of the neo-liberal government.

value sets and moral codes different from those exhibited and advanced by the productivist "structure" of the political economy appear to have made an impression, however superficial, on government policy which in a democracy is charged with setting the boundaries for the market and the regime of accumulation, hence constituting a crucial component of the mode of regulation.

The success or failure of single organizations and institutions to pursue sustainable development objectives is directly related to inter-relations with other organizations and institutions and determined by the degree of trust in these inter-relations. Nevertheless, in some respects the expectation to achieve sustainability in one regional municipality is as futile as striving to become sustainable within the confines of one organization, surrounded by a sea of unsustainability. Isolationism in a regional context, however committed to sustainability, increases the risk of overlooking or even condoning inequity at the inter-regional level and in the larger system. The approach to sustainable development necessarily has to be multi-scale, multi-system, integrated, focused on the long-term, non-partisan, and aimed at institutionalization of such core values as accessible universal welfare, health care, education, and healthy environment. The approach also has to be "embedded" by viewing domestic well-being as being directly linked to global well-being.

Overcoming barriers to sustainability requires appreciation of the scale of the barriers in question. If the system of production and consumption is inherently unsustainable on the account of productivism, little can be done at the local scale to reverse the trajectory of the total system. Conscientious local government and non-government institutions committed to sustainable development could only "soften the blow" by managing the most adverse effects of unsustainability. Effecting change toward sustainability in the structure of the economic system is of course contentious and may be resolved through confrontation and/or discourse depending on the magnitude of the change sought and the specific spatial and temporal factors. Ecological modernization of the production and consumption systems begins with efforts and initiatives to "do things better".[77] At the local municipality scale doing things better should translate into innovation in the planning and design processes to increase effectiveness and efficiency. The second stage in ecological modernization is to "do better things".[78] Because of the issues involved, the second stage is likely to be politically charged as the foundations of the production and consumption systems are closely scrutinized for suitability to serve ecological well-being.

Without mutual trust and high quality inter-relations among individuals at large, individuals within organizations and institutions, and among organizations and institutions it is at best difficult to institute anticipatory planning practices based on the precautionary principle, transform core social institutions to serve sustainability, make significant changes in the production and consumption systems, have representative and democratically elected governments, and effectively regulate the market's institutions at multiple scales (local, provincial, national, and global). Establishing high quality inter-relations requires following the connective, web-like thread that charts causality and

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[77] "Doing things better" also lies at the foundation of industrial ecology and the ecosystem approach.
[78] "Doing better things" is also the focus of ecological economics.

connects individuals, organizations, and institutions regardless of self-imposed or actual boundaries. The significance or relevance of what is discovered through following the connective thread is dependent on how effectively the acquired knowledge from multiple sources and disciplines is utilized. The implications for broader theory and practice of establishing causality in the manner just described are explored further in the next section.

8.3 Implications for Broader Theory and Practice

The literature reviewed for this thesis and the in-depth analysis of interview and secondary data have revealed that there are numerous factors that "regulate" what occurs at local and other scales in relation to sustainable development. There appears to be no one discipline that can fully explain why, or how, regulation of events and things in the broadest sense occurs. To keep the research within manageable proportions, this thesis has been concerned with how inter-relations between formal institutions regulate the political economy, paying particular attention to factors that help explain the failure to meet sustainability objectives at the local scale.

This thesis has attempted to bring into focus the social and ecological contexts of the economy as an "instituted process".[79] An "institutionalist" framework was developed to examine the attainment of policy objectives on sustainability. The multi-scale, multi-system, and integrated framework was used to highlight the role of structures and agents in producing and shaping the processes of policy development and implementation in two Ontario regional municipalities (see tables 34 and 35). The analysis paid particular attention to scalar interplays and inter-relations at different levels underlining the importance of a post-disciplinary approach to research into complex socio-political phenomena. Adding an ecological component to regulation theory, this research has attempted to explain the failure by the two regional municipalities to meet policy objectives on sustainability. This thesis has also attempted to follow the thread that seems to connect the literatures of learning (organizations, regions, economies), institutionalism, regulation theory, and policy (implementation) analysis.

These literatures share a systemic analytical approach, evidenced in utilizing to varying degrees multi-scale, multi-system frames of inquiry to examine complex and inter-related phenomena. These literatures are in addition cross-disciplinary. Conducting research that draws on this varied range of literatures requires an expressly post-disciplinary approach. This approach was employed to highlight conceptual convergences between two or more of these literatures. For example, "mapping" causal factors as demonstrated by Sabatier and Mazmanian (1983:174-5) closely resonates with Hayden and Stephenson's (1992:58) "diagraph" (directed graph) method to document "the network and delivery process" of overlapping organizations or entities through the flows of personnel, funds, goods and services, and information (tacit and codified) which "structure and maintain community relationships"(Hayden 1993:312). Amin and Thrift (1994) also allude to the importance of (socio-economic and cultural) interconnectedness and interdependencies in the formation of "institutional thickness". Mapping as deployed by Sabatier and Mazmanian

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[79] The term "instituted process" is borrowed from Karl Polanyi.

(1983) and Hayden and Stephenson (1992) may be applied to single out the regulatory (in a regulationist sense) role of an institution or to identify the collective regulatory role of an institution that may itself be the product of interactions among a number of different institutions.

This research has established that institutions represent an inseparable part of the geopolitical context of economic activity. The term "institution" is closely aligned with "specificities of time and place and contrasts with universals (or general characterizations)" (Neale 1987:1181). What is called an institution by an investigator depends on the investigator's focus of interest, the types of institutional inter-relations under investigation, and the scope and level of the hierarchy that emerges from such investigation. An institution in one context may not be an institution in another. Similarly, the behaviour of an economic agent is time- and place-specific. Institutions are largely responsible for maintaining (or failing to maintain) localized socio-political cohesion and stability. Institutions evolve and can be created. There is no question that institutions can and do change under certain conditions and over the long-term. Institutional change occurs when "an existing set of beliefs, norms, and practices comes under attack, undergoes deligitimation, or falls into disuse, to be replaced by new rules, forms, and scripts" (Scott 2001:95).

In light of the critique in chapter 3 of the literature on learning and the reviews of institutionalism, ecological modernization theory, regulation theory, and implementation analysis it may be concluded that policy development and research work on sustainability needs to be based on conceptualizations of "transition processes that specify the regulatory and governance conditions under [and through] which desired changes might be realized" (Hudson and Weaver 1997:1649; similar conclusion in Rotmans, Kemp, and van Asselt 2001). For sustainability, part of this transition must entail a reduction in "materials-intensive" systems of production and consumption, a premise shared by the proponents of industrial ecology and ecological modernization theory (see chapters 1 and 3). Transition to sustainable development, or a higher degree of sustainability, must also include addressing problems of unemployment, environmental degradation, social well being, and cohesion. Monitoring mechanisms to ensure that sustainable development objectives are consistently being strived for will need to be developed and incorporated into economic performance data.

For example, to alleviate the problem of unemployment Lipietz (1992, cited in Hudson and Weaver 1997:1653) suggests the establishment of a "socially useful third sector" as a means to increase employment. The "third sector" refers to "welfare enhancing work" normally attended to by volunteers or underpaid, semi-voluntary community workers and activists. Equitable remuneration of the workers in the third sector will reduce unemployment and increase socially valued work and jobs. One implication of Lipietz's suggestion is to devise an accurate account of how trends toward, or away from, full employment and ecological modernization are reported in conventional economic data, a difficulty highlighted in chapter 5. It is at best difficult to deduce with certainty the trajectory of economic development in relation to ecological modernization from the data in tables 11-14.

Policy work and research on ecological modernization and sustainability need to be explicit on the question of scale and the politics of policy making and implementation. The central challenge for policy makers, action takers, and researchers[80] is to determine the appropriate territorial (physical, social, economic, and political) scale at and through which government power needs to be deployed to effect transition to sustainable modes of regulation (Rotmans et al. 2001). This question is particularly relevant given the discourse on regionalization / globalization. There is evidence to suggest that national government intervention and facilitation to ecologically modernize the economy has medium to long term benefits in terms of increased employment, innovative capacity, and competitiveness (Hajer 1997; Hudson and Weaver 1997; Gouldson and Murphy 1998). Experimentation at the policy level with regional "models" to motor "new" economies would do well to tap into some of the available, ecologically-oriented fields of study and policy approaches that utilize ecological modernization or industrial ecology blueprints for economic development. Such experimentation needs to be based on in-depth analysis of implementation scenarios and dynamics (see chapter 3).[81] The remainder of this chapter explores the policy and future research implications of the findings from this research (as reported in chapters 2, 5, 6, and 7).

8.4 Implications for Policy and Action

Much is said about the need for capacity building in developing and developed countries to effect fundamental change. Absent from calls to build capacity is the "battle cry" or the unifying goal or purpose for the increased capacity or establishing new institutions. "Thickness" without a clearly defined goal associated with it is primarily relational and useful only in comparing institutional characteristics of two or more "equal" scales such as regional municipalities or provinces. For studies concerned with advancement toward sustainability (a strategic question), a more useful phenomenon to study is "cohesiveness" which may be described as "thickness with a strategic purpose".

As table 35 shows, the existence of inter-relations is hardly the issue. Of crucial importance to attaining sustainable development is the quality and purpose of these inter-relations. Interviewees did not want "increased capacity" for the current institutions or creation of new ones. There was no mention of or expressed desire for new formal functions for institutions. Instead, the interviewees expressed a strong sentiment for further "development" of the informal functions of institutions. These functions included participation, transparency, accountability, and empowerment of the disadvantaged with governments acting as catalysts, facilitators, and arbitrators.

Following a simple planning model, to attain sustainability there has to be a vision, goal(s), policy, and a set of clear objectives. Programmes have to be devised to meet objectives and choices have to be made on deployment of resources to facilitate

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[80] These three groups are not viewed here as independent or mutually exclusive.

[81] In terms of experimentation, much could be learned from the collective experience of the Scandinavian countries, the Netherlands, and Germany in experimenting with equitable social policy, forging new "compromises", and adopting integrated approaches to restructure the economy and social relations to attain sustainable development.

implementation. To steer clear of pitfalls, monitoring measures and "mechanisms" have to be instituted and forums established at all levels to assess and review information collected from implementation programmes. Most important, transparent and inclusive frameworks need to be set up to ensure that results are reviewed against the requirements of a shared vision of sustainability. Such planning models or policy implementation frameworks have been the focus of much of the "implementation analysis" work by Mazmanian and Sabatier (1981, 1983), Sabatier and Mazmanian (1983), Sabatier (1986, 1999), and Ostrom (1996, 1999). Implementation analysis offers numerous insights into the evolutionary dynamics of formal policy as an instrument of change making at the societal level (see chapter 3 for a brief overview).

Table 35. Inter-relations Among Institutions

Institution	FG	PG	RG	QG	TU	PO-A	PO-I	PO-R	CG	FI	IN	LF	LI	MM
Federal Government (FG)	X	X	X	X			X		X		X		X	
Provincial Government (PG)	X	X	X	X		X	X		X		X	X	X	
Regional Government (RG)	X		X	X	X	X	X	X	X		X		X	X
Quasi-Government Organization (QG)	X		X	X	X				X	X	X	X	X	X
Trade Union (TU)	X	X*	X	X	X	X	X*	X	X				X	X
Peak Organization – Agriculture (PO-A)	X	X	X				X	X		X			X	
Peak Organization – Industry (PO-I)	X	X	X				X		X	X	X	X	X	
Peak Organization – Religious (PO-R)	X	X	X			X		X	X				X	
Community / Citizens Group (CG)	X	X	X	X	X				X			X	X	
Financial Institution (FI)	X	X	X			X	X		X	X	X	X	X	
Information Network (IN)		X	X			X	X		X	X	X	X	X	
Local Firm (LF)	X	X	X			X	X		X	X	X	X	X	
Learning Institution (LI)	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mass Media (MM)	X				X	X	X	X	X	X	X	X	X	X

* Varies depending on political climate

Drawing on a rich selection of case studies, Sabatier and Mazmanian (1983:7, 363-4) conclude that the success of policies aimed at substantial departures from the status quo is dependent on meeting a set of conditions (table 36). Sabatier and Mazmanian (1983) make clear that their framework is by no means the last word on implementation analysis. Weaknesses of this framework arise from the subjective or ambiguous nature of some the conditions such as "substantial managerial and political skill", "active support by constituency groups and a few key legislators", or "the undermining of policy objectives over time by the emergence of conflicting public policies" (page 363). Full operationalization of this framework requires further articulation, through developing working definitions for some of the terms and appropriate indicators for some of the conditions, for example.

At a more "organic" level, much attention has been paid to the recent development in Brazil, particularly in relation to Porto Alegre. Porto Alegre is a city of 1.5 million people and part of a growing political movement in Brazil focused on local control and decentralized government. The political driving force for this movement is the Workers Party (PT), in power in Porto Alegre for over 12 years and in power in a total of 200 municipalities throughout Brazil, making gains in the polls as a serious contender in federal politics.[82] The PT-governed municipalities have adopted a system of

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[82] See Klein (2002), "Will the Social Fabric Tear?", *The Globe and Mail*, February 18, page A18 and Ramonet (2001), "The Promise of Porto Alegre", *Le Monde diplomatique*, pages 1-3.

"participatory budget" that allows direct citizen participation in the allocation of scarce funds and resources. The system works through a network of neighbourhood and issue councils where citizens can discuss and decide on which infrastructure programmes to be undertaken and what level of social services to be provided. Perhaps as a result of this process, the city has increased public services for the poor and democratic participation has increased every year. Porto Alegre's alternative system of governance presents a serious challenge to the viability of most social democracies for attaining sustainable development.

Table 36. Conditions for Successful Implementation of Policy

- policy objectives are clear and consistent or at least provide substantive criteria for resolving goal conflicts
- policy is based on a sound theory identifying the principal factors and causal linkages affecting policy objectives
- policy gives implementing agents sufficient jurisdiction over target groups and other points of leverage to attain, at least potentially, the desired goals
- the structure of the implementation process ensures that implementing agents and target groups behave as required for attaining policy objectives. This involves assignment to sympathetic agencies with adequate hierarchical integration, supportive decision rules, sufficient financial resources, and adequate access to supporters
- implementation agency leaders possess substantial managerial and political skill and are committed to policy objectives
- policy is actively supported by organized constituency groups and by a few key legislators throughout the implementation process, with the courts being neutral or supportive
- policy objectives are not undermined over time by the emergence of conflicting public policies or by changes in relevant socio-economic conditions that undermine the policy's causal theory or political support.

Source: Adapted from Sabatier and Mazmanian (1983)

It may be concluded from the preceding examples that if the ultimate goal is to effect change of relative permanency, institutional capacity is needed to facilitate it (institutional thickness). It may also be concluded that change requires an agenda, a strategy, and clearly defined objectives pursued by a representative authority as exemplified by the Porto Alegre case. Without clear objectives and transparent, participatory decision-making processes inertia is likely to prevail, being reinforced by habits, customs, conventions, conflicting interests, and competing agendas. Confusion, misunderstanding, counter-positioning, dogma, and misappropriation of terms such as "sustainability" replace transparency and discourse based on equitable guiding principles. The contrast to Porto Alegre's mainly "bottom-up" approach at one extreme and technocratic policy making at the other is provided by Sweden which provides an illustrative example of a successful, integrated approach to sustainability that effectively matches "top-down" commitment with "bottom-up" support (Swedish Government 1997). Sweden's apparent success has to be viewed in its appropriate historical and institutional context, however (see chapter 2).

In Sweden, government commitment to attain sustainability has resulted in institutionalization of learning from ecologically-oriented fields of study and research.

Footprint calculation, full cost pricing of goods and services by removing subsidies and implementing environmental tax incentives, state-sponsored adoption of innovative technologies to increase economic and ecological efficiency in the production and consumption systems, and reallocation of tax revenues to safeguard social and ecological well-being has resulted in emergence of new industrial activity and increased employment. The prime reason for success by Sweden to ecologically modernize the economy seems to be an interventionist corporate state, long a defining feature of governance in Nordic countries of Europe, functioning in a "negotiated economy" (see chapter 3 for discussion) based on mutual trust. In sharp contrast to Sweden, the Canadian federal government and some provinces including Ontario, have been busily attempting to emulate the "successes" of neo-liberalism as experienced in Britain in the 1980s.

One could only speculate about the consequences for Canada of learning from the Swedish, Danish, Dutch, or Brazilian experiments in operationalization of (some) sustainability principles. What is clear in the case of Ontario is that ideologically-driven downloading and outsourcing of state functions have resulted in a diminished base of trust in inter-relations between the municipalities and the province (see "Local Services Realignment", chapter 2), minimizing the possibility of experimenting for sustainability. The downloading of provincial government functions to the municipalities in Ontario may be interpreted as a move from government to governance as a result of a "reterritorialization" process (Brenner 1998) that began in the aftermath of the late 1980s recession. The difference between the approaches adopted by Canada and Sweden in response to Agenda 21 is perhaps best explained through the set of dynamics that make up the "socio-political and discursive processes, strategies and struggles" in each country and determine each nation's course of economic development.

Given the current obsession with deficit reduction[83] and cost savings through increased operational efficiencies, institutions in Ontario and elsewhere in Canada are being forced to thin out their human capital and lose "functional redundancy"[84] to maintain funding or remain within reduced budgetary limits. Functional redundancy represents indispensable human capital reserve, arming the institution with vast amounts of tacit knowledge and functional capability to adapt to fundamental changes in the operating environment. The loss of experienced personnel by government institutions in attempts to balance the books is likely to make planning and decision making functions needing to be performed rather than processes that are "interactive, ...continuous in that emergent changes require frequent modifications; participative in that all stakeholders must be involved; integrated in that all levels must make their inputs from their own perspectives; and coordinated in that the interdependence of decisions has always to be considered" (Trist 1980:121-122).

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[83] The post-September 11, 2001 spending spree by the Bush administration to keep major sectors of the American economy afloat is a significant deviation from the deficit fighting talk of the late 1980s and 1990s. This change of course is likely to have significant economic, social, and environmental implications in the United States and beyond.

[84] Functional redundancy refers to organizations / institutions in which every function has multiple capabilities. When acting in one capacity, other capabilities are necessarily redundant or not utilized (Trist 1980).

Externally, neo-liberalism has resulted in the centralization of power in fewer hands which mainly represent, or are connected to, private sector interests. The shift to neo-liberalism signifies a move away from the post-World War II Keynesian welfare state toward a "Schumpeterian workfare state" (Jessop 1999) and the breakdown of socio-political fabrics associated with this shift. The political shift to neo-liberalism is also reflective of attempts to establish a mode of regulation capable of re-instituting a rising rate of surplus value. Parties threatened or adversely affected by this shift are contesting it within formal institutions, in streets through protests against globalization and/or ecological degradation, in the academe through emergence of new fields, and in governance through instituting new forms as exemplified by Porto Alegre, Brazil.

At the organizational / institutional level recognition of interconnectedness and interdependencies is for the most part superficial. Turf fights seem to be a major concern, particularly for federal government institutions in relations with the provinces. The federal government on various occasions enlists the services of the Federation of Canadian Municipalities to reach the municipalities across the country, indicating a significantly low level of trust, and/or disagreement on policy objectives and priorities, between the federal and provincial government institutions. Failure to take unified, decisive action on such issues as climate change or health care is a direct result of mistrust and strained relations between the two levels of government. Mistrust in institutional inter-relations is also evident at the provincial / municipal levels, alluded to by numerous key informants and documented in surveys conducted by the Association of Municipalities of Ontario (see chapter 2).

Table 37. What a Community Needs to Pursue Sustainability

- strategic planning that is fully supported by information about how a community's systems and its unique set of natural and human resources work together
- active citizenry and well-developed processes for community partnership and input
- efficient land-use policies that minimize transportation needs and create clusters of complementary uses and services at the same time as they create safe and attractive public spaces to maximize citizen interaction. This includes adoption of community energy planning principles
- maximum use of renewable energy, commitment to managing demand for resources and to living within natural local limits, including watershed carrying capacity and local agricultural resources
- water and waste systems that use "less pipe and more brains," including on-site infrastructure and micro-systems that provide a higher quality of service at lower long-term cost
- adequate access to education, training and efficient exchange of information
- strong partnerships between orders of government and the private sector that foster adequate investment in community infrastructure
- adequate level of affordable housing
- fiscal reform that matches municipal governments' resources to their responsibilities

Source: FCM (2002)

Governance arrangements determining more or less devolution of administrative powers to regional municipalities have a direct bearing on the ability at the local scale to address local sustainability issues. Larger, multi-scale structural issues can only be meaningfully

addressed at higher scales. Addressing climate change for example, requires discourse at supra-national scales while provision of basic needs of the populace such as employment, food, shelter, education, health, and so on rests firmly within the realms of the national scale with significant implications at the state/provincial and municipal scales. For these myriad governance arrangements to serve sustainable development, there has to exist discourse based on mutual respect and trust between individuals at large, between individuals in organizations and institutions, and between organizational and institutional entities on the account of interdependency. Such discourse needs in addition to be inclusive, transparent, and accessible to all contending parties.

Adopting a scalar / discursive approach, the Federation of Canadian Municipalities defines its approach in terms of "thousands of small actions [such as] great recycling programs, clean energy flows, bike paths, water protection systems, [which] combined are always much more powerful than any single economic decision-maker."[85] To attain these objectives FCM proposes, actively promotes, and supports a programme of action for municipalities that challenges the provincially defined boundaries of the Planning Acts and the myth of "small" governments (table 36). Success in operationalizing FCM's blueprint will largely depend on the impetus provided by the federal and provincial levels of government through "tax shift" programmes and other restructuring measures to socially and ecologically re-orient economic activity and social behaviour.[86] There is evidence to suggest that "green" technologies and environmental protection have considerable potential for conventional job-creation (Hudson and Weaver 1997) and behavioural change (Rotmans et al. 2001). More broadly, tax shifts and other restructuring measures need to be actively demanded at the local scale and initiated at higher scales to simultaneously protect the environment, generate new employment, eliminate or reduce poverty and discrimination, and provide incentives for local levels of government to initiate locally-specific experimentation aimed at attaining sustainable development.

8.5 Future Research

Research in regional economic development to date has been narrowly based on neo-classical economics and confined to focusing on (and promoting) "competitiveness" and "innovation" as indicators of success or failure of regional development policy, without due regard for the socio-ecological aspects of economic development. This focus is evident in much of the writing on "learning regions", for example. Also, regulation theory, concerned with regimes of capital accumulation, modes of social regulation, and related governance issues at the national scale, has thus far not viewed the ecological constraints to economic growth as representing a major regulatory factor in the current phase of capitalism's development. As a result, the regulatory implications of the ecological imperative remain insufficiently explored.

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[85] FCM [http://www.fcm.ca/scep/what_is/what_is_need.htm], accessed February 15, 2002

[86] "Tax shifting" involves pricing economic goods and services based on full social and ecological costs while simultaneously reducing taxes on earned income. Finland, Germany, The Netherlands, Sweden, and the United Kingdom have experimented with tax shifting to reduce the use of fossil fuels (for details see [http://www.earth-policy.org/Updates/Update14.htm], accessed February 27, 2002).

Future research work will apply the conceptual framework developed in chapters 3 and 4 to identify and examine the factors that define the mode of regulation at the sub-national, national, international, and global scales. This dissertation thesis represents the first "building" block of this research agenda, focusing on the local (regional municipality) scale. Having developed and applied a mixed-method approach to assess the cohesiveness of institutional inter-relations, this thesis has shown that

- institutional cohesiveness is simultaneously context-specific and scalar; and
- the interplay between the sets of institutional cohesiveness at the sub-national, national, international, and global scales plays an instrumental role in shaping the outcomes of sustainable development policy mandates at the local scale.

In terms of policy, the dynamics of this interplay need to be closely examined at other (national, supra-national) scales – in addition to the sub-national. Such examination will map out some of the less tangible forces that shape the regime of capital accumulation at each scale. Future research will need to build on a connective thread drawn by scholars in industrial ecology, ecological economics, and ecological modernization theory, to link the economic, social, and ecological aspects of development policy-making at different scales. Specifically, future research will need to

- examine how institutional inter-relations at the local (municipality/county) and supra-local (provincial/state, national, NAFTA- or EU-wide) levels define the mode of regulation to stabilize the regime of accumulation; and
- provide a rich, institutionally sensitive framework for researchers, policy makers, business organizations, and citizens groups wishing to pursue sustainable development.

Research will need to examine whether and how institutional cohesiveness at the sub-national and supra-national scales shapes the outcome of national mandates to attain sustainable development objectives. In practical terms, this research agenda will illustrate how nation-states within continental trade blocs cope in efforts to pursue sustainability, permitting more informed discussion of national and regional policy in this regard while potentially facilitating cross-national transfer of most effective policies and technical tools. National cases will be "unpacked" to reveal the relationship between institutions at the supra-national (e.g., NAFTA) and the national scales to highlight the policy implications of pursuing sustainability at the national scale through sub-national (municipal) projects. Future research will need to identify potential synergies between the achievement of greater environmental protection, the creation of equitable and satisfying employment opportunities, and the delivery of enhanced individual and collective welfare at the national scale through "new" compromises to institute equitable modes of regulation at the supra-national, national, and sub-national scales.

8.6 Conclusion

Studying modes of regulation at the local scale is certainly desirable and likely to provide important insights into localized social processes and politics of policy making. These insights need to be examined in the larger spatial and temporal contexts. Localized forms

of governance may be more or less "permanent". What seems like a grounded and well-established set of local arrangements is vulnerable, over time, to internal and external factors and threats of disorganization as demonstrated in the case of Hamilton-Wentworth in the aftermath of the amalgamation into the new City. There does remain one central question, however, regarding the role of the local as catalyst in the larger context over time where local experimentation, e.g., Porto Alegre, could be adopted at the larger supra-local scale. In the case of Brazil at least, it seems that it would be convenient to have a national government sympathetic to PT's ideals and political programmes.

Research focused on regional sustainability as the scale of analysis limits accounting for supra-local factors that shape the local mode of regulation. Arguably, changing the boundaries that define a region from political to bioregional or watershed scales may provide a more convenient context for ecosystem-based, integrated planning exercises. However, policy making and implementation at these scales too are subject to supra-watershed or bioregional pressures due to interdependencies and interconnectedness. The issue then is not what constitutes the "best" single scale or factor for the pursuance of sustainable development. We need to ask what combination of factors, at what scales, need to be mobilized to effect change for attaining sustainability.

This thesis has attempted to underline the value of post-disciplinary research by drawing on numerous fields of study to develop "institutional cohesiveness" as a means to examine closely the institutional context of the political economy at the local scale. In so doing this research has demonstrated that no field of study or discipline is whole enough to serve as the theoretical / conceptual foundation for policy making in general and sustainability attainment in particular. Policy needs to be developed by drawing on multiple skills and disciplines. More importantly, policy implementation succeeds and becomes "institutionalized" only when the "connective threads" of causality have been clearly established and effectively utilized.

The findings from this research suggest that numerous factors from a wide spectrum of systems and scales are needed for attaining sustainability. This conclusion should not be cause for paralysis or inaction, only humility, which should serve us well for the enormous task at hand. A multi-scale, multi-system, and integrated approach to sustainability simultaneously values action at smaller scales and pursues effecting fundamental change in the systems of production and consumption at the macro scale. The agenda that emerges from this approach is explicitly interventionist, needs to be pursued in action, and supported by research.

Pursuing this research agenda necessitates viewing the world through lenses different from those offered by neo-classical economics, particularly the neo-liberalist variant. Research support needs to come from educational funding institutions, educational institutions through encouraging post-disciplinary research projects, and most importantly, through advisor / student relationships that nurture inductive, open-ended, and dialectical approaches to social scientific research. Only then could the researcher meaningfully explore, discover, and contribute to understanding new social forms and institutional processes that arise from the complexity that is the governance of social, economic, and ecological spaces.

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Appendix 1

<u>Interview questions</u>
This questionnaire was used for semi-formal interviews with key informants from:
- Institutions within the Regional Municipality of Waterloo;
- Institutions within the Regional Municipality of Hamilton-Wentworth; and
- Institutions from outside these two Regions – <u>Questions 7, 8, and 28 do not apply in this case</u>.

1. **Institution's background** *[profile]*

Date founded_____

Reasons for founding_____

_____

Types of activity:

☐ Consultation   ☐ Mediation   ☐ Intervention   ☐ Information diffusion

☐ Other (specify)_____

Sources of funding (list): _____

_____

Other forms of support from (specify):

☐ Government _____

☐ Industry _____

☐ Community _____

☐ Other _____

Number of employees in: 1990_____1995_____2000_____

Number of members in: 1990_____1995_____2000_____

2. In which of the following areas does the institution provide service? *[profile]*

Production processes (tick):

☐ Quality assurance

☐ Environmental management

☐ Health and Safety management

☐ Procurement

☐ Research and Development

☐ Marketing strategy

☐ Human resources and training

☐ Finance

☐ Relationship with regulatory agencies

☐ Relationship with the community / general public

☐ Other (please specify)_____

3. **To whom is the institution accountable? (List)** *[intra-relations]*

_____
_____
_____
_____

4. **What medium does this institution use to account for performance against its mandate? (List)** *[intra-relations]*

_____
_____
_____
_____
_____

5. **What changes, if any, have been made to the functions of the institution as a result of performance reviews? (List)** *[intra-relations]*

_____
_____
_____
_____
_____

6. **Please tell us what you think about when you hear the terms "sustainable development" or a "sustainable regional community".** *[interviewee's awareness]*

_____
_____
_____
_____
_____

7. **In your opinion, how sustainable is the Region at the present time?**

(Skip this question if your institution is outside the Waterloo and Hamilton-Wentworth Regions)*[interviewee's assessment of region]*

(circle one)

4	3	2	1	0
Very Sustainable		Somewhat Sustainable		Not Sustainable

8. In your opinion, is the Region on course to attain sustainable development?

(Skip this question if your institution is outside the Waterloo and Hamilton-Wentworth Regions)
[interviewee's assessment of region]

<div align="center">(circle one)</div>

4	3	2	1	0
On		Somewhat		Not
Course		On Course		On Course

9. Does your institution have a formal commitment to sustainable development?
[institution's commitment to sustainability]

☐ Yes (describe below or attach copy)   ☐ No

_____
_____
_____

Date policy formulated (if applicable)_____

10. What changes, if any, have been made to the functions of this institution as a result of the commitment to sustainable development? (List with dates)
[institution's commitment to sustainability]

_____
_____
_____
_____

11. Does this institution have an in-house environmental management system (to monitor energy and material consumption, for example)? *[example of commitment to sustainability]*

_____
_____
_____

12. Are you aware of the Hamilton-Wentworth and Waterloo Regions' commitment to a "sustainable regional community", as documented in VISION 2020 and ROPP, respectively? *[interviewee's awareness of regional sustainability mandates]*

☐ Yes   ☐ No

13. Has this awareness affected the functions of your institution? *[institutional impact of regional sustainability mandate(s)]*

☐ Yes (please describe how)   ☐ No

_____
_____

14. Which of the following institutions does this institution interact with / exchange information with and for what purpose? *[inventory of relations with other institutions]*
Specify the purpose, frequency, and examples of outcome from interaction with each of the following institution types (specify name):

☐ Education / training institutions
    Purpose_____
    Frequency_____
    Outcome(s) _____

☐ Research institutions
    Purpose_____
    Frequency_____
    Outcome(s) _____

☐ Financial institutions
    Purpose_____
    Frequency_____
    Outcome(s) _____

☐ Producer association (agricultural, manufacturing, service)
    Purpose_____
    Frequency_____
    Outcome(s) _____

☐ Labour unions
    Purpose_____
    Frequency_____
    Outcome(s) _____

☐ Local business associations
    Purpose_____
    Frequency_____
    Outcome(s) _____

☐ E / NGOs
    Purpose_____
    Frequency_____
    Outcome(s) _____

☐ Government
    Purpose_____
    Frequency_____
    Outcome(s) _____

☐ Other institutions / organizations (specify)_____
    Purpose_____
    Frequency_____
    Outcome(s) _____

15. At which level (e.g., Municipal, Provincial, Federal/National, International) does this institution interact with the following institutions? *[cross-scale profile of relations with other institutions]*

- Education / training institutions

☐ Municipal ☐ Provincial ☐ Federal ☐ International

- Research institutions

☐ Municipal ☐ Provincial ☐ Federal ☐ International

- Financial institutions

☐ Municipal ☐ Provincial ☐ Federal ☐ International

- Producer association (agricultural, manufacturing, service)

☐ Municipal ☐ Provincial ☐ Federal ☐ International

- Labour unions

☐ Municipal ☐ Provincial ☐ Federal ☐ International

- Local business associations

☐ Municipal ☐ Provincial ☐ Federal ☐ International

- E / NGOs

☐ Municipal ☐ Provincial ☐ Federal ☐ International

- Government

☐ Municipal ☐ Provincial ☐ Federal ☐ International

- Other institutions / organizations (specify)_____

☐ Municipal ☐ Provincial ☐ Federal ☐ International

16. Which of the following sources provide the institution with information on sustainable development and in what format(s)? *[source and type of sustainable development information]*

Source	Format / Medium					
	Seminars	Conventions	On-line Services / database	Publicatons (Specify)	Individual Exchange (e-mail, conversation)	Other (Specify)
Employees						
Private firms						
Information Networks						
Financial Institutions						
Industry Associations						
Trade Unions / Workers' Associations						
Universities and Colleges						
Regional Government						
Provincial Government						
Federal Government						
E/NGOs						
Other (specify)						

17. Select and rank the top four sources of information identified in Question 14.
   [assessment of information sources]

Source 1: (most important)	**Credibility** (circle one) 4 3 2 1 0 very Somewhat Not Credible Credible Credible	**Relevance** (circle one) 4 3 2 1 0 very Somewhat Not Relevant Relevant Relevant	**Availability** (circle one) 4 3 2 1 0 very Somewhat Not Available Available Available
Source 2:	**Credibility** (circle one) 4 3 2 1 0 very Somewhat Not Credible Credible Credible	**Relevance** (circle one) 4 3 2 1 0 very Somewhat Not Relevant Relevant Relevant	**Availability** (circle one) 4 3 2 1 0 very Somewhat Not Available Available Available
Source 3:	**Credibility** (circle one) 4 3 2 1 0 very Somewhat Not Credible Credible Credible	**Relevance** (circle one) 4 3 2 1 0 very Somewhat Not Relevant Relevant Relevant	**Availability** (circle one) 4 3 2 1 0 very Somewhat Not Available Available Available
Source 4: (least important)	**Credibility** (circle one) 4 3 2 1 0 very Somewhat Not Credible Credible Credible	**Relevance** (circle one) 4 3 2 1 0 very Somewhat Not Relevant Relevant Relevant	**Availability** (circle one) 4 3 2 1 0 very Somewhat Not Available Available Available

18. Does your institution act to facilitate greater Regional inter-institutional cooperation? *[characterization of the institution's activities by the interviewee]*

☐ Yes   ☐ No

If yes, describe these activities and what your institution has achieved in detail

_____
_____
_____
_____
_____

19. Do your institution's current activities promote the creation or maintenance of Regional sustainable development initiatives? *[characterization of the institution's activities by the interviewee]*

☐ No (skip to question 22)

☐ Yes (please elaborate)

_____
_____
_____
_____
_____
_____
_____

20. What level of importance does your institution ascribe to such activities?
[characterization of the institution's activities by the interviewee]

(circle one)

4	3	2	1	0
Very Important		Somewhat Important		Not Important

Elaborate, noting if (and why) this may have changed recently:

_____
_____
_____

21. How successful have your institution's actions been to promote local / regional sustainability initiatives? *[characterization of the institution's activities by the interviewee]*
(circle one)

4	3	2	1	0
Very Successful		Somewhat Successful		Not Successful

Provide examples of success and/or failure:

_____
_____
_____
_____

22. What barriers undermine this institution's contributions to the Regional endeavours to attain sustainability? *[barriers to the institution's sustainability endeavours]*

☐ Inadequate mandate ☐ Others' resistance to change

☐ Lack of experience ☐ Lack of funds

☐ Lack of in-house expertise ☐ Lack of cooperation with other institutions / agencies

☐ Other (specify)_____

Elaborate on your response(s) above:

_____
_____
_____
_____
_____
_____

23. What role, if any, has procurement of local / regional goods and services by your institution played in stimulating local / regional sustainability? *[local impact of the institution's operational activities]*

_____
_____
_____
_____
_____

24. What potential new roles (if any) could your institution play to strengthen inter-institutional relations vis-à-vis sustainable development at the Regional level? *[interviewee's "wish list"]*

_____
_____
_____
_____
_____

25. What obstacles (if any) keep you from playing the potential roles you have described in question 24? *[barriers to "wish list"]*

_____
_____
_____
_____
_____
_____

26. What roles (if any) do you think other institutions and private / public organizations might feasibly play in contributing to a stronger and more coherent move toward sustainability at the Regional level? *[potential institutional fixes – "wish list"]*

_____
_____
_____
_____
_____

27. Please list (in your best judgment) the most important local / regional institutions that could play significant roles in contributing to sustainability endeavours at the Regional level. Tell us <u>why</u> you think they are important and <u>what</u> role they could play. *[which institutions enact the "mover / shaker" roles in sustainability endeavours?]*

_____
_____
_____
_____
_____
_____

28. In your overall estimation, how suitable is the local / regional economy (the mix of industrial activity, number and type of firms and institutions, their functions, and inter-relations) for potential collaboration on issues of sustainability?
(Skip this question if your institution is outside the Waterloo and Hamilton-Wentworth Regions) *[does the production loop (in an IE sense) matter?]*

(circle one)

4	3	2	1	0
Very Suitable		Somewhat Suitable		Not Suitable

Elaborate, noting if (and why) this may have changed recently:

_____
_____
_____

29. Please provide any additional information that might help us in assessing the cohesiveness of institutional inter-relations vis-à-vis sustainability issues.
[additional comments]

_____
_____
_____

Appendix 2

Sources and Quality of Information on Sustainable Development

Interviewees were asked to identify and rank the four most important sources of information on sustainable development. The interviewees were also asked to assess the availability of information from the four sources, the relevance of the information provided, and the credibility of the sources (and therefore the reliability of the information provided). The responses are charted in this appendix.

There is a wide range of means through which an institution could acquire information on sustainability. This research did not attempt to establish how well each institution absorbs, and puts to use, information in general and information on sustainability in particular. Rather, the interview questions focused on identifying the most important sources of information according to the interviewees. The interviewees were in addition asked to evaluate the credibility of these sources and the availability and credibility of the information provided. The table A2.1 is a summary of the responses.

Table A2.1 – Four Most Important Sources of Information – All Interviewees

Institution	Most Important %	2nd Most Important %	3rd Most Important %	4th Most Important %
Educational and Research	20	22	29	39
Financial	0	10	4	2
Peak Organization	14	8	4	16
E / NGOs	16	18	18	22
Government	37	33	16	6
Business Lobbies	2	2	24	4
Trade Unions	4	0	0	2
Quasi-government	2	2	0	0
Firms	4	2	0	6
Cultural	2	4	6	4

A2.1 Ranking of Sources of Information on Sustainable Development

Interviewees were asked to name and rank the four most important institutions as sources of information on sustainable development. Interviewees were not allowed to select an institution more than once in their choice of four. The majority of the interviewees picked "government" as the first source. Of the interviewees who did not select government as the most important source, 33% selected government as the second most important

source[87]. This is the reason why "government" appears as the most and second most important source of information in table A2.1. Similarly, "educational and research" was selected by interviewees as the third (29%) and fourth (39%) most important source of information on sustainability.

The four most important sources of information on sustainability are "government" (37%), "educational" and research institutions (20%), "E/NGOs" (16%), and "peak organizations" (14%). The mix of institutions in the second most important category remains the same except for "financial" institutions replacing peak organizations. The top four choices for the third most important institutions are "educational" capturing the highest rate of responses at 29%, "business lobbies" (24%), E/NGOs (18%), and government (16%). In the fourth category, education received the highest rate of responses at 39%, followed by E/NGOs (22%), peak organizations (16%), and a tie between government and "firms" at 6%.

Of note in table A2.1 and figure A2.1 (below) are the progression of frequencies for government and education sources. Whereas government captures 37% of the responses as the most important source, it receives only 6% of the responses as the fourth most important source. Conversely, education starts with 20% of the respondents viewing it as the most important source, progressively moving to 39% as the fourth most important source for information on sustainability. These progressions combined with additional information from the interviews indicate that most interviewees viewed governments as institutions that devise and implement policy while educational institutions were seen as conducting research, "thinking" and generating valuable analysis of data (RW-46-RG), and potentially educating children to be critical, although this does not happen in most educational institutions (RW-51-LI). While 16% of the interviewees did not select government among the four most important sources of information on sustainability, the overwhelming majority of the respondents expected governments to govern, facilitate collaborative arrangements, provide funding, and provide leadership while educational institutions were viewed as providing knowledge and training.

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[87] The majority of the interviewees for this research were from government institutions at the local, provincial, or federal levels. Despite the "key informant" status of the interviewees, it is reasonable to suggest a skew in the finding that government is the first and second most important source of information on sustainability.

Figure A2.1 – Importance of Information Sources
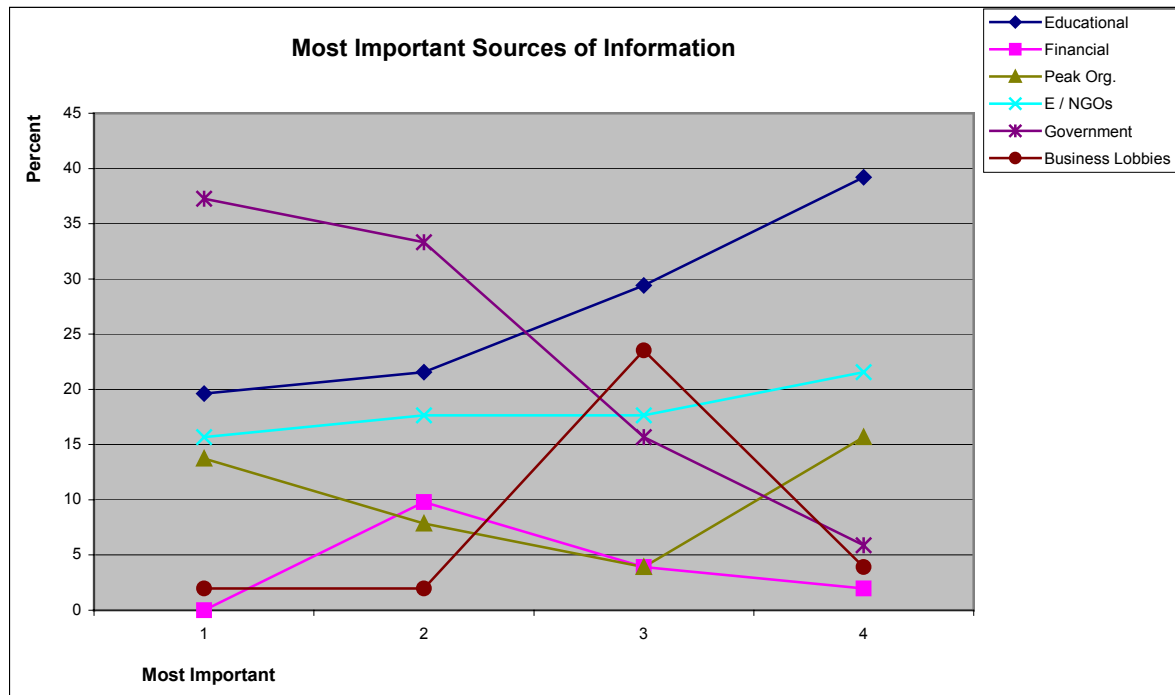
E/NGOs and cultural institutions (e.g., churches, cultural organizations) received the most even set of responses although cultural institutions managed to get between 2% and 6% of the responses. E/NGOs received the second highest number of responses (22%) for the fourth most important source of information on sustainability, after education and research (39%), perhaps underlining the importance of E/NGOs as support sources whose inputs supplement, confirm, or challenge other sources such as governments or business interests. Not shown in figure A2.1 are rankings for trade unions and quasi-government organizations. Only 4% of the respondents viewed trade unions as the most important source of information on sustainability. Some business-oriented interviewees even boasted about their institutions having nothing to do with trade unions and "why should they?" (EX-PO-I-14). Quasi-government organizations also received a low (2%) of the responses as the most important source of information on sustainability despite the fact that institutions in this category, e.g., ICLEI, FCM, provide a sizeable portion of the information on environmental management, sustainable development, and local government affairs.

To gain more insight into the choices for the four most important information sources (table A2.1), interviewees were asked to assess their top four choices for credibility as a source, relevance of information provided to tasks at hand, and availability of information. Tables A2.2-A2.4 depict the assessment of the four most important sources of information on sustainable development based on the three criteria of Credibility, Relevance, and Availability. The interviewees who participated in this research were key informants insofar as their roles as key players in sustainability initiatives through at least one of the strategic institutions identified for this study. A substantial number of interviewees had more than one institutional association. Despite the key informant

status, an interviewee's main association was deemed to somewhat influence the choices for "most important sources of information on sustainable development". On this basis interviewee responses were further studied in light of institutional association.

A2.1.1 Availability of Information

Interviewees were asked to name the "most available" sources of information. The results are summarized in table A2.2.

Table A2.2 – Availability of Information – Frequencies

Institution Type	Very Available 4	3	Somewhat Available 2	1	Not Available 0
Source 1 – Government	9	7	5	-	-
Source 2 – Government	4	7	5	-	-
Source 3 – Educational & Res.	3	7	2	1	-
Source 4 – Educational & Res.	3	7	9	2	-

Total Number of Responses = 51

The availability of information on sustainability from government as the most important source was assessed at "Very Available" (43%) and "Somewhat Available" (24%) with a mid-range of 33%. As the second most important source, the respondents felt that the information was "Very Available" (25%), "Somewhat Available" (31%), and a mid-range of 44%. Information generated by educational and research institutions as the third most important source was assessed as "Very Available" by 25% of the respondents, "Somewhat Available" by 17%, with a mid-range of 58% creating a bell-shaped

Figure 2.2 – Availability of Information
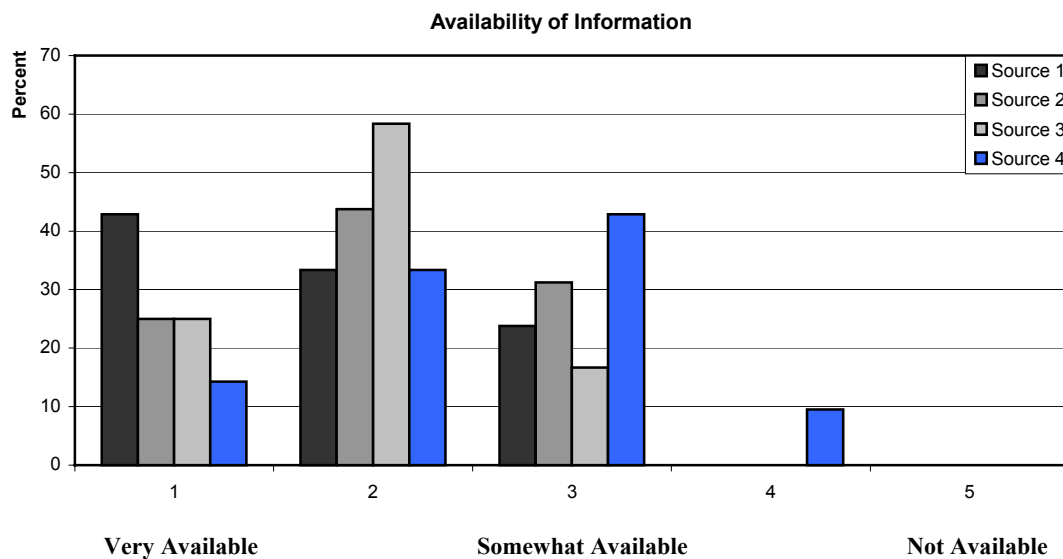
distribution of the responses. As the fourth most important source, educational and research institutions were assessed as "Very Available" (14%), "Somewhat Available" (43%), with a mid-range of 33% (figure A2.2).

A comparison of the distribution of responses against the three criteria of Credibility, Relevance, and Availability provides further illumination. Based on the responses, it is clear that most respondents viewed government as a very credible (57%), relevant (67%), and available (43%) source of information on sustainability. Among those who selected government as the second most important source, assessments in the three criteria also lean toward a high level of credibility, relevance, and availability, particularly when mid-ranges are taken into account. The assessment of educational and research institutions against the criteria present an anomaly, however. The distribution of responses for credibility of educational and research institutions as the third and fourth most important sources are consistent with the first and second sources. The distribution of responses in relation to relevance and availability are also consistent if the mid-ranges are included. However, as figures A2.2 and A2.3 (below) show, charting mid-ranges separately highlights a shift of emphasis from "Very" to "Somewhat", indicating less confidence in the relevance and availability of information from educational and research institutions.

A2.1.2 Relevance of Information

Availability or exchange of information in general did not present serious concerns among the interviewees. To assess the quality of the available information, interviewees were asked to assess the relevance of the available information. The results are summarized in table A2.3. Responses ranged from "Very Relevant" at 67% to "Somewhat Relevant" at 14% for government as the first source of information. Less than one third of the interviewees who selected government as the second source felt that the available information was "Very Relevant" while 13% rated the information as "Somewhat Relevant".

Table A2.3 – Relevance of Information to Sustainability – Frequencies

Institution Type	Very Relevant 4	3	Somewhat Relevant 2	1	Not Relevant 0
Source 1 – Government	14	4	3	-	-
Source 2 – Government	5	9	2	-	-
Source 3 – Educational & Res.	4	5	3	1	-
Source 4 – Educational & Res.	6	7	8	-	-

Total Number of Responses = 51

Comparing the two assessments of relevance highlights a difference in the distribution ratings. Whereas government as the first source is rated consistent with a declining sloped line, as the second the second source the ratings take on a bell shape, indicating a subtle but important difference in emphasis (figure A2.3)

Figure A2.3 – Relevance of Information for Sustainability

Relevance of Information for Sustainability
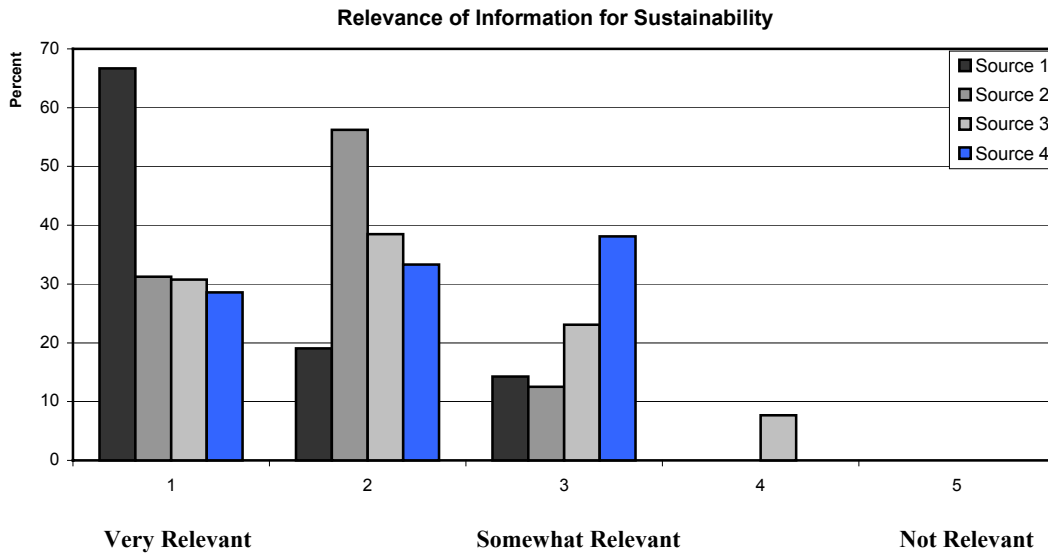
In the course of the interviews, interviewees pointed to educational and research institutions in numerous contexts as important sources of information. Emphasis was placed on the centrality of these institutions in discovering innovative pathways to a more sustainable society and training future generations to do things differently and more sustainably than the current. However, the relevance of the information available from educational and research institutions was assessed as "Very Relevant" by 31% of those who selected it as the third most important source of information and "Somewhat Relevant" by 23%. The majority of those who selected educational and research institutions as the fourth source felt that the information was "Very Relevant" (29%) and "Somewhat Relevant" (38%). Significant to note is the converse relationship between the ranking for importance of educational and research institutions and the relevance of the available information. Relevance seems to increase as less importance is attributed to educational and research institutions. This could be because of a perception the main role for educational and research institutions is perceived as one of providing support as opposed to strategy.

A2.1.3 Credibility of Information Source

To complete the assessment of the quality of information on sustainability, interviewees were asked to assess the credibility of sources of information on sustainability. The results are summarized in table A2.4.

The assessment for credibility for government as the most important source of information on sustainability ranged from very credible (57%) to somewhat credible (19%) (figure A2.4). In a slight contrast, 38% of those who chose government as the second most important source thought it as very credible while 38% viewed it as

A2.4 – Credibility of Information Source - Frequencies

Institution Type	Very Credible 4	3	Somewhat Credible 2	1	Not Credible 0
Source 1 – Government	12	5	4	-	-
Source 2 – Government	6	4	6	-	-
Source 3 – Educational & Res.	6	6	1	-	-
Source 4 – Educational & Res.	13	6	2	-	-

Total Number of Responses = 51

somewhat credible, indicating that despite the importance of government as a source of information, the latter group of interviewees had significant reservations about its credibility as a source compared to the first group.

Figure A2.4 – Credibility of Information Sources
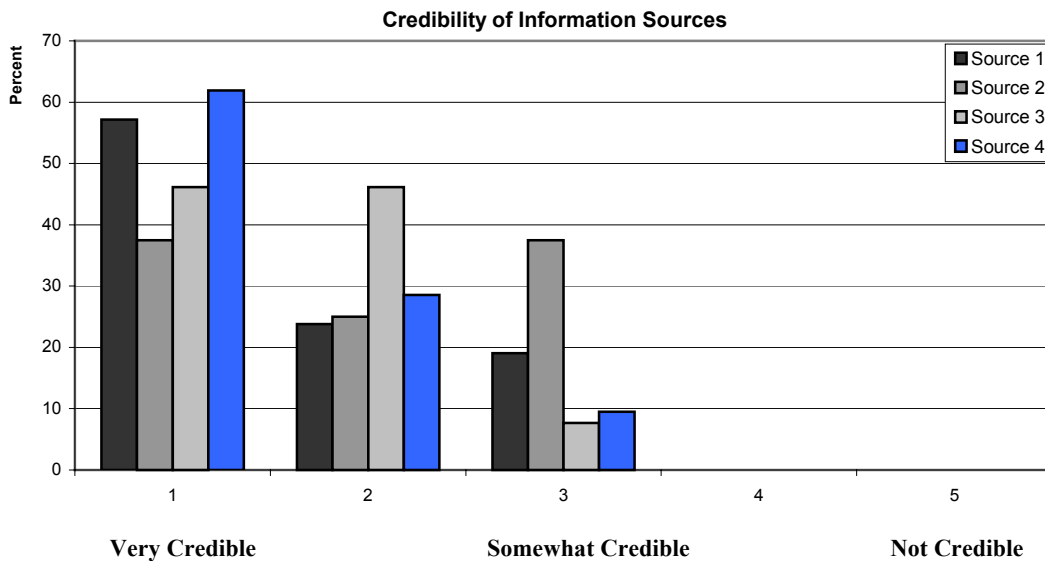
The focus on the main institutional association revealed that the majority of interviewees from government institutions felt that government was the most or the second most important source of information on sustainability. Also notable was the proportion of interviewees from quasi-government organizations (50%) who chose government as the most important source as did 50% of the interviewees with citizens / community group association. Further study of the responses also revealed that interviewees who selected government as the main source, also selected educational and research institutions as important sources. Two interviewees with strong regional government association placed higher emphasis on the role of business lobbies and E/NGOs than governments as sources of information on sustainability. Other interviewees who did not select government as a source were associated with learning institutions, business, religious peak organizations, and industrial peak organizations. With one exception, the latter interviewees came from either Waterloo or Hamilton-Wentworth Regions.

"Educational" and research institutions were selected by 29% of the interviewees as the third most important source on sustainability while 39% picked this source as the fourth most important. Of those who selected educational and research institutions as the third most important source, 46% felt it was very credible while 8% felt it was somewhat credible. As a fourth most important information source, educational and research institutions received the highest rating for credibility at 62%. Further study of the responses revealed that the highest level of emphasis on education came from interviewees with citizens / community group association, followed by interviewees with government and religious peak organization associations.