**The Coastal Communities Network:
Community Development, the Internet,
and Cultural Change in Rural Nova Scotia**

by

©Paula Romanow, MA

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fulfillment of the requirements for the degree of Doctor of Philosophy**

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Abstract

This thesis, *The Coastal Communities Network: Community Development, The Internet, and Cultural Change in Rural Nova Scotia*, is about what happens when humans and technology come together in times of cultural and economic change. More specifically, looking through the theoretical lens of Actor Network theory (ANT), it examines the developing relationships of rural Nova Scotian community development (CD) organizations' members with such information and communication technologies (ICTs) as e-mail and the internet. Using as its case study Nova Scotia's Coastal Communities Network (CCN) (who is also the partner in this research) and four of its member communities (Canso, Upper Stewiacke, Isle Madame and the Western [Annapolis] Valley Development Association,), it then asks how this human/technology relationship has changed priorities, opportunities and networks in the context of sustainable economic development. Further, given that in rural communities, most CD leaders are also community opinion leaders, it also asks what role this interaction plays as a cultural change agent within the community at large.

The thesis research findings conclude that although ICTs are changing how these CD organizations conduct their day to day business in the rural culture of Nova Scotia, it would appear that computer-mediated communication is not the norm and face to face communication is preferred. Secondly, the impact of the speed of computer-based communication has also been felt in both a positive and negative way. The removal of the distance / remoteness factor made possible through the use of ICTs has allowed rural community development organizations to facilitate access to funding and other resources in a timely manner. However, the increased workload made possible through this facility

of access is causing these organizations to become overloaded, resulting all too often in volunteer and staff burnout. With a small population base to draw upon for replacements, this is a problem which is becoming critical in rural areas. Thirdly, although the research participants might deny this, increasingly rural CD organizations are changing the emphasis of their sustainable development initiatives to foreground those which revolve around the use of ICTs (e.g., call centres, e-business, tourism marketing, etc.). There is a recognition of the importance of accessing the global market. To facilitate this, the community or organizational website has come to serve as an ambassador, representing them to the world on-line.

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List of Acronyms

ACOA	Atlantic Canada Opportunities Agency
ANT	Actor Network Theory
CAP	Community Access Program
CBR	Community Based Research
CCN	Coast Communities Network
CD	Community Development
CED	Community Economic Development
CFA	Come From Away (colloquialism)
CFB	Canadian Forces Base
CoRDA	Colchester Regional Development Agency
DIMA	Development Isle Madame Association
DREE	Department of Regional Economic Expansion
DRIE	Department of Regional Industrial Expansion
ECA	Ethnographic Content Analysis
EDAC	Economic Development Association of Canada
GOL	Government Online
IAS	Industrial Adjustment Service
ICT	Information and Communication Technology(ies)
ISP	Internet Service Provider
NSCC	Nova Scotia Community College
OPP	Obligatory Passage Point
RCIP	Rural Communities Impacting Policy
RDA	Regional Development Authority/Agency
SENCEN	Strait East Nova Community Enterprise Network
SNT	Social Networking Theory
TAGS	The Atlantic Groundfish Strategy
UNCSTD	United Nations Commission on Science and Technology for Development
USCDA	Upper Stewiacke Community Development Association
VFD	Volunteer Fire Department
WVDA	Western Valley Development Agency

Chapter 1 Introduction

The philosophers have only interpreted the world in various ways; the point, however, is to change it.

Karl Marx

This thesis, *The Coastal Communities Network: Community Development, the Internet and Cultural Change in Rural Nova Scotia*, is about what happens when humans and technology come together in times of cultural and economic change. It takes place in an environment where one of the foundational organizing principles of human society – the community – is itself undergoing great change and upheaval, and explores how, in this situation, technology becomes not just an organizing feature of community, but in many ways an actor in the community itself.

More specifically, looking through the theoretical lens of Actor-network theory (ANT), the thesis examines the developing relationships of rural Nova Scotian community development (CD) organizations with such information and communication technologies (ICTs) as e-mail and the internet. It then asks how this human/technology relationship has changed priorities, opportunities and networks in the context of sustainable economic development. Further, given that in rural communities, most CD leaders are also community opinion leaders, it also asks what role this interaction plays as a cultural change agent within the community at large.

It will do so by using as its case study Nova Scotia's Coastal Communities Network (CCN) (who is also the partner in this research) and four of its member communities: Canso, Upper Stewiacke, Isle Madame and the Western Valley Development Association, which was based in Cornwallis. Ultimately, it is hoped that the

research done for this thesis will provide some direction for the CCN in its implementation of ICTs in its community development practices.

Research Rationale

In many ways, the move towards economic globalization which took place in the 1980s and 1990s was seriously detrimental to a number of Canada's resource-based industries. As the North American manufacturing base began to weaken, shifting to areas of the globe with cheaper labour costs and fewer environmental regulations, the suppliers of raw materials saw their markets dwindle or disappear entirely. The effects of this process have been seen across Canada, but in very few areas has it had as widespread an impact as Atlantic Canada.

This region suffered hit after hit during this period arising from both the effects of globalization as well as from resource sector depletion and uncertainties (e.g., the downsizing of the ground fishery, the cod moratorium, the death of the coal mining industry in Cape Breton, the softwood lumber dispute with the U.S., etc.). With an economy traditionally based in the resource sector, not just individual livelihoods but whole communities were adversely affected. However, to those who spent these years observing this process, a strange phenomenon soon became evident: as opposed to many other areas of Canada, Nova Scotian communities seemed to weather these changes with some degree of resilience.

This is not to say that every community has survived intact, or even survived at all; undeniably, there are huge issues arising from the erosion of a traditional way of life. But as we shall see in chapters 2 and 3, with the support (for good or ill) of various levels of government, many rural towns and villages turned to a variety of models of

community economic development (CED) in order to come up with new methods of economic survival (see e.g., Savoie, 2000). Many of these projects are shaped by the technological and global realities of the 21st century, which means that inevitably they utilize the relatively new information and communication technologies such as e-mail and the world wide web (Bruce & Gadsden, 1999; Gurstein, 1998; Jordan, 1998; Nordicity Group, 1994).

There has been an increasing amount of research done in the last decade on the effect(s) of these ICTs on various communities in the developed world (e.g., Baker, 2000; Castells, 1996; Gurstein, 2000; Hampton, 2003; Harris and Pendakur, 2002; Keeble & Loader, 2001; Silver, 2003); for the most part, however, this area of research has looked at places like “wired” urban and suburban communities such as Blacksburg, Virginia, as well as a number of economically deprived inner city sites throughout North America and Western Europe. Overall, there has been relatively little published on these effects in rural communities, and the majority of that deals with the developing world. In terms of the developed world, this gap is starting to be addressed somewhat by researchers like Seamus Grimes, (1999) and Vuokko Jarva (2002) in Europe, Kenneth Pigg in the US, and Ricardo Ramirez (2001, 2005) and David Bruce (2000; Bruce & Gadsden, 1999) in Canada. A review of the literature shows that what research there is addressing the impact of ICTs on rural culture over the last ten years has primarily focused on the individual. There has been very little consideration of the impact of ICTs on the rural public sphere, and the organizations that make up that public sphere, other than that which looks solely at the economic and business opportunities of the internet (e.g., Bruce & Gadsden, 1999; Jordan, 1998); almost none of this literature deals specifically with

Atlantic Canada. Therefore, this thesis will attempt to address this gap in the literature; the specifics of how it will do so will be laid out at the end of this chapter. First however, it is important to understand the not always obvious relationship of communication to sustainable community development, as well as to solidify some conceptual definitions to take forward to the rest of the thesis.

Communication and Rural Development

Increasingly, scholars are coming to understand that it is almost impossible to consider the issues of rural community development, especially as regards capacity building, without foregrounding communication. Not only is rural development increasingly becoming tied into new information and communication technologies such as the internet, but historically, communication technologies such as radio and other traditional media have been employed to foster capacity building and community development by the federal Canadian government, as well as university extension departments. Perhaps most importantly, however, often rural development is effectively facilitated through the communal ties which are created and fostered by face-to-face communication.

Indeed, it has been well-argued that communication can be considered to lie at the base of the human interactions that make up the concept of society, including those which create community¹. Community and communication both come from the same Latin root of *communis*, which means common or shared. As Emke, Bruce & Wilkinson (forthcoming) note, "...communication is a multi-faceted aspect of community life. It can

¹ Depew & Peters (2001) provide an excellent overview of the history of the conceptual background to the interrelationship between communication and community, starting with Aristotle and his belief that community rises or falls with discursive interchange, and ending with a discussion of the philosophical tenets of the Chicago School.

act as a glue to bind people together, as oil to lubricate social and economic relations, and as a web to mark lines of influence and interaction” (p. 27). This concept of oil, glue and web to some extent weds the two common views of communication, i.e., communication as transmission, as articulated in Claude Shannon’s (1949) work, and the ritual view of communication, which explores the role communication plays in creating society and culture: the “what happens when...” view (see, for example, the work of Dewey and other members of the Chicago School, as well as that of Carey, McLuhan, Serres, etc.). This view sees society as existing in a nexus of communication (the “web” above). As John Dewey states, “Society not only continues to exist *by* transmission, *by* communication, but it may fairly be said to exist *in* transmission, *in* communication... men [sic] live in a community in virtue of the things they have in common; and communication is the way in which they come to possess things in common” (1915, p.4). In other words, communication as glue.

Even though these two ways of looking at communication have been often presented in an oppositional manner, one might consider them as existing together in a complex interrelated series of relations². For instance, the Chicago School of the late 19th and early 20th centuries was firmly in the humanist camp; nonetheless it provided the base upon which the empiricists later built, since Dewey was the founder of the pragmatist school of philosophy, “which maintains that knowledge has value only if it can be applied” (Babe, 2000, p.22). However, as one considers the body of communication literature closer to the end of the 20th century, this debate between communication as either transmission *or* ritual becomes less evident, especially after the advent of the world wide web in the late 1980s and early 1990s.

This becomes especially apparent if we consider the oil, glue, web metaphor in terms of community capacity building. Shepherd & Rothenbuhler (2001), while not using this specific metaphor, nonetheless allude to it in their discussion of community and communication. As they note, the contradictions inherent in the concepts of both of these things provide the soil upon which capacity can either grow, or wither:

Community is found in time or place, in networks or relationships. It is used to control; it is freeing. It is the basis for democracy itself, or a cover for repression. Although some see community entering a new age of access, growth, and vitality, many others see it withering away. Communication too, can be this, that, and the other thing. Communication is conceived as the necessary symbolic base of community, and, in the form of mass-produced entertainment as the number one distraction from community. Communication can be understanding, empathy, and relation; it can also be propaganda, ideology, and manipulation. Communication can be the very model of democracy, or the very method of its subversion.
(p. x)

They also point out that there is a tendency, starting with Dewey, to assume that both community and communication are inherently good. But, they ask, what exactly constitutes “good” communication? Is it a chicken and egg situation? That is, can good communities exist without good communication, or can good communication exist without good communities? This is a problem with great implications for the concept of capacity building which is inherent in discussions of community development, and one which other commentators have grappled with; it is perhaps articulated most clearly in the body of literature concerning social capital, which will be discussed in chapter 3. I would suggest however, that for the purposes of this thesis, “good” communication is that in which the intended meaning of the message sent is received and understood by the receiver. Whether it is agreed with or not, or acted upon or not, is only partly relevant, as

² One might also consider Jürgen Habermas and his theory of communicative action as an example of this.

long as it is understood. This then allows for a response, leading to rational dialogue. And rational dialogue, as writers from Aristotle through Hannah Arendt to Jürgen Habermas note, is what creates the space for community to exist.

Some Initial Conceptual Clarifications

Thus, just as an understanding of the connections between community and communication is important for placing the research discussed in this thesis in context, so too is an understanding of three other concepts: 1) the public sphere, and more specifically the rural public sphere; 2) community and what defines a rural (as opposed to urban) community; and 3) the idea of networks. All of these are extremely complex ideas, and have engendered a great deal of writing and thought around them. For the purposes of the thesis however, a very general overview is being used of each, in order to clarify and define how these terms will be used within the context of this particular project.

The Rural Public Sphere

Because this thesis is concerning itself specifically with formal or semi-formal CD organizations, it is necessary to frame part of the discussion within the concept of the public sphere. This idea of a space (whether real or metaphorical) where private individuals can come together to discuss matters of common concern has its roots in the work of Aristotle³, and has been developed by thinkers such as Durkheim and Arendt. However, in more recent times, the concept of the public sphere was greatly expanded by Jürgen Habermas in the 1960s. Before going on to discuss various types of public sphere, such as political or literary, he first defines the concept in general terms as "...a domain of our social life in which such a thing as public opinion can be formed. Access to the

public sphere is open in principle to all citizens. A portion of the public sphere is *constituted in every conversation in which private persons come together to form a public....*" (p.231, italics added).

Habermas suggests that it is only through what he calls "communicative action" that individuals can reach consensus and engage in the public sphere. "He argues that in communicative action individuals are oriented toward reaching an agreement on the beliefs about which validity claims can be raised. Moreover, in order for this behaviour to remain a case of communicative action...the agreement must be consensual. This consensus must be based solely on the force of the reasons given for the beliefs, not on coercion or manipulation" (Seidman, 1989, p.18). Habermas is not particularly optimistic, of course, concerning the ability of a true public sphere to exist in today's industrially advanced mass democracies. However, there is some evidence to suggest that unlike their more urban counterparts, rural communities actually are closer to the ideal version of the public sphere (see, for instance, Bull (ed.), 1993; Putnam, 2000). This is in part due to closer community ties, and in general, a more active citizen involvement in issues concerning the community, often facilitated by the smaller population. Thus, it is in this more positive regard that *rural public sphere* will be used. Further, one of the issues being raised within debates over the effects of the internet is whether or not the potential exists for a more truly democratic concept of the public sphere to be developed using ICTs— a virtual public sphere, if you will; in part, whether this potential truly exists is one of the things that this thesis will examine in chapter 2.

Community and Rural Community

³ Through much of the historical discussion of the public sphere lies a certain element of exclusivity. For instance, the ancient Greeks came together in the first forms of democracy, but only the male land-owning elite were able to vote.

Community and by extension *rural community*, is the second concept that requires a clear definition for the purposes of the following discussion. What exactly constitutes a community has engendered a great deal of debate in the social sciences literature, for the complexities inherent in the idea of community reach across almost all disciplines and theoretical variations. As noted above, the one point of agreement is that the root of community comes from the Latin *communis*, meaning common or shared, and this seems to be a good place to start. Further, it is no accident that *communis* is also the root of *communication*. And so it is important to note the centrality of the concept of communication to community, although again, the shape of this centrality takes many forms in the literature. As Shepherd and Rothenbuhler note,

Whether at the individual or collective level, in relationships, organizations, towns or nation states, community is an enduring concern. From ancient Greece to today, the concern for community has attracted serious thought, and...that thought has often been directed to communication and the part it plays in the accomplishment or experience of community.... (2001, p. x)

This necessary interplay between communication and community lies at the heart of this thesis; it may even be suggested that communication between humans and technology is becoming an increasingly important part of the concept of community, especially in terms of communicative action⁴. As we shall see in chapters 5, 6, and 7, technology serves not just as a means through which communication can take place, but increasingly is shaping the nature and even the content of that communication.

There are a myriad of definitions for *community*. Indeed, a potentially useful breakdown of types of communities may be found in the New Zealand government's

⁴ It is in this belief that Actor-network Theory, which will be discussed in detail in chapter 4, has been chosen as the lens through which the findings of the field research will be examined.

recent draft Digital Strategy, which suggests that “there are a number of ways of defining communities and *together they make up the interconnected systems of society*” (June, 2004, p. 96, italics added). Some of these approaches towards community include: geographic communities, communities of interest such as those for business or research; communities of identity or circumstance, such as youth, seniors or the physically or mentally challenged; non-profit and voluntary sectors, also known as the community sector; ethnic and cultural communities; and communities of interest such as those for hobbies, sports or politics. Having said that, for the purposes of this thesis, for the most part, the idea of community will be explored within the context of rural studies (e.g., Bollman, 1992; Cloke, 1997; Cloke & Little, 1997; Cohen, 1985; Day & Murdoch, 1993; Jordan, 1998).

What exactly constitutes a rural community is open to debate. Statistics Canada broadly defines rural as anything that is not urban; urban areas are defined as having a minimum population density of at least 400 people per square kilometre based on previous census counts. They also point out that within rural areas of Canada, population densities and living conditions can vary greatly and include small towns, villages and other populated places with populations of less than 1000 (Statistics Canada, 1996).

The US Bureau of the Census uses the terms “metropolitan” and “nonmetropolitan” statistical areas instead of “rural” and “urban.” A Metropolitan Statistical Area (MSA) consists of counties or townships that have either a city with a population of at least 50,000 or a Bureau of the Census urbanized area of at least 50,000 and a total metropolitan statistical area population of at least 100,000. As with Statistics Canada, the nonmetropolitan population consists of those who live outside a metropolitan

area. However, both metropolitan and nonmetropolitan areas contain rural and urban populations (Clifford and Lilley, 1993).

For many, the terms *rural* and *remote* refer only to low populations and small communities. Gesler, Arcury and Koenig (2000) state that “although the definition of what is rural poses difficulties [Hewitt, 1992], it is generally agreed that low population densities and remoteness from metropolitan areas are important characteristics” (p.4).

However, as Health Canada points out:

Rural geography and demographics (e.g., economies, societies and cultures) vary considerably from east to west, north to south, as well as within regions. Some rely more on natural resources than others. They have different income levels, employment opportunities, histories and languages. There is no single accepted standard of what "rural" means. The Organization for Economic Cooperation and Development considers that a region is "rural" if more than half the people there live in communities with a population density of fewer than 150 persons per square kilometre. Using this definition, 31.4% of Canadians lived in rural and remote regions of the country in 1996.

(Health Canada Website, n.d., ¶1)

But as the final report of the 1999 Canadian Rural and Remote Health conference sponsored by the University of Northern British Columbia (UNBC) points out, population density is only one consideration when trying to define what constitutes a rural community:

... coming to grips with what rural is, and is not, remains extremely difficult. Is any community with less than 10,000 people automatically rural? Does distance from urban communities or health services come into it? Is rural only geographic? Or, is it also economic and social and cultural? Is there more than one rural? As the answers to all these questions are most likely yes, or, no – the ability to define one rural becomes very unclear. Perhaps the challenge remains to define in particular discourses and programs and research projects what kind of rural is being experienced and studied. In this way, opportunities to share and compare real issues, bounded in a defined rural context, become more possible. (UNBC, 1999, ¶35)

Scheidt (1998) echoes this sentiment, suggesting that the definition of rural changes so much that any findings must be interpreted in their paradigmatic contexts. Other studies refer to rural as “non-metropolitan counties (Rost, Humphrey & Kelleher, 1994, p.409), “rural towns of up to 10,000 persons as well as the dispersed population in the countryside” (Keefe, 1999, p.3), “rural villages of under 2,500 or in small towns of 2,500 to 9,999” (Hoyt, Conger, Valde & Weihs, 1997, p.449) and “small towns with populations rang[ing] from 600 to 6500” (Susman, Crabtree & Essing, 1995, p.428). Corbett (1990) defines rural as a town of less than 2500 surrounded by open country. He adds that semi-rural contains a town of 2,500-9,999 with one or two smaller towns, surrounded by mostly open country. Finally, semi-urban contains a city or town of 10,000 to 49,999 with a few smaller towns and much open country. For the purposes of this thesis, however, the Statistics Canada definition has been employed i.e., a minimum population density of less than 400 people per square kilometre based on previous census counts.

Over the last twenty years, as the complex notion of *community* has been increasingly deconstructed in the social sciences literature, rural studies has tended to move away from the term *rural community*, referring instead to the concept of *rurality*. However, as Liepins notes, this trend is beginning to be reversed:

While rurality has undoubtedly been a central concept ... another term, familiar to rural scholars, has been quietly ‘re-inserted’ into many of these writings, namely the concept of ‘community. However, the complexity of the concept rarely has been addressed. Instead, ‘community’ has more often provided a short-hand term for the significance of a social space or arena, and a set of cultural meanings and practices which continue to have great significance to rural people (and, I would argue, rural studies) (2000, p.23).

Evidence of this will be seen in the literature review in chapter 3.

Networks

The third concept that needs to be clearly defined in the context of this thesis is that of the network. The idea of network is as rife with complexity as the idea of community. There is a tendency to think of networks as hierarchical entities, a series of connections able to be delineated in a flow chart. This is too simplistic. For while the root concept of the network is undoubtedly that of connections, rarely (outside perhaps of organizational theory) are these able to be defined hierarchically, or indeed linearly, because networks are also defined by their context. A rural community is a good illustration of this; depending on the context, the network of social relations is constantly shifting, thinning out in some places while deepening in others: a person is a farmer within a certain set of relationships, while at the same time being the mayor, or a parent or a spouse or a member of a church, etc. But not all members of the church are family, nor are all those involved in the public sphere necessarily farmers or involved in agriculture.

Because of the often subtle nature of cultural shifts, which are frequently evidenced by changes within these networks, it is vital to this research project to understand the idea of dimensionality within the concept of networks, and further, to acknowledge the importance of not just the “nodes” and lesser points in the network, but the new relational entities brought into being by the coming together of these nodes and points. Chapter 4 will develop this idea further, with an exploration of ANT, as well as

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The Case Study Site Locations

social networking theory.

The Case Study: Nova Scotia's Coastal Communities Network

As noted earlier, this thesis is using as its case study Nova Scotia's Coastal Communities Network (CCN) and four of its member communities: Canso, Upper Stewiacke, the Western Valley Development Association based in Cornwallis, and Isle Madame. These case study sites will be discussed in detail in chapters 5, 6, and 7 within the context of the findings of the research fieldwork; first, however, a broad overview of these community development organizations is needed to both provide the background picture of these communities, as well as to understand why they were chosen for this project.

The CCN is a province-wide virtual community network made up of 240 of the province's organizations with an interest in the social and economic well-being of rural communities. They range from CD agencies, both community and government-based, to fishing, agricultural, First Nations, and African Nova Scotian groups, to churches, unions and other community groups and organizations. The CCN exists both in virtual space, through such things as a web-site, e-mail, and places for on-line discussion such as a forum and list-serve, as well as being at the same time strongly rooted in its component geographic place-based communities.

For the following reasons, the CCN is uniquely situated for studying the issues being explored in this thesis:

- 1) its provincial scope provides a broad range of sizes and types communities from which to choose for data selection;
- 2) the members of the CCN are the community leaders in their respective place-based communities;

- 3) through their involvement in the CCN, the CCN's members use ICTs on a regular basis, and are more likely to have ICTs in the home, where available; this addresses the problems for the researcher inherent in the issues of rural ICT access; and,
- 4) the CCN is one of the two Atlantic partners involved in a research project called "Rural Communities Impacting Policy," (RCIP) which rose out of dialogues held in, and among, rural communities in the late 1990s. This group promotes the efforts of rural organizations (such as those which belong to CCN) to influence public policy regarding rural issues through such things as information about the issues in their own communities, access to tools to impact policy, and perhaps most importantly, knowledge about the policy making process. Thus it is a group which is very involved in issues concerning the rural public sphere.

The four rural CD organizations which participated in this research project are all members of the CCN. They were chosen because they were the CCN member communities which most closely matched the following selection perquisites: 1) they represent place-based communities, as opposed to communities of interest or ethnicity; 2) they all have a web presence through their CD organization or community websites; 3) they all existed in some form before ICTs became an actor within their communities; and 4) they have been incorporated as formal community development organizations. While all are community-based, some represent only one community, and others a number of communities. They vary in size from a village of fewer than 1000 to an organization that represents the communities in two entire counties. Most of the organizations' core staff, including the CCN board, consists of between six and ten individuals.

Upper Stewiacke

Upper Stewiacke is a small farming community located in central Nova Scotia. Traditionally, its main economic driver has been the local lumber mill, as well as mixed farming; the mill closed a number of years ago, and many of its workers are now

employed by a larger mill approximately 15 kilometres away. In recent years, this larger mill has relied heavily on government subsidies to continue operation; there is a great deal of fear in the community about what will happen if and when it closes. There has also been a fairly significant shift in the population base, as both young and old are needing to leave the community to find either work, or institutionalized health care, respectively; there is increasing migration into the community by middle-aged workers who commute to work in either Halifax or Truro. The community development association was started in late 2003 in an attempt to access the federal government's Community Access Program (CAP), which will be discussed at length in chapter 2. The organization is made up of six community volunteers, evenly divided among those born and raised in the community and those who have moved there recently. There is no specific physical site for the CD organization; members operate out of their own homes. Thus, much of the day to day business is done via e-mail, phone or face-to-face communication. This area has access to dial-up internet service only, and is perceived as being too remote by both of the province's two main internet service providers (ISPs) to be economically worth providing service to. The local CAP site is located in the town meeting spot, a diner; it recently was given access to broadband through the CAP program; unfortunately, it is not economically viable to extend this service to the rest of the community.

Isle Madame

The second case study community is Isle Madame. Its development organization is made up of representatives of a number of geographically connected small Acadian French communities on the small island off the southeastern end of Cape Breton Island;

most are volunteers, with two full-time employees. This area has been settled for almost 400 years, and has relied mainly on the fishery for its livelihood. When the downturn in the fishery in the early 1990s resulted in the closure of the local fish plant, which was the area's main employer, the villages came together to deal with the crisis. The owners of the fish plant tore it down subsequent to closing it; this seems to have given the community an impetus to find new ways to keep itself alive. Because the residents of this area are for the most part homogeneously francophone Acadian, surrounded geographically by the mainstream anglophone population, there was a strong sense of community cohesion, and some very innovative development ideas were put into place. Although this area is served by broadband, ICTs form a very small part of economic development initiatives, except in their marketing potential for local businesses. Within the CED organization, ICTs are used mainly for e-mail and some research.

Canso

The third case study community of Canso is a small historic coastal community on the eastern shore of Nova Scotia, which also celebrated its 400th anniversary in 2004. The town is the oldest recorded fishing port in mainland North America. With the advent of the telegraph in the mid 19th century, its role as the North American terminus for the underwater telegraph cable from Europe created a booming local economy. With the shift away from telegraphy in the 1950s, the town began its decline, which was exacerbated with the restructuring and downturn of the fishery and subsequent closing of the local fish plant in the early 1990s. This sequence of events has led to attempts by the community to diversify the economy, mainly by building capacity in the technical and tourism industries. Interestingly, unlike on Isle Madame, the fish plant still stands, and repeated

attempts to get it working again, especially by members of the local fisherman's union, have tended to focus attention away from other economic development efforts. There is no formal CD organization within the town, but the mayor and town council fulfil this role, supported by a few of the local business people. ICTs have only played a peripheral role within the development discussion, again in part because the area is only served by dial-up service. One individual in particular has championed the cause of ICTs for development within the community, with some success. For the most part, however, ICTs are used by the development organization for e-mails and research only.

Western Valley Development Agency

The final case study site, the Western Valley Development Agency (WVDA), was one of the provincial government's thirteen regional development associations. It was formed when the region's main economic driver, CFB Cornwallis⁵, was closed in 1994, and served the communities of Digby and Annapolis counties. Employing a number of full-time employees, as well as project-specific contract workers, the main focus of this organization's development initiatives revolved around ICTs, because the area has traditionally been underserved by the province's major ISPs. To combat this, the organization built its own fiberoptic network, which provides internet access to most residents who want it. However, in the summer of 2005, the municipalities who provided a third of the organization's funding, withdrew their support, citing an overemphasis on community development and ICTs and not enough on business development. Thus the organization ceased to exist as of August 31, 2005.

⁵ CFB Cornwallis was one of Canada's two military training bases, the other being Borden, Ontario. It was closed due to the downsizing of the Canadian military, resulting in fewer recruit training facilities being needed.

Thesis Overview and Layout

The first portion of this thesis (chapters 1, 2, 3 and 4) provides the necessary background and context within which to place the ensuing discussion of the research findings in chapters 5, 6 and 7. This first chapter has provided some background context to what is to come, as well as outlined the research rationale and case study sites. The next three chapters continue this contextual discussion as follows:

Chapter 2 – Atlantic Canadian Community Development in Context: This chapter provides the economic and historical context within which to place the discussion of the field research. It does so by first giving a brief economic history of the region from its flourishing under the mercantilism of the early 19th century to its somewhat less rosy present in this era of globalization and resource sector depletion and uncertainties. Within this discussion the changes in community development (CD) theory and practice are examined. Since, in Nova Scotia, most CD draws upon the work of the Antigonish Co-operative Movement of the 1920s and 1930s, the methods and tenets of this movement are highlighted, in particular its use of community leadership to solve community problems; this will be further developed by drawing upon functionalist communication theory in which the role of opinion leaders in community development will be considered. The chapter concludes with a critical look at the federal and provincial policies surrounding ICT access and role in rural community development, and their effects on rural Nova Scotian communities.

Chapter 3 – A Brief Review of the Literature: This chapter concentrates on the body of literature concerning the main theme of communication and rural development in order to build on the contextual framework begun in chapter 2 within which the findings of the

field research will be placed. Specifically it focuses on the concepts of social capital and social cohesion; the changing nature of community capacity building as the means of communication change and develop; the role and impact of ICTs on rural communities and rural community development, as well as the role of community networks both traditional and wired; and the rural / urban divide and the issues that rural development organizations are facing.

Chapter 4 – Where Humans and Technology Meets: The Spaces of Actor-Network

Theory: This chapter deepens the contextual framework begun in chapters 2 and 3 by considering various theories from which the theoretical lens through which to explore this research could be chosen; this discussion will lead to the rationale for ultimately choosing actor-network theory (ANT). It also outlines the methods used to collect and analyze the field work data, ending with an explanation of how that analysis fits into a broader ANT framework.

The next portion of the thesis contains a discussion of the field research. In each chapter, the case study sites are presented as actor-networks, and the effects upon those networks as ICTs are enrolled is examined:

Chapter 5 – Community Development Organizations and Technology as Actor-networks

I: ICTs in a Traditional Actor-network – Upper Stewiacke: This chapter explores how ICTs became the organizing feature around which the community development actor-network became stable.

Chapter 6 – Community Development Organizations and Technology as Actor-networks

II: A Tale of Two Fish Plants – Isle Madame & Canso: this chapter compares the similar development trajectories of Isle Madame and Canso, both facing economic devastation in

the early 1990s, and consider the increasingly central role that ICTs have come to play in their development initiatives.

Chapter 7 – Community Development Organizations and Technology as Actor-networks

III: “Nobody Really Wants to See the Face of Change” – The WVDA and the CCN: This chapter compares the two large community development networks: the Western Valley Development Agency, whose emphasis on ICTs resulted in its eventual demise, and the Coast Communities Network, who took a very different approach to their enrolment into its actor-network.

The final chapter of the thesis, *Chapter 8 – Conclusions and Further Research*, sums up the thesis, provides some conclusions from the fieldwork findings, and makes some suggestions for further research arising from this project.

Chapter 2

Atlantic Canadian Community Development in Context

New technologies alter the structure of our interests: the things we think about. They alter the character of our symbols: the things we think with. And they alter the nature of community: the arena in which thoughts develop.

Neil Postman (2006, p. 20)

In order to see clearly where we are going, it is necessary to know first where we have been. Therefore, prior to discussing in the next two chapters the existing literature, theoretical lens and research method framing the results of the fieldwork conducted with the Coastal Communities Network, it may be helpful to first provide a broader overview of the context within which community development in Atlantic Canada occurs.

This chapter will do so by first giving a brief economic history of the region from its flourishing under the mercantilism of the early 19th century to its somewhat less rosy present in this era of globalization and resource sector depletion and uncertainties. Within this discussion the changes in community development (CD) theory and practice will be examined. Since, in Nova Scotia, most CD draws upon the work of the Antigonish Co-operative Movement of the 1920s and 1930s, the methods and tenets of this movement will be highlighted, in particular its use of community leadership to solve community problems; this will be further developed by drawing upon functionalist communication theory in which the role of opinion leaders in community development will be considered. The chapter will conclude with a critical look at the federal and provincial policies surrounding ICT access and role in rural community development, and their effects on rural Nova Scotian communities.

A Brief Economic History of the Atlantic Region

To understand the history of community development (CD) in Nova Scotia, it is

first necessary to know a little bit about the economic history of the region. There are a variety of versions of this history, as we will see, but in general, most commentators agree that prior to Confederation in 1867, Atlantic Canada¹ was a prosperous place, and its economy was fairly self-sufficient (e.g., Innis, 1930; Matthews, 1983; Nowrie & Ooram, 1996). Rich in natural resources, with good land for agriculture, a climate moderated by the Atlantic Ocean, and abundant fishing grounds and forests, the region benefited from the lucrative West Indies trade, as well as from the lumber trade between Europe and the New World. There was also a brisk north-south trade between the Maritimes and the states on the eastern seaboard of the US, known locally as the “Boston colonies.” Another major source of revenue came from the Maritime shipbuilding industry; as early as the 1780s, Maritime shipyards were turning out dozens of ships, and this number had increased to over 4500 by 1850. By the middle of the 19th century, 22% of the population of British North America lived in the Maritime region (not including Newfoundland), and the economy was based upon the export markets for a few staples such as lumber and fish. Most agricultural production and manufacturing was for local trade only (Nowrie & Ooram, 1996). In general, Atlantic Canada under mercantilism thrived.

The prosperous years carried through into the 1860s, but this is the point that is generally recognized as the beginning of the slow decline in the fortunes of the region which has carried into the present day (e.g., Clow, 2005; Innis, 1930, Nowrie & Ooram, 1996). There is some debate as to whether or not it was the act of Confederation in 1867 that started the process, or if it was merely coincidental with other economic factors at the

¹ The Maritimes refers to New Brunswick, Nova Scotia and Prince Edward Island. Atlantic Canada includes the three Maritime provinces and Newfoundland.

time. However, it must be noted that when any self-contained economy goes into a broader trading arrangement there are stresses on that economy. So Atlantic Canada changed as it integrated with the broader Canadian economy, as did the Canadian economy itself². Having said that, there is no doubt that the prevailing feeling among many Atlantic Canadians is that perhaps more than any other part of the country, the region has not been well served in belonging to the Canadian Federation³. As Nowrie and Oworm (1996) note, "Maritime economic difficulties were linked to Confederation early on" (p.348). With the union of Upper and Lower Canada, the traditional north/south ties began to be eroded through a series of policies and tariffs that favoured east/west trade. These included such things as the development of the national railroad system, which brought manufactured goods east, but without incentives to encourage reciprocal trade to the west, and the development of inland ports such as Montreal from which it was cheaper to ship European goods inland than from Halifax or Saint John. Harold Innis suggested in 1930 that "The economic history of the three [Maritime] provinces since 1867 is one of prosperity so long as their face was towards the sea, and of struggle against adversity when the pull of the land increased, as happened very shortly after Confederation" (pp.63-64). These words still ring true today, as many of the issues of trade, such as the development of the Atlantic ports, are still bones of contention between provincial and federal governments.

Others, such as S.A. Saunders (1930/1984) suggest that in fact the decreasing market for Maritime exports such as lumber and ships, and the lack of manufacturing in

² This process is evident today, most notably when the country joined NAFTA. As a broader global economy continues to emerge, undoubtedly the Canadian economy will go through even further changes.

³ This holds true for all four Atlantic provinces, even though Newfoundland did not join Confederation until 1949.

the region were the real culprit. Starting in the 1880s, which heralded the beginning of the end of the Age of Sail, “[t]he failure of the region to switch from wood and sail to steel and steam doomed shipbuilding and shipping. Geography and a relatively poor resource endowment put the region at a disadvantage with respect to manufacturing development” (Nowrie & Ooram, 1996, pp.348-348). Saunders goes too far however, in declaring that the Atlantic region was incapable of further development because its natural disadvantages, especially distance from major markets, were too great. There can be no doubt that successive national governments put in place policies which favoured the central region of the country to the detriment of the east. Or as Nowrie and Ooram (1984) put it rather more politely,

With respect to freight rates, the argument is not so much that the arrangements of 1867 worked *against* the interests of the region as that they did not work actively enough *for* it. Why, it is asked, did the Dominion government not choose to subsidize its Maritime transport the way it did its inland rail lines, and thereby ensure that Atlantic ports would serve the transcontinental trade? Why were even more favourable freight rates (the rate structure was biased in favour of shipments west from the Maritimes already) not extended on the Intercolonial Railway, to allow Maritime coal and manufactured goods to compete in central Canadian markets? (p.384)

In other words, the “structuralist” view of Maritime economic decline, developed by Inwood in the 1970s (Nowrie and Ooram, 1996), seems to make some sense: the decline was the result of a loss of control over economic policy by the Atlantic region which occurred when the act of Confederation transferred power over a number of important spheres such as transportation to the federal government. And, since the federal governments at the turn of the 20th century had their eyes firmly fixed westward in terms

of economic expansion, and strongly supported the industrialization of central Canada, the Maritimes suffered accordingly.

However, suggesting that this is the only reason for regional disparity in Atlantic Canada over the last 138 years is also too simplistic. The economic sphere is made up of a complex network of interrelating factors, so it would perhaps make more sense to say that while federal policies did not help, at the same time, Maritimers also failed to take advantage of some of the policies put in place to encourage industrialization. Although, as Acheson (1985) points out, Maritime entrepreneurs were quite successful in creating industrial growth around textiles, iron and steel in the early 1880s, most of the progress was wiped out in the depression that occurred in the latter part of that decade and into the 1890s. He suggests that this was in part because these initiatives were not centred around urban areas, but were scattered throughout the region; while this type of development worked for the local market, it was poorly suited for a continental one. Further, many of the rich merchants who lived in the urban centres such as Halifax were not keen to invest in these ventures, preferring the relative security of banks and stocks.⁴

Matthews (1983), in his discussion of the creation of regional dependencies in Canada, identifies five different economic theories as to why there is regional disparity in this country: the staples approach, the development approach, the neo-classical approach, the Keynesian approach, and the Marxist approach. Although not necessarily discussing the Maritimes specifically, these theories are also applicable to interpretations of the decline of the Maritime economy after 1867. It is beyond the scope of this thesis to delve deeply into economic theory; however, in order to understand community economic

⁴ It is no accident that two of Canada's largest chartered banks – the Bank of Nova Scotia and the Royal Bank – originated in Halifax.

development as it exists today, a brief look at these theories as they relate to Atlantic Canada may be helpful.

The staples approach to development grew out of the work of W.A. Mackintosh (1923) and following upon that, Harold Innis (1956). Innis suggested that the development of Canada as a country was (and is) inextricably tied to the trade in staples such as fur and lumber. "The characteristics of the staples – the nature of the demand for them in export markets, the technology of their production, their linkages to other sectors, and the economic and social infrastructures needed to support them – set the pattern of economic and political developments of the colony" (Nowrie & Oworm, 1996, p.3). Thus the fortunes of any one region wax and wane according to the marketability of its natural resources. While there is undoubtedly some validity to this theory, it has been criticized in more recent times as overly simplistic; the rise in manufacturing and decline in the resource-based economy following World War II do not fit into it quite so well. Further, it can be argued that the Atlantic region is still rich in lumber, off-shore oil and natural gas, hydro-electric power and a variety of minerals, and yet has not benefited greatly from their production. Some commentators (e.g., Watkins, 1977) have begun to consider staples theory in the light of who benefits from the development or non-development of a region's natural resources. Matthews (1983) suggests that "the staples approach has been transformed from a purely economic theory of the nature of resource development to a framework encompassing the social and structural conditions affecting how and where resources are developed" (p.45).

This latter interpretation leads quite naturally into a Marxist analysis of regional disparity. The work of Henry Veltmeyer (1990, 2005) and other Marxist theorists (e.g.,

Clements, 1978; Cuneo, 1978; Sacouman, 1990, 2005) has suggested that the decline and underdevelopment of the economy of Atlantic Canada lie in the fact that in general, underdeveloped regions function as suppliers of industrial labour reserves within a capitalist economy, and so development in these areas is in fact counterproductive, denying other more industrialized regions of the country their labour force. Anyone who is familiar with the Maritime tradition of “going down the road” to seek employment in other parts of Canada and the US might agree with this interpretation. Matthews suggests that in fact, “much of the underdevelopment of the Atlantic region, the west, and the north can be explained in terms of the relationship of these regions to the more developed regions of the country, paying attention to the way in which the developed regions have extracted the resources, capital, and trained people from them” (1983, p.53).

The problem with Marxist analysis, however, is that it has a tendency towards economic determinism, and sees social relations as being derived mainly from the modes of production. While economics is undoubtedly an important force in the development of human societies, it is not the only one. Many Marxist theorists tend to ignore human stubbornness and the importance of local culture. As we shall see in the upcoming chapters, in Atlantic Canada especially, local culture is a strong driving force, and has on more than one occasion created a resiliency in the face of economic hardship that transcends the ties of class and labour mobility that Marxists suggest govern our lives⁵. One has only to look at many of the small businesses that have sprung up in the outports

⁵ I would go so far as to suggest that the greatest problem with Karl Marx’s original work is his inability to consider or understand the force and makeup of the peasant culture of Russia. Equally, Marxist commentators in Atlantic Canada tend to ignore the sheer stubbornness and pride in the character of the farm families and fishermen/women who have been determined to make a go of it in their home communities when economic theory would suggest that to do so is lunacy. For instance, in 2004 the people of Canso, a Nova Scotian town which teetered on the edge of bankruptcy, and had no easily apparent way out of the crisis, voted against losing town status, although doing so would have solved the problem.

of Newfoundland following the collapse of the cod fishery, or the rebirth of Isle Madame in Nova Scotia after the closure of the main source of employment on the island to begin to understand that for many Atlantic Canadians, “going down the road” is simply not an option.

However, having said that, there can be no doubt that without the Keynesian social safety net developed by various Canadian governments in the years following WWII, the ability to stay within the Atlantic region would not be possible for many. Keynes believed that left to itself, the market could not guarantee full employment, and that it was government’s responsibility to intervene to mitigate the worst excesses of the boom-bust cycles typical of capitalism.

This has been further extrapolated by various governments over the years into offering industry some form of enticement to go into areas that it might not otherwise consider. Indeed, this could be said to characterize much of the type of regional development in Canada, and especially in Atlantic Canada over the last 40 years, with decreasing degrees of success. There can be no denying that the last few generations of workers in the Atlantic region have often depended on such things as welfare and unemployment insurance to keep food on the table, often to the detriment of development initiatives; this is especially true of those employed in seasonal work such as fishing or agriculture.

Matthews (1983) relates this phenomenon with what he calls the “psycho-economic” development approach. In this approach, the underlying reason for disparity is seen to be a certain lack of entrepreneurial characteristics in the make-up of the inhabitants of a region. This has echoes in comments from former Ontario premier Mike

Harris, who called Atlantic Canadians “welfare bums” and current Prime Minister Stephen Harper who has alluded to what he calls the Maritimes’ “culture of defeat.” However, as Matthews so correctly states, “To suggest that residents of a particular region or country lack a particular psychological trait is a form of stereotyping roughly equivalent to suggesting that all poor people are lazy or that Catholics are lacking in Protestant ethic. If underdeveloped regions do not produce entrepreneurs it may be because there is little opportunity for success under existing conditions” (1983, p.47).

This “culture of reliance” has had the ground cut out from it somewhat with the replacement of the Keynesian philosophy of government involvement in the economy with that of a more neoliberal stance; this shift began in the late 1970s and early 1980s with the election of the Mulroney government in Canada, Reagan in the US and Thatcher in Great Britain. Neo-classical economists believe that the market should be allowed to determine where, when and what kind of development takes place without government intervention. If a region fails to develop economically, then its unemployed inhabitants should be encouraged to migrate to areas where they can be employed, without regard to any sociocultural considerations.

Staunch neo-classical (more recently known as neoliberal) theorists go so far as to state that even such things as unemployment insurance and minimum wage legislation falsely inflates the standard of living in areas of low development, making them less enticing for industry. They also argue that transfer payments to poorer regions of the country further exacerbate the situation: “regional underdevelopment is seen to be caused in part by too much government assistance aimed at reducing unemployment. It would appear that from this perspective no government program of regional assistance could

ever succeed because it deals with the effects rather than the causes of regional economic differences” (Matthews, 1983, p.48). This form of high capitalism, or what is often referred to as globalization, is precisely what Marx was criticizing, and is increasingly the form that the world’s economy is taking.

A number of commentators suggest that there is nothing new in today’s era of globalization. Workman (2005) argues that while capitalism has “congealed” over the last 25 years, it is simply another step in the capitalists’ goal of making “social relations governed by private property and wage labour” the norm, while at the same time “eroding the last vestiges of the old ‘pre-capitalist’ ways. Capitalism’s celebrated capacity to ‘profane everything holy’ and ‘melt’ away established social relations, as Marx once put it, shows little sign of abating” (p.87). Clow (2005), in his excellent comparison of the Maritimes’ “annexation” in the process of Confederation in 1867 and in today’s economy, echoes this; he suggests that calls for fresh new ways of thinking in this era of globalization merely mask the fact that what is really going on is simply a continuation of the process of capitalism that has been occurring since the 18th century. Norrie and Owram (1996) also note that the economic volatility resulting from constant fluctuations in global markets as well as rapidly changing technologies, regional disputes, government debt and the failure of various federal development policies must be put in context; when one looks at today’s situation in light of the economic history of Canada, it is evident that all of these things have “a long and persistent history. It is the nature of a small, open economy” (p.457).

The difference perhaps, of which these commentators take little note, is the speed with which the process is happening, due in large measure to the rapid development of

information and communication technologies (ICTs). This will be discussed at length in chapters 3 and 4, but it is important to note it in this brief discussion of the history of Canadian economic development initiatives, because in many ways, ICTs are changing the face, for better or worse, of community development. (This will be discussed at length later in this chapter.) Systemic sustainable development is a very slow process; the speed of the global economy and the tools which serve it both help and hinder the CD process, as we shall see.

Regional Development In Atlantic Canada

Regional development in Canada, and especially in Atlantic Canada, has been shaped by the economic policies of the federal government of the day. While this perhaps goes without saying, nonetheless it is worth noting, because as we shall see below, many of these policies have done little to help, and a great deal to hinder, sustainable development in this country. However, as Blake (2003) suggests, although many of the regional development strategies over the last 40 years have met with varying degrees of success, governments have persisted because doing so is in keeping with Canadian values and generosity, and the desire for social inclusion. One might add that they have also usually been politically expedient!

Until the 1970s the concept of community economic development in Canada did not really exist as such. Rather, policy and theory was formulated in the context of regional development, particularly between the end of WWII and 1970⁶. Although in 1940 the Rowell-Sirois Commission (*The Royal Commission on Dominion-Provincial*

⁶ Although, as noted above by Matthews (1983) among others, Atlantic Canada's regional dependency on central Canada really stems from Confederation, I am choosing to concentrate on the post-WWII years partly for brevity's sake, but also because it was mainly after WWII that the federal government made a

Relations) recommended a series of transfer payments between the federal government and the so-called have-not provinces in areas such as health and other social services, in general, through the prosperous postwar boom years of the late 1950s and 1960s, the idea of regional disparity might have more correctly identified as urban–rural disparity⁷. There was a belief among policy makers that if the situation could be improved upon through stabilizing markets and prices so as to improve the wages and productivity of the country's resource-based sectors, especially fishing and farming, then this would address regional disparity as well. However, as the economic base shifted away from natural resources to manufacturing and industry, it became evident that this alone was not going to do the trick. The Gordon Commission of 1957 (The Royal Commission on Canada's Economic Prospects) noted that “while all regions of Canada had shared in the economic growth of the country since the late 1930s, the growth had not been shared equitably” (Blake, 2003, p.197). This particular royal commission paid special attention to the plight of Atlantic Canada, where income and standard of living lagged far behind the rest of the country. Gordon suggested that the root of the problem lay in the low rate of new capital investment in the region.

At the same time, many provincial governments were also recognizing the need to give the resource sectors a boost in their province. Robert Stanfield, elected premier of Nova Scotia in 1956, was the first to do so. He implemented a number of initiatives through the provincial government's lending agency, the Industrial Estates Limited, which were designed to promote entrepreneurialism in the province's rural communities.

number of attempts to redress the issue of regional disparity, from which, as well as from the reactions to them, today's current community development climate has its origins.

⁷ Which, as we shall see, interestingly enough is also the current emphasis of much of today's community development in Canada.

This resulted in the establishment, with varying degrees of success, of a number of small textile mills, hardboard plants and fish processing plants (Savoie, 2000).

The federal government also got into the act with the establishment of the Atlantic Development Board in 1962, which became the Area Development Agency the following year. For the first time, a federal agency had at its disposal funds to disburse for social infrastructure projects and the promotion of industrial development in poor regions; this was the beginning of true regional development in this country, and was in keeping with the Keynesian economic slant of the day. As Savoie (2000) notes,

Typically, regional policy objectives in Western industrialized countries, and Canada was no exception, involved the pursuit of one or more of the following goals: reduction of regional disparities, whether for reasons of economic efficiency, political stability, or social justice; redistribution of change in growth patterns of populations and economic activity in space; development of resource frontiers; and improvement in resource allocation. In Canada, the overriding goal of regional development, at least in the early years, was to reduce regional disparities, and community economic development was simply a by-product. It was certainly not central to...the new government programs that were being conceived and implemented. (p.29)

In short, although well-meaning, these programs, and others that followed over the next 20 years, were heavily top-down, taking little account of the experience and wishes of the actual communities they were supposed to be helping. Blake (2003) notes that when George Diefenbaker was elected as prime minister in 1957, he “realized that structural changes were necessary in the economically depressed areas to improve the skills of the labour force, provide solutions to the problems of declining industries, and create an infrastructure conducive to industrial growth” (p.199). While there is undoubtedly some validity to this view, nonetheless, the disorganized, politically

expedient manner in which it was carried out by Diefenbaker's government and those that followed it, created more waste and mismanagement than it solved problems. Even the eventual attempts to co-ordinate regional development initiatives by housing them under one agency, such as the formation in 1969 of the Department of Regional Economic Expansion (DREE), and its 1988 successor, the Department of Regional Industrial Expansion (DRIE), ultimately were unsuccessful in generating sustainable economic development. Further, the 1973 General Development Agreement between the federal and provincial governments, which gave more autonomy to the provinces in deciding how development dollars would be spent, simply resulted in two macro levels of government pursuing top-down initiatives. "The 1970s had seen important developments that would have a profound impact on public policy and future regional development efforts. There were the rise of the multinationals, the birth of the information economy, the energy crisis, and growing government deficits, but none of these developments would favour economic development in small communities" (Savoie, 2000, p.35). Increasingly, the emphasis moved away from rural development towards creating urban "growth centres⁸." If a Maritimer wanted employment, then s/he could move out of the depressed rural community and into Halifax or Saint John or Charlottetown. More going down the road, even if the road did not lead quite as far away. Unfortunately, as will be discussed in chapter 3, the effects of this encouragement towards outmigration, especially among the young, are still in evidence in rural communities today.

⁸ Between 1975 and 1980 DREE centred its development policies around French economist François Perroux's (1975) "growth-pole" concept, which held that economic activity "does not appear everywhere and all at once; it reveals itself in certain points or poles, with different degrees of intensity; it spreads through diverse channels" (p.179). Therefore, if one strengthened the focal points, or poles, then sustainable development would spread out from them into smaller centres. It was under this philosophy that small industrial parks began to spring up in many communities, most of which either never found tenants, or were eventually abandoned as many of the small businesses in them closed down.

A cynical view might suggest that these types of initiatives could be termed the “macro bandaid solution” which we still see today. As Blake (2003) points out, “Millions of dollars of capital were spent – and are still being spent by federal and provincial governments – to persuade entrepreneurs, from major international corporations to shady promoters, to build large industrial plants in places where they would not normally locate” (p.198). Along with Savoie (2000), he also notes that there is no shortage of examples of where this policy failed rather spectacularly, such as New Brunswick’s Bricklin car plant, and Nova Scotia’s two heavy water plants. On the other hand, Nova Scotia spent \$50 million dollars in 1971 to entice Michelin to build tire plants in Stellarton and Bridgewater; it is still one of the largest employers in the province. However, this success story comes with a high price tag: in 1988, the company underwent a significant expansion, investing more than \$500 million. The province further approved a \$48.3-million loan for this expansion, but forgave \$25 million of that loan. It also contributed \$2 million in training after the company had reached the \$75-million investment level for its more recent projects. Further, the company has never allowed a union in its plants, although there have been many attempts at forming one. Every time the issue comes up, Michelin makes no bones about the fact that it will pull out of the province if one is ratified. This is the other, darker side of the incentive story; this type of corporate blackmail leaves provincial and federal governments holding the tiger by the tail, because all too often these corporations only stay in a province as long as it suits them, or until labour begins to make demands.

With the shift in federal economic policy from the Keynesian ideals of the postwar years to the more neoliberal stance of the 1980s and 1990s came a shift in

development policy as well. The 1981-82 recession revealed some of the fundamental flaws in the top-down urban development policies; it was becoming clear that the creation of growth in the urban centres did not result in growth in the surrounding communities. Rather, if anything, concentration on urban growth, as noted above, played a role in the further destabilization of the rural economy. A number of economic theorists (e.g., Aydalot, 1984; Hansen, 1988; Picot & Heath, 1991) began to suggest that the fundamental changes that were happening in the global economy, noted above, were having a profound effect on national and local economies, and so new concepts of development were in order. Many of these were centred around the “new” idea that perhaps communities had some ideas about what they needed to create sustainable development. And so began the move towards community economic development (CED).

In the late 1980s the federal government established regional development agencies across the country. In Atlantic Canada, this took the form of the Atlantic Canada Opportunities Agency (ACOA), which still is in operation today, although with a somewhat tarnished reputation for spending money in the old top down industrial incentive style. As well, the provincial governments began to create local development agencies. In 1994, the province of Nova Scotia, in partnership with ACOA, the Office of Economic Development, the province’s municipalities and the provincial Department of Community Services, established 13 regional development authorities (RDAs) as co-ordinating bodies charged with leading economic development at the local level. The boards that run the RDAs are made up of community, private sector and municipal representatives. Although this approach was designed to maintain an arms length

relationship from the provincial government, because of the nature of political networks in the province, this has not always been the case. As a result of some of these problems, in 2005 the provincial government set about a major overhaul of the RDA system as part of its new rural development policy; this new policy is still under construction, and 12 of the 13 RDAs are still very much in business⁹. Having said that, as we shall see when the findings of the case study sites are discussed in chapters 5, 6, and 7, when the RDA system worked, it worked well.

As noted above, the early 1980s saw the shift in emphasis from top down development towards bottom up, also known as endogenous development. This approach has its roots in the work of Walter Stöhr and Fraser Taylor (1981), who argued that communities can take back control over local development by exploiting their own resources. They further argued that this is best done in a nonbureaucratic manner with input from all segments of the local society. In other words, “communities need not be fatalistic about their economic future...they can marshal local resources and local talent to promote economic development” (Savoie, 2000, p.40). However, to say that this was a new approach to community development is not totally correct; it might be more accurate to say that for the first time, it was one that governments at all levels embraced. For in Nova Scotia, almost all models of community development lead back to one source: The Antigonish Movement and its distinct interpretation of co-operative theory.

The More Things Change...

In the 1920s and 1930s, the founders of the Antigonish Movement believed that educating a community's leadership in the principles of co-operative theory led to

⁹ The Western Valley Development Association (WVDA) was forced to shut down in August of 2005 after a revolt from its partner municipalities who withdrew their funding, causing both the provincial and federal

increased civic engagement amongst almost all members of that community. This often resulted in the development of various types of economic initiatives within the community, helping to cultivate the community's ability not just to survive economically, but also to become stronger, more cohesive, and truly democratic.

Rural Nova Scotia of the 1920s and 1930s was a bleak place. For generations men and women had been able to support themselves and their children through their hard work on the land or at sea; however, as we saw above, the advent of the 20th century, brought with it a move away from the traditional "wood-wind-water" economy towards increasing industrialization accompanied by a growing global capitalistic market economy based on credit and money. Many communities which had thrived in the era of sail were decimated with its demise. By the 1920s, this shift, accompanied as it was with a collapse in the province's industrial sectors brought about by declining demand and an inability to compete with larger markets, as well as problems in the fishery caused by the presence of huge beam trawlers¹⁰, forced many to leave their communities in search of waged work. This trend of outmigration was especially evident among the young.

Not just the economic but also the psychological effects of this economic shift were devastating. With the loss of many of their youth to the cities, communities who had once prided themselves on their self-sufficiency and ability to pull together even in hard times, were left with a feeling of hopelessness. As Grace (1995) points out,

funding to be withdrawn as well. The ins and outs of this revolt will be discussed at length in chapter 6.

¹⁰ These huge beam trawlers, even though owned and operated by Canadian corporations as well as by foreign interests, had the same effect on the Nova Scotia fishery as the foreign factory trawlers do today. They required fewer and more skilled workers to catch more fish: they could land an average of 80,000 kilos of fish in five days, compared to the much small catches that took schooner crews two weeks of handlining to accumulate. And, although the Canadian government banned trawlers from fishing within eight miles of the coast (the limit to Canada's territorial waters at the time), by the end of World War I, the trawler fleet had grown even larger (Lotz & Welton, 1997).

they had become ineffectual in a society impacted by improvements in transportation and a growing market economy. Their insulated villages of earlier times when local economies had provided some degree of self-sufficiency had devolved into isolated, impoverished communities where they were forgotten people living a meagre existence....The provincial government had not met the challenges of their economic reality in rural Nova Scotia. (p.64).

Fast forward sixty years to the 1990s. Again Nova Scotia was (and still is) a region caught in the fundamental shift from one type of economy to another, in this case from the era of production to the era of information. Again, it was rural communities which suffered the most, and again, the various provincial governments, although well-meaning, were unable to come up with sustainable programs to help these communities survive.

Thus, the similarities within the province's economy during these two eras are striking. There are, of course, also some major differences. Not the least of these is the existence of the social safety net of the Canadian welfare state, as discussed above. Where in the 1930s disease and starvation were a very real fact of life in some rural parts of the province¹¹, exacerbated by the effects of the Great Depression, today governments intervene before the situation is allowed to get to this level (although it can be further argued that with the advent of the so-called "social economy," governments at all levels are attempting to renegotiate their side of the bargain). In general, the standard of living throughout the province is much higher than it was then; this is in part due to greater economic prosperity in Canada as a whole, as well as to a variety of government social policies. The downside to this improved standard of living and the existence of the welfare state is, however, an erosion of the traditional rural culture of self-reliance. As

¹¹ Indeed, as Dodaro and Pluta (1995) note, "Arguably, the situation then may be compared to what at present is in evidence in many Third World countries" (p.18).

one Newfoundland entrepreneur told me in 1996, “in the old days, if you wanted to reach an outport down the coast, you spent the winter building a boat to get there in the spring. Today, you sit around waiting for the government to give you a boat, and complain that it’s not happening fast enough” (personal correspondence). This may be overstating the case somewhat, but the fact exists that in Nova Scotia there is overall a more prevalent culture of reliance on government handouts than could have existed in the 1930s.

Further, there has been some erosion in the cohesiveness and homogeneity of rural communities in Nova Scotia. In the early years of the 20th century, the common denominators of church and ethnicity, especially in those of Scottish and Acadian heritage, created strong bonds within communities. This high degree of cohesion provided stable social structures that survived even in the face of outmigration and poverty. Although the notion of “the home place” is still strong amongst members of Nova Scotian communities, especially among those who have left to go elsewhere to make a living and raise their families, in general, the “ties that bound” seventy or eighty years ago are much weaker today. As Dodaro, Pluta and Amoako-Turffour (1995, pp.69-71) note, there are a number of reasons for this:

- 1) a greater diversification of the economy;
- 2) new communication technologies which allow for much greater scope for social interaction, as well as the introduction of new ideas into communities where religion and traditional attitudes had long held sway;
- 3) the increasing effect of the global economy on local and regional suppliers;
- 4) the increased access to formal education, along with the greater number of individuals in rural communities who go on to post-secondary education, thus needing to leave their communities in order to find suitable opportunities for work;

5) the overall increased mobility of society; and finally, and perhaps most significantly,

6) the shift into a strong consumer culture, where the gratification of the individual has begun to take precedence over the good of the collective.

To this list might also be added the increasing numbers of non-community members (known in the regional vernacular as “come-from-aways” or CFAs) who have moved into these rural communities, further weakening the traditional communal ties; a counter argument, of course, is that these individuals in fact increase communal cohesion because they are often eager to become involved in community life. Indeed, they may be said to bring new blood and energy into tired communities, as we will see when we look at some of the case study sites in the upcoming chapters. However, the extent to which these people become accepted into community life very often depends on the strength of existing ties in each given community, judging from the case study literature in general (see, for instance, Milsom, 2003).

And yet it can still be argued that, despite these changes, the ground of rural communities may be as fertile today as it was in the 1930s for receiving the co-operative concepts put forth by Fathers Jimmy Tompkins and Michael Moses Cody in what became the Antigonish Movement. For rural Nova Scotians are just as hard pressed as they were in the 1920s and 1930s to come up with ways to stay in their communities and make a living in the face of economic downturn and an increasing government withdrawal of services, especially in regard to employment insurance and health care.

The Flourishing of the Antigonish Movement

It was upon similar fertile ground that the founders of the Antigonish Movement sowed their seeds of self-sufficiency and co-operation. Much has been written elsewhere

about the history of the movement (see, for instance, Coady, 1939; Delaney, 1985; Dodaro & Pluta, 1988; Dodaro, Pluta & Amoako-Ruffour, 1998; Lotz & Welton, 1987, 1997; MacEachen, 1978; Neal, 1998; Pluta & Kontak, 1976; Welton, 1995, 2000; etc.) and so only a brief outline of its development will be given here, because what is important in terms of this thesis are the fundamental principles underlying that development.

The Antigonish Movement was born out of the economic conditions existing in Nova Scotia of the 1920s and 1930s, rooted in the Catholic Scottish and Acadian communities on the province's Eastern shore, and (eventually) based at St. Francis Xavier University's Extension Department in Antigonish. Further, as Lotz and Welton state,

[It] was the creation of the thought and action of a group of strong-minded leaders and dedicated followers. It was an indigenous social movement; all the leaders came from Nova Scotia. Social movements usually appear in periods of dislocation, breakdown, and stress, and they often follow a well defined course, from initial agitation to eventual institutionalization, eradication, or transformation.... A successful movement must create the social infrastructure (solidarities, cadre organizations, networks) to mobilize a defined constituency for particular ends. (1987, p.97)

This work was started by Father Jimmy Tompkins, the movement's "prophet," as Lotz & Welton (1987) call him, spread by the "messiah" Father Michael Moses Coady, and institutionalized through the organization and administration of Angus B. MacDonald, who would eventually become premier of the province.

In 1922, Father Jimmy was sent to the impoverished parish of Canso at the tip of Nova Scotia's Eastern Shore. This transfer was in fact an exile, because his superiors at St. Francis Xavier University in Antigonish were becoming increasingly concerned with his determination to bring higher education to the people and end the elitist atmosphere

rife at the time. It was a fortuitous move however, because Father Jimmy was able to put his ideas for education into practice with his parishioners. In short, he believed the tools to fix their economic woes lay in the hands of the fishermen of Canso; all they needed was to be shown the way. To this end, he organized study groups around kitchen tables where people would come together to discuss their problems. However, what he did not do was tell them what to do; as one participant remembered “he wouldn’t so much as let the cat out for you, but he’d hound you day and night until you did it yourself” (Lotz & Welton, 1987, p.70). Most often, the solution was found within the co-operative movement, and eventually very successful credit unions, and co-operatives to sell fish, lumber, and other commodities were formed. Moses Coady took Father Jimmy’s successes in Canso and spread the word throughout the province; by 1940, there were 11,000 study club participants in 1300 study clubs, 170 credit unions, and 85 separate co-operatives in Nova Scotia. Eventually, the principles and practices of the Antigonish Movement were, and continue to be, adopted throughout developing countries and communities throughout the world.

Why was the Antigonish Movement so successful? I would suggest that, among other things, it gave individuals at the grassroots level a voice in their own destiny. Focusing on social change through a grassroots approach, these leaders of the movement were part of a social gospel movement within the Catholic Church. This is important, because it was seen to be an alternative to both the left-wing and right wing workers’ movements that sprang up during the Great Depression in North America. Not for Tompkins and Coady armed revolution and the destruction of the capitalistic society; rather they worked within the system: as Dodaro and Pluta point out, “...the Antigonish

Movement offered an alternate and essentially non-political solution to the economic crisis” (1995, p.3). Some Marxist commentators (e.g., Martentette, 1989) see this lack of politicization as a fundamental flaw in the movement’s purpose, and blame it for its lack of long term success¹²; nonetheless, it can be argued that in fact this neutral approach was the only way that allowed for buy-in from the traditional Catholic communities where the original work was done. Although Coady firmly believed that the excesses of capitalism were the underlying cause of many of North American society’s ills, he felt that rather than wholesale systemic change what was needed was a more equitable distribution of wealth, which would come through the control of at least some of the means of production by the producers themselves. This is the fundamental underlying principle of the co-operative movement as a whole.

In fact, although Coady condemned the individualism and greedy self-interest that lies at the root of capitalism’s excesses, at the same time he believed in the notion of the primacy of the individual as a responsible citizen, which lies at the heart of the concept of a just society. This is somewhat of a liberal paradox in his thinking, for, as Martentette points out, “Indeed, he blames the shortcomings of capitalism, not on the captains of industry and the economic and social structures which support them, but rather on the individual citizen, whose apathy has allowed such a state of affairs to come to pass” (1989, p.22). Yet again, this makes sense in the context of the communities he was dealing with, and their culture of self-reliance. Thus, “God helps those who help themselves” could, in some ways, be considered the Antigonish Movement’s battle cry. Recognizing that systemic change takes a long time, that it was hardly in the interests of

¹² One might note that the experiment of communism, although a much more radical and perhaps longer-lived solution, also failed in time.

those in control of the economy to help foster such change, and that solutions had to be found in the immediate future to alleviate the social problems in Nova Scotia's rural communities, I would argue that this was a rather sensible bottom-up approach to the economic problems of the day, and one which, as will be discussed below, can be extrapolated into the present day.

In 1945, Coady codified the six fundamental principles which framed all of the Antigonish Movement's work.. It is no accident that the first of these is *the primacy of the individual*; "democracy stresses the value of the individual and the development of individual capacities as the aim of social organization" (Coady, 1945, p.6). The other five are as follows:

2. *social reform must come through education*: social progress can only come through an improvement of the citizens themselves, and this can only come about through education. In terms of the Antigonish Movement, this education was conducted through the formation of Study Groups, which often met around a community's kitchen tables. These groups were as much about debating what they were learning, and trying to find ways to employ their collective knowledge in the people's day-to-day life, as they were about the imparting of information by teachers. As Father Jimmy liked to say, the study groups focussed on "really useful knowledge."
3. *education must begin with the economic*: people buy in to what they see the most need for; almost invariably, this involves the economic sphere at some level.

4. *education must be through group action*: human society is organized into groups, and in the modern world, most problems can only be solved through group action. Thus, the really useful knowledge discussed in the study groups was then applied within the community, whether in forming a co-operative, building a fish plant, or simply broadening horizons in terms of thought.
5. *effective social reform involves fundamental changes in social and economic institutions*: “real reform will necessitate strong measures of change which may prove unpopular in certain quarters,” stated Coady, and this fact hasn’t changed today.
6. *the ultimate objective of the movement is a full and abundant life for everyone in the community*: “economic co-operation is the first step, but only first, towards a society which will permit every individual to develop to the utmost limit of his capacities.” (Coady, 1945, pp.6-7)

It is evident in these principles that to Coady, what makes the economic sphere work is the democratic concept of group action. As Welton suggests, education in and of itself is not enough to create change; rather, “the people must have the capacity to react. This capacity to react is fundamental to understanding the potentiality of any movement to emerge. And I would argue that this capacity to react is anchored fundamentally in three components of Habermas’s concept of the lifeworld: meaning, solidarity, and self-reliant personality” (1996, Workshop 7, p.3). Indeed, ultimately it is anchored in the concept of the individual as part of the collective.

However, it is also evident that without the strong leadership of Jimmy Tompkins and Moses Coady, the Antigonish Movement would never have gotten off the ground.

Further, as Tompkins himself notes (in Welton, 1997), without convincing the community leadership, both of the merchant elite and the impoverished fishermen and workers, little got done.

““For your program you’ve got to get hold of the little fellow. The little fellow, together, is a giant; they make giants. ’... One of Tompkins’ skills lay in his ability to identify the ‘little fellow’... and to encourage them to make the best use of their abilities. He would support them, but he would also expect these able people to find solutions for themselves and their communities. (Lotz & Welton, 1997, pp.100-101)

Or, as Grace (1995) puts it, “People had to be team players and they had to select their own teamleaders” (p.68).

The Role of Opinion Leaders

These community “teamleaders” are what are referred to in functionalist communication theory as *opinion leaders*. As Martin (1997) notes, according to the functionalist model of society, “a society’s stability is founded on a consensus reflecting an equilibrium between the interdependence of individuals, on the one hand, and their different personal needs on the other” (p.31). The process through which that consensus is reached however, can take many forms.

In the field of communication studies, Lazarsfeld, Berelson and Gaudet (1948) adapted functionalism to their landmark *The People’s Choice* study of what influenced voters in the 1940 US presidential election. Up until that time, communication research, whose main preoccupation was the effects of mass media on society, had been dominated by the behaviouristic stimulus response theory, which suggests that the power of the media to shape an individual’s response is much stronger than the individual’s ability to resist it. Somewhat to their surprise however, Lazarsfeld and his associates found that this was not the case. Most newspapers of the time (the dominant form of mass news media in

the 1940s) were staunchly Republican; it should have followed that therefore readers would vote Republican, defeating the Democrat incumbent, Franklin Delano Roosevelt. Instead, Roosevelt won the election overwhelmingly. In the study's survey, Lazarsfeld asked what had influenced his respondents' votes. Most replied that they had been influenced most not by the media, but by other people. Further investigation led to a new theory (often called the *two-step flow* theory) which held that in fact mass society is not made up of isolated individuals, as had previously been thought, but rather of individuals living in a complex network of social relations. He called these networks *membership groups*, and suggested that members of each membership group tend to share the same attitudes and opinions. Further, within each membership group, there is one person called an *opinion leader*¹³, who tends to follow the media on a given topic more closely than other members of the group. It is to this individual that other group members appear to turn for their information. As a result, media messages are filtered through the opinion leader, who generally chooses and then interprets those messages that fit in with the group's existing beliefs.

This fits in well with the Antigoni Movement's principles of education, especially in terms of solutions to local problems being generated from within the community. Convince (educate) a few key members in a community that they can become masters of their own destiny and things start happening. In fact, as DeFleur and Ball-Rokeach (1982) note, the rural sociology literature has shown that, for instance, "informal social relationships among farmers played an important part in determining their propensity to adopt a given agricultural innovation. The rural society is one in which

¹³ Lazarsfeld also found that each individual belongs to many membership groups, i.e., family, friends, school, work, religious groups, etc. As well, the position of opinion leader within the groups can change

the farm family normally has strong social ties with its neighbours. When new ideas come from the outside, the interpretations made by neighbours in such a setting can be of critical importance in determining the likelihood of adoption" (p.193). This phenomenon was demonstrated time and again during visits to rural communities by agricultural extension workers on the Prairies during the 1930s and 1940s¹⁴. In fact, in a report to the 1940 convention of the Canadian Society of Technical Agriculturalists, John Rayner, the Director of Extension at the University of Saskatchewan, stressed the role of community leadership in solving problems for extension workers:

The giving of Extension Service [sic] in Saskatchewan is based essentially on local community leadership and initiative....Such requests are usually promoted by community leaders who may be officers of community organizations, leaders of junior Agricultural clubs, clergymen, teachers and others interested in community welfare. These leaders are a most effective group of workers. They usually get their opportunity for leadership because of known enthusiasm. Without this array of enthusiastic, unselfish workers the Extension Department would be greatly handicapped in its efforts to serve the rural communities. (p.7)

This same opinion leader role holds true in present-day rural areas of Nova Scotia in terms of CD organizations¹⁵. For the most part, these organizations are made up of local community members, with occasionally some outside government or industry input. Indeed, it is arguable that the CD organizations of today are not, in terms of aims and philosophy, much different from those of the 1930s¹⁶ (although there are of course differences in method, which will be discussed below and in the upcoming chapters).

depending upon the topic under consideration.

¹⁴ See Welton (1996a) for a good description of the work of Prairie extension workers in the 1930s and 1940s.

¹⁵ These organizations are separate from the RDAs discussed above.

¹⁶ For instance, Father Jimmy Tompkins' biggest ally in his fight to resuscitate the community of Canso in the 1930s was John Chafe, an official with the Western Union cable company. This was in large measure because, as Lotz & Welton (1997) note, "Chafe...was a practical man with secure employment, standing in

There are a myriad of examples in both the academic and mainstream literature that prove this point. For instance, Isle Madame, NS, resident and author Silver Donald Cameron, was instrumental in helping to develop Television Isle Madame (Telile), a community non-profit television station in Arichat, one of this thesis's case study sites. He describes how, when it came time to buy equipment for the station, he, a local teacher and the town's dentist put down personal guarantees at the bank to secure the loan. They, and other members of the town recognized that "Isle Madame had no newspaper, no radio station, no communications infrastructure at all. It was a bilingual community with below-average literacy, where people got their information mainly from television. If our community was going to talk to itself, then, we would need our own television station" (Cameron, 2004, p.2). It seems inconceivable that a small, impoverished town like Arichat, hard hit by the collapse of the fishery, would rally together to build something like a television station and to eventually obtain a broadcast license. Yet, through a variety of funding sources, some government, some private, it happened because the leaders in the community identified a need and convinced the rest of the community of the benefits. Scott Milsom, in his book *Voices of Nova Scotia Community: A Written Democracy* (2003) tells the stories of many CD initiatives like this all over Nova Scotia¹⁷.

Factors in Community Buy-in

Thus, as we have seen, one of the most important factors in successful CD initiatives is a strong community leadership who act as opinion leaders to create buy-in from other community members. But leadership alone is not sufficient; if it was, then

the community, a good house and a car. He was in no way beholden to the fish barons who dominated life in Canso" (pp.62-63). He also had a passion for community development.

¹⁷ Milsom was the communications person for the Coastal Communities Network (CCN) when he wrote this book.

most of these projects would work, and history has shown that this is not always the case. The other vital factor mentioned earlier is the role of community cohesion; just as in the early days of the Antigonish Movement, most of the success stories in Milsom's book, as well as in the other CD literature, usually have some common communal denominator: language, ethnicity, rallying together in the face of economic crisis, even just a strong sense of regional loyalty¹⁸. What happens when this cohesion is weak or not there? How do community leaders/ opinion leaders strengthen these ties?

Wilkinson and Quarter (1996) suggest that there are three types of incentives that create community support for CD projects: 1) individual benefit (material incentives); 2) friendship (solidary incentives); and 3) community loyalty (purposive incentives). These three are present even when general community cohesion is weak. However, although the relational network is smaller, the potential for effectiveness is still there.

Attachments to family and friends through social networks, to other community members through social organizations, and to the territorial base itself, provide project initiators and members of planning committees with the energy to act. The motivation of initiators can be explained by their integration into supportive community networks. Solidary bonds with other community members provide the 'pull' that has moved community members to action (McAdam, 1982)...[T]he existence of interpersonal attachments has meant that Olson's (1965) free-rider problem^[19] has been reduced, because while community members may benefit from a community project regardless of their personal participation, their friendship bonds act as a force 'pulling' them towards involvement. (Wilkinson & Quarter, 1996, p.121)

There are, of course, other means of creating community involvement, such as social occasions built around projects (fairs, rallies, open houses etc.), kitchen table meetings, town planning sessions and the like. And generally, not everyone in a

¹⁸ This concept of social cohesion, or social capital, will be discussed at length in the next chapter.

¹⁹ This free-rider problem refers to people enjoying the results of others' work on a problem without having done anything towards it themselves.

community will take part; the goal may better be stated as a desire to involve as many people as possible in order to create a critical mass for sustainable action. It must be said, however, that the most effective way of creating community involvement is for community members to see a project achieving its goals, especially when that achievement originates from within the community itself, instead of through outside intervention; the case studies for this research in chapters 5, 6 and 7 will illustrate this point.

The importance of communication resonates through the above discussion of CD methods in the rural environment: kitchen table discussions, town hall meetings, live interactive council meetings on the community-owned television station – all grow from, and foster, the exchange of information and ideas. Increasingly, however, as rural development in the Atlantic region faces an uphill battle in the face of globalization, new methods of gathering and sharing information and resources are required. In today's environment, this mean having access to ICTs such as the internet and e-mail.

ICTs Enter the Community Development Picture: Connecting Canadians

If everyone is more or less in agreement that ICTs have an important role to play in creating sustainable rural community development within the context of the global realities of the 21st century, just what that role should be is open to debate. Starting with Nova Scotia's *Electronic Highway Study* (Government of Nova Scotia, 1994), supported by the federal government's Connecting Canadians program (Leblanc, 1997), and bolstered by a number of academic studies such as those by Bruce and Gadsden (1999) and Gurstein (1999), the official attitude towards the use of ICTs in economic development seems to be "if you build it, they will come." But will they? As we will see

in our five case study communities, there is no easy answer to that question. Indeed, as Grimes (2000) notes, in some instances, “[There is] a tendency to perceive technological innovation as a means of solving development problems where many other methods have failed” (p.18).

In the 1997 Speech from the Throne, the federal government²⁰ stated that “A connected nation is more than wires, cables and computers. It is a nation in which citizens have access to the skills and knowledge they need. It is...a nation whose people are connected to each other” (Leblanc, 1997, section 5, ¶8). Of course, this is exactly the vision that earlier governments had seen for radio and television. But as was the case with these earlier technologies when faced with Canada’s geographic size and population distribution patterns, the problem lies in how to get the technology and infrastructure out to Canadian communities, especially those in rural and remote areas.

Part of the Martin federal Liberal government’s answer to this problem can be found in its Connectivity Agenda, articulated most clearly within the Connecting Canadians program, as well as in its Broadband for Rural and Northern Development Pilot Program. The program’s stated goal was to

[make] Canada the most connected nation in the world in order to create a more innovative and competitive economy. Canadians will be better positioned to capitalize on existing and new economic and market opportunities in the knowledge-based economy. It will enhance Canada’s ability to attract investment from home and abroad. In practical terms, we want to make a leading-edge knowledge infrastructure readily accessible to all Canadians. (Leblanc, section 5, ¶ xx).

The six planks of the program were as follows:

²⁰ It must be noted that the period covered by this research occurred prior to the Stephen Harper government coming to power in 2006. The Connectivity Agenda and its component Connecting Canadians programs were established under the Chrétien Liberals and continued under Paul Martin. The Harper government’s commitment to the role of ICTs in rural development remains to be seen.

1. *Canada Online*: the Community Access Program (CAP), designed to provide access to a world-leading information highway infrastructure and to the learning network;
2. *Smart Communities*: to encourage communities to become leading-edge users of information technologies through a coast-to-coast network of Smart Communities, of which the WVDA was one;
3. *Canadian Content Online*: to make Canada a world leading-edge supplier of digital learning materials and multimedia content to consist of digital collections, museums, aboriginal websites with a focus on youth;
4. *E-Commerce*: to create a legal and regulatory framework to make Canada a global centre of excellence for e-commerce;
5. *Canadian Governments Online*: to connect citizens and government, mainly through Industry Canada's Strategis network; and,
6. *Connected Canada to the World*: to promote a connected Canada to the world.

The areas of particular importance for this thesis are the Community Access Program (CAP), the Smart Communities program, and the Canadian Governments Online; in many ways, these are the cornerstones of the Connecting Canadians program.

CAP: Connecting Communities

The CAP program was designed to "provide Canadians with affordable public access to the internet and the skills they need to use it effectively" (Industry Canada, 2005, ¶1). In effect, CAP sites were meant to serve as "on-ramps" to the information highway. The program was rolled out in 1994 and started with rural communities with populations up to 50,000. In December of 1999, following a successful pilot program, a few urban CAP sites were established. The initial intent was to create 5000 rural and 5000 urban sites, for a total of 10,000 sites nationally. While the program came close to reaching this goal with 9200 sites by the end of its roll out phase, by 2004, approximately

1200 had closed, and by the end of 2005 the number had dropped to roughly 8000 sites nationally.

Many CAP sites are situated in public buildings such as libraries, schools, town offices and so on. But in the rural environment, they are also sometimes located in homes, church basements, and local gathering spots such as diners or community halls. Most sites have one or two computers with internet access. However, some sites have up to 20; many of these larger sites also offer skills training, and other computer-based programs. 98% of these sites were organized into CAP networks (Pictou-Antigonish Regional Library, 2004), which are groupings of CAP sites that share a common interest and purpose, or geographical area. These networks are committed to working together in pursuit of common objectives with other partners, such as local business, RDAs, and other development organizations. For instance, the CAP sites on Isle Madame are currently working together with the Strait Area RDA to develop new programs for training home-based call-centre workers, as well as other jobs skills training.

While the federal government's commitment to the CAP program has virtually disappeared, the same cannot be said of the provincial Nova Scotia government. Of all the provinces in Canada, Nova Scotia was the one which utilized the program in the manner closest to its original intent, i.e., as a vehicle for community development. It saw the potential for connectivity its rural communities, and still considers the CAP program as one of the major planks in its technology for rural development platform. As one of the research participants, who is deeply involved in the CAP program at both the provincial and national level, stated,

We never lost sight of that original goal, that CAP was to be this driver for community development, and we knew it was a long term goal. And

certain key people really believed that this could be a community development initiative, and that it could move forward the Nova Scotia government's agenda as well. And so, as a program, over time, the amounts of money changed and the program itself actually went from Industry Canada, and there was a memorandum of agreement signed with the Government of Nova Scotia, so that the Office of Economic Development would be the overseer of the program. Only the Atlantic provinces really have that agreement....I think it's because of the way it evolved here that really has that community development edge to it. Communities really took ownership of it, and they were proud to have it, and they wanted people to see it. I think we came closest to being what the CAP program wanted to be. (Participant A7)

This is an important point, because as computer technology becomes increasingly less expensive, the perceived need for the CAP sites as internet access points in communities has lessened somewhat, at least by those that are funding them. For the first time in a decade, there was no mention of ICTs in the 2004 federal budget; the Connecting Canadians program was officially to end on March 31st, 2004. At that time it was extended for another year, in part because of the outcry of those who support and sustain the CAP program. But whether funding will continue is doubtful. It has already been decreased substantially, and many CAP sites, even though they overwhelmingly rely on volunteer labour, are in danger of closing unless they can a) reinvent themselves, and b) come up with sustainable funding from other sources. Increasingly, the CAP program is being asked to run on a business model, just as the telephone was a few decades earlier. Again, this brings up the problem of creating sustainability in an era of short-term project-based funding. When business becomes involved in things like CAP sites, the bottom line becomes important; thus, the sites become more like an internet café with user fees, and if you are living on social assistance or are homeless, it is a cost you may not be able to afford. This trend defeats the purpose of the CAP program as one step to universal access to ICTs for Canadians.

Indeed, an inherent belief in universal access to services may well be one of the defining characteristics of Canadian culture. However, the political rhetoric surrounding this concept in terms of ICTs could be considered a smoke screen, for, as Birdsall (2000) notes, "...there has been a growing adherence to an ideology of information technology that gives greater weight to the market as a means of allocating social services. ...On the issue of universal access to the information highway, the Canadian government has adopted a market-orientated strategy as fervent as its American counterpart" (¶4).²¹

This trend did not escape the attendees to the 2004 Pictou (NS) Summit, which brought together both the National CAP Summit, hosted by Industry Canada, as well as a community-based Innovation Summit. Many of the participants represented CAP networks from across the country. There is no doubt that these representatives see the benefit of continuing the CAP program, but with the ending of the Connecting Canadians program, the issue of sustainable funding was at the top of the agenda. Their Pictou Proclamation, the culmination of four days of discussion, calls upon the government to listen to the communities that CAP is such an important part of, and to help to create a bottom-up national framework of development, accessibility and accountability which will allow the CAP program not just to exist, but to flourish. This proclamation in many ways embodies the hopes and plans of many communities not just about the CAP program, but of the use of ICTs in community development in general, and so is worth repeating here in its entirety (Pictou-Antigonish Regional Library, 2004, p.65):

Whereas the Community Access Program, through Industry Canada, enables people to enhance the socio-economic development of their

²¹ This trend away from public-sector funding will be discussed in more depth below.

communities through connections to new communication technologies that are emerging in the 21st Century;

Whereas local, regional and provincial organizations have partnered with the Government of Canada, primarily through Industry Canada, to achieve the vision of equitable opportunity for access for all people in every community, to make Canada the most connected nation in the world;

Whereas these local, regional and provincial organizations have added value to this important vision through their own commitment, innovation, and partnership initiatives;

Whereas the Community Access Program, led by Industry Canada, with its federal, provincial, regional, municipal and community colleagues, has assisted communities to prove it can effectively support community socio-economic development and achieve this vision of a connected Canada; and

Whereas socio-economic development is essential to all communities across Canada;

We, the undersigned, believe that the Government of Canada should continue its leadership role through the Community Access Program and leverage its significant experience to expand its mandate to support community socio-economic development.

Therefore, we request that the Government of Canada:

1. Establish a national policy and plan to lead delivery of connectivity and access strategies aimed to develop community socio-economic opportunity, equity, inclusion and well-being;
2. Provide sufficient multi-year funding to enable effective community-based planning and delivery;
3. Establish, in concert with local Community Access partners, accountability criteria that enables community development and innovation; and
4. Establish a National Community Access Steering Committee to liaise with provincial, regional and local partners.

There was no real government response to this proclamation, but the limbo that the CAP program finds itself in today would seem to be answer enough. Further, that the federal

government backed away from its commitment to the CAP program would seem to be indicative of what I believe to be its preference for urbanization; CAP sites were never as successful in urban areas as they were in the rural. Indeed, the concept of the internet café, found almost exclusively in an urban context, is not dissimilar to the concept of the CAP site, except that, as mentioned above, one is required to pay for internet access. This would appear to be in keeping with the government's adoption of the idea of the Social Economy, which will be explored in more detail below.

Making Communities Smart

The Smart Communities Program was a three-year program beginning in 1999. One of the six pillars of the federal Liberal government's Connectedness Agenda, its goal was to "help establish world-class Smart Communities across the country so that Canadians can fully realize the benefits that information and communication technologies have to offer" (Industry Canada, 2003, ¶2). The program defined a Smart Community as one

with a vision of the future that involves the use of information and communication technologies in new and innovative ways to empower its residents, institutions and regions as a whole. As such they make the most of the opportunities that new technologies afford – better health care delivery, better education and training and new business opportunities... . Communities and countries that take advantage of these new technologies will create jobs and economic growth as well as improve the overall quality of life within their communities.

(Industry Canada, 2003, ¶4-5).

There were twelve demonstration projects: one in each province, one from the north, and one from a First Nations community. Nova Scotia's Smart Community, as we will see in chapter 7, was the area served by the Western Valley Development Agency (WVDA). It is important to note that the program was not designed to help communities with the

initial stages of incorporating ICTs into the community; this was what the CAP program was intended for. Rather, the selection criteria for the final twelve clearly state that the communities chosen would have to be able to demonstrate that they were already using ICTs in innovative ways for community development and service delivery. The five strategic areas outlined as guides for the selection committee were: 1) community engagement (making sure that the design and implementation of ICT usage within the community is done in consideration of the needs, priorities and capacities of the entire community); 2) smart services (using ICTs to help deliver such things as health, e-business opportunities, government services etc.); 3) smart infrastructure (already having in place a network infrastructure for high speed two-way communication within and between communities); 4) organization (having the organizational infrastructure already in place to implement the Smart Community strategy; and 5) smart results (ensuring that the results of the program's implementation will have a transformative effect on the way that community members interact with each other and the outside world) (Industry Canada, 2003). These twelve communities were intended to be demonstration projects to show the rest of the country, and indeed the world, that the incorporation of ICTs into community development is not only beneficial but the true way forward into a bright economic future.

But as is so often the case with demonstration projects, the greenhouse atmosphere surrounding their creation and the real world context are not always congruent. Thus winning a spot as one of the twelve communities was a bit of a double edged sword. As we will see, the rhetoric surrounding the Smart Communities and the reality that faced the WVDA look very different. On the one hand, \$5 million over three

years for development of any kind is a substantial amount of funding for a rural area. On the other, although not actually building a factory in each community, nonetheless, I would suggest that the Smart Communities program again followed the traditional top down industrial model in that it told the communities what kind of development would be given the major emphasis. Of course, an argument can certainly be made that communities not getting connected to the world wide web are in danger of being left behind economically; being online in the 21st century is to be connected to the larger national and global economic networks. But as the economic history of Nova Scotia has shown, there is a danger in focusing too much on any one type of community development.

Further, the Smart Communities program essentially provided enough funding over three years to maintain the organizational infrastructure as well as to provide small amounts of project-based funding in each community; ultimately it did not provide enough funds or allow enough time to enable these communities to establish alternate sources of sustainable funding. In essence, it would not be going too far to suggest that the \$60 million put in place for the program was basically seed money to create a country-wide network of the “chosen few.” Whether or not this was the most effective use of this money can be debated, although some of these demonstration sites have been remarkably successful in showing best practices for the use of ICTs in development, especially in remote areas²². In each case however, some hard lessons were learned. In the case of the WVDA, as we will see, these lessons eventually led to its demise. In the final analysis, those communities such as Blacksburg, VA (Hampton & Wellman, 2001) and the

²² K-Net, in northern Ontario, which was the Aboriginal demonstration site, is a shining example of this. See Beaton (2004) for a detailed discussion of the use of ICTs in development in this instance.

“Netville” suburb of Toronto (Kavanaugh & Patterson, 2001) which have successfully implemented ICTs into their development strategies, already have a strong development network in place. Thus, while ICTs have become one of the main tools for development, nonetheless in each case they are only one facet of development activity within these communities.

Government Online: Whose Needs are Being Served?

One of the central ongoing debates concerning ICTs is their role in the democratic process. Although it is beyond the scope of this thesis to delve too deeply into this debate²³, nonetheless some mention of it must be made because it is intertwined to some extent in the Canadian concept of universal access to communication technologies, as well as to government services. If we agree that in part the concept of the public sphere holds within it the ability of citizens to interact with their forms of governance at all levels, then it would logically follow that increasingly, using ICTs to facilitate such interaction is becoming a given, at least in the developed world. If nothing else, the internet has the potential to provide a forum to allow democratic discourse from all sectors of society; it can allow the public to bypass other somewhat inaccessible forms of media such as newspapers and television in getting their opinions on any given topic heard (see for example Bruce, 2003; Karim, Smeltzer & Loucheur, 1998; Keane, 1999; Lessig, 1999; Rodman, 2003 etc.). But as Rodman (2003) points out,

If, as many media critics (Carey; McChesney; Williams) argue, a crucial facet of a healthy democracy is the ability of ordinary people to participate actively in the public sphere as both “speakers” and “listeners,” then the Net may be the only form of mass media that has the potential to be genuinely democratic.

²³ Although this is one of the areas for future research as noted in chapter 8.

The key word in that last sentence, however, is “potential,” as a sizable – and perhaps even unbridgeable – gap still exists between the reality of the Net and that democratic idea. ... There are at least three sizable barriers to making a truly democratic Net a reality: the hierarchies of power inherent in network architecture^[24], the lack of meaningful access to the net for huge portions of the global public, and the subtle (yet formidable) gatekeepers of education and literacy. (pp.28-29)

As we will see in chapter 3 and in the research case studies, the latter two in particular mirror issues of accessibility to ICTs in rural and remote areas. There can, of course, be little argument that the internet does help to erase the issue of geographical distance to services; however, as Grimes (2000) points out, “A different approach is required, which appreciates the fundamentally subordinate role which technology must play within an integrated strategy. ...there will be no authentic realisation of the potential until a much greater emphasis is placed on enhancing human dimension” (p.20).

This is echoed by Middleton and Sorensen (2000) in their discussion of the federal government’s Connectivity Agenda. They suggest that there is a certain technological determinism underlying the entire Connectivity Agenda. Further, despite the rhetoric surrounding the benefits of Government On-Line (GOL) (Canada, 2005), there is in fact a “large disconnect between initiatives to move government services online and the ability of citizens, especially elderly, poor and less-educated one, to participate in this online environment” (p.464)

Thus GOL, while in theory a huge step towards universal access of services, is instead increasingly replacing, instead of supplementing, face-to-face or even telephone access. In many rural areas in Nova Scotia, the federal, and even provincial governments’ offices in smaller towns have closed, leaving residents no option but to either drive long

²⁴ See Lessig (1999) for an in-depth and eye-opening discussion of the political realities of the architecture

distances or go online to do such things as fill out forms for employment insurance or veterans benefits, etc.²⁵ Although this withdrawal of services from these communities started long before the advent of the internet, there is little doubt that governments at all levels have embraced the concept of online service to the detriment of other forms of contact almost as strongly as the corporate world has:

The GOL Initiative is currently developing a strategy to ensure on-line services are more widely used. As part of this strategy, we will ensure that Canadians are better informed of what services are available on-line and encourage them to take advantage of the speed, convenience and lower cost of doing business with government electronically. *Take-up is also linked to migrating citizens from traditional service channels such as the telephone, mail or in-person service to the electronic channel.* (Canada, 2005, italics added)

Although it can be argued that the ability to do things like filling out government forms online has made life easier for some in rural and remote areas, it must also be noted that issues such as aging, literacy levels including computer literacy, and access to the internet, are all potential barriers to being able to access government services. For those still on a dial-up connection, the time required to download and then upload these forms is extremely long, tying up phone lines, and often incurring long distance charges. More than one participant in this research told of having to help individuals with low literacy skills and/or no internet access in filling out employment insurance or social assistance forms online. Such help used to be available in the local government offices; with their absence, many in rural areas are forced to either find friends or neighbours to help, or do without. It would not be going too far to suggest that as is the case in the corporate world,

of the Net.

²⁵ Service Canada, which provides Canadians with one-stop access to government services either by phone, in person, or on the internet, says that it has located at least 30% of its Access Centres in rural areas in each province; however, a review of their locations within Nova Scotia shows that rural residents still have to travel some distance to use them.

the rhetoric surrounding ease of internet access especially in terms of customer service is actually a smokescreen designed to hide the fact that large organizations prefer to inconvenience their clients in the interests of the bottom line. Indeed, Bruce (2003) shows that in rural Canada, very few actually access government services on-line; he concludes that there is a definite need “to balance the Internet with other means as a means of delivering federal and provincial government information and services” (p.9).

Of course, the caveat to this discussion is that the internet is still in its infancy. It may well be that in a relatively short space of time, at least in the developed world, this discussion of access and literacy will become virtually moot, as the younger generations – those to whom using computers is as natural as using the telephone and postal service is to their parents – grow up. However, in the short term, the issues of internet access will continue to influence any discussion of the use of ICTs in rural and remote areas of Canada.

This has not escaped the federal and provincial governments. There is no doubt that both levels of government acknowledges the need for high-capacity connectivity to all Canadians. However, putting this infrastructure in place comes with a very high price tag, and like all development, takes time. Thus, while it is fair to say that most rural and remote areas of Nova Scotia do have some access to the internet, even if only through CAP sites, in many parts of the province, this is dial-up service only. With the increasing use of graphics and large files on the web, dial-up service has become the telephone party line of internet access, slow, ungainly, and frustrating to use, even for such things as e-mail.

Although the provincial Nova Scotian government boasts that the province is a leader in broadband connectivity²⁶, the reality is that most rural communities, especially those not near a major urban centre, do not have broadband access. The statistics are skewed by the fact that every school in the province is connected to SchoolNet, and each school has a highspeed drop. This does not always translate into access in the home however. In the research case study site of Upper Stewiacke, the only highspeed connection has been through the local CAP site; at the end of the fieldwork period, discussions were still ongoing as to whether or not it would be possible to extend the broadband service to other parts of the village. Increasingly, communities are beginning to explore the options of creating their own networks, as the WVDA did with its fiberoptic FundyNet. Others, such as Isle Madame, and recently, Canso, have taken advantage of government funding programs to put the infrastructure into place not only for broadband, but also wireless. However, most of these programs have ended, leaving a large part of the province underserved in terms of internet accessibility.

Buying Into the Social Economy

In part, being Canadian has always meant being connected to others across this broad land²⁷, even though, as noted above, developing and maintaining communication infrastructure is expensive, whether at the national, provincial or community level. In the past, however, as such technologies as the railroad, electricity, telephone service, and even radio and television, have moved into everyday use, Canadian governments have

²⁶ According to Statistics Canada, in 1996 Nova Scotia led the country in broadband connectivity with 44% of its communities having access (Industry Canada, 2002). The current provincial government recently promised universal broadband access in the province by the end of 2008; however, no implementation plan has yet been made public.

accepted these costs as part of the price for building a strong and economically viable country. Indeed, in the 1997 speech from the throne, the federal Liberal government stated that the economic future of the country depends heavily on being connected to the information highway:

In the new knowledge economy, the path to national prosperity and personal opportunity travels the internet. Building a state-of-the-art, high speed information infrastructure is as essential to Canadian success in the 21st century as up-to-date roads, bridges, airports and ports were to our success in the 20th century. Harnessing the potential of the internet is a global race. To the victor will go the spoils: increased opportunity, good jobs, higher standards of living and a better quality of life. (Leblanc, 1997, Section 5, ¶4)

However, as Ramirez notes, governments in this neoliberal age are no longer willing to foot the entire bill for providing these services. “A major challenge for Canadian telecommunication regulators is the fact that while on the one hand market liberalization is a goal, on the other hand so is universal access. Managing these two policy driving forces is particularly challenging when it comes to regulating services in remote areas....” (2001, p.316). One of the ways in which governments at all levels are attempting to reconcile these two is by adopting the concept of the social economy.

On its surface, and at its simplest, the social economy is the “third sector” after business and government. In Habermasian terms, it might be said to consist of the lifeworld: the true public sphere where community members work together to create a healthy and vibrant community where people, not profits, are the driving force behind all enterprise. The rhetoric surrounding this concept seems to hark back to an earlier era’s belief in “God helping those who help themselves,” and is perhaps best embodied in the development of the co-operative movement, not just in Atlantic Canada, but globally. It

²⁷ See Romanow (2005) for a discussion of the federal government’s Connectivity Agenda as a means of

might even be said to go hand in hand with Keynesian economics, where the weakest in society are protected and helped to become contributing members of society at some level. However, in this neoliberal era we live in, governments are far more worried about the bottom line than they are about helping society's lesser lights. And so I would suggest that both the federal and Nova Scotian governments' adoption of the concept of the social economy has a great deal to do with downloading services onto the backs of already overloaded communities, without a corresponding increase in funding.

This is very evident in the new Nova Scotian provincial community development policy. At first glance, this policy is quite revolutionary in terms of community development. There is finally an explicit acknowledgment that development needs to go beyond the purely economic, as well as in allowing communities more say in identifying their problems, and finding solutions for them: "First, Nova Scotians can successfully take charge of their communities' futures. Second, the term 'community economic development' should be replaced by a broader term – one that talks about the social, environmental, and cultural futures of communities as well as their economics" (NS Economic Development, 2003, p.1). However, it is also explicitly stated that while communities are being given the reins, they should not expect those reins to be accompanied by funding²⁸.

Providing money, through programs or projects, is a common method for government to support both individual initiatives and the process of community development itself. The danger exists, however, that community-based projects become dependent on external funding, thus reducing community capacity rather than building it. Furthermore, the limits of government funding have often been demonstrated in recent years. (NS Economic Development, 2003, p.9)

nation building in the rural context.

²⁸ This point was stressed by the senior bureaucrat who presented the new CD policy to a meeting of the CCN in February, 2005.

Following this statement are some suggestions for ways in which government can help communities. These include providing consultants, helping to manage projects, being a conduit for information, and generally being supportive while not directing the development process. While these are all potentially helpful, they also allow the government to remain deeply involved in community development without having to take responsibility for the results.

Global capitalism is concentrating power and wealth in fewer and fewer locations, and small communities are being sucked dry in the process. CED is the governmental flavour of the moment for showing concern about their plight. Yet serious CED means taking power and money away from government and giving it to communities, with very little central control over how they use it. If the communities fail, the government takes the heat; if they succeed, the communities take the credit. Scary stuff. In short, CED is a highly desirable thing until it happens.

The simplest way to ensure that CED will appear to be happening, while ensuring that it can't, is for the government to define loosely-delimited phantom communities, like "the Strait of Canso," and then underfund government-created organizations to serve these baggy ghosts. Meanwhile, of course, the genuine communities inside the phantom's boundaries can't be supported -- because they're already "covered." (Cameron, n.d., ¶3-4)

Communities, both those who were part of this research, as well other examples found in the literature, are well aware of this dichotomy; however, instead of exploring more sustainable methods of core funding, which is what community development organizations have repeatedly asked for, the provincial government is leaning toward requiring them to find their own external sources of funding. As Bryant notes in his discussion of CED and ICTs in Nova Scotia, "The key issue here seems to be: how much support are governments prepared to provide for the medium to long term to keep CED and IT support efforts going? Is support for this activity to become the kind of continuing funding provided to 'infrastructure' type activities like schools or hospitals? Are there

real private sources out there which can be brought in to supplement and eventually replace public support? Or is this effort to founder for lack of funding or waste its energy on the constant search for funding?” (2000, p.20). Although he is speaking specifically of ICTs, the same questions can be asked about all facets of community development in the province.

While in and of itself this move towards increased community self-sufficiency is not a bad thing, it also cannot happen overnight. It takes time to build capacity and to change entrenched processes. Further, the sources for external funding in this country are relatively scarce, compared to the US, for instance. There is not the tradition here of large philanthropic institutions as funding sources. And while large corporate entities such as banks or grocery chains, have charitable arms, the funds provided to any one group are usually relatively small²⁹. Thus, if government is abandoning the Keynesian buffer to the excesses of capitalism, then communities need to be able to respond in kind. The question is how.

One of the answers to this can be found in the Rural Communities Impacting Policy (RCIP) project. This was a 5-year (2001-2006) initiative of Dalhousie University, the CCN and the Atlantic Health Promotion Research Centre, funded through SSHRC's Community / University Research Alliance (CURA) program. The project's purpose was “to help community groups to use social science research to influence policies that affect their healthy sustainability” (Participant A3), which it did both by collecting and making available data on the state of Nova Scotia's rural communities, as well as offering community groups training in understanding and writing policy. By any measure, the

²⁹ For instance, the Royal Bank advertises itself as one of the main sources of funding for a Literacy Centre in Dartmouth, NS. However, its yearly contribution is in the neighbourhood of \$5000.

project has been remarkably successful. One of its main legacies has been a database which has been adopted by the provincial government and made available to the general public under the Nova Scotia Counts program. Even more impressive however, has been the empowerment of community development organizations as they have learned to speak to the government on its own terms. The question, of course, is whether the government is really listening. The answers to that will appear over the next few years once the new policy has been implemented.

And what of ICTs' role in this new policy? Although the provincial government has enthusiastically embraced these technologies for development, as Bryant so correctly points out, they may indeed have a tiger by the tail:

The timing of issues in the IT and CED worlds does not fit with the rhythms of government. IT is developing much faster than most governments can accommodate. Technological breakthroughs do not happen on the electoral schedule. IT is too fast and unpredictable. CED on the other hand, at least as practiced in Canada may be too slow. The groundwork for solid CED needs to be patiently laid. Results are often not visible for the coming election. As government funding in Nova Scotia has become harder to get in times of tight budgets, the province has put a premium on project proposals which have clear, concrete inputs and outcomes. CED is often about changing cultures and changing attitudes, issues hard to define in a proposal. IT is increasingly about ideas and possibilities with the only hard data being the cost of the machines, wires and high priced experts necessary to chase those ideas. Neither CED nor IT fit neatly with the current program approach favoured by government. (2000, p.21)

It will be interesting to see how well these technologies of speed can be made to fit into the slow process of sustainable development in Nova Scotia.

Moving on to a Broader Overview

This chapter has provided the historical context for the field research with a general overview of both the economic history of Atlantic Canada, as well as of Canadian economic development initiatives and policies, especially those involving ICTs. The next

chapter will build upon this with a wider exploration of the literature surrounding rural development, communication, and ICTs in North America. It will look more closely at the related ideas of social capital and social cohesion, mentioned above, as well as how ICTs affect their development in rural communities. With both these chapters in hand, the reader will have the broad contextual framework within which to place the research findings of the fieldwork done for this thesis; chapter 4 will deepen this framework by adding the theoretical dimension of actor network theory to it.

Chapter 3

A Brief Review of the Literature

We are at once the beneficiaries and the victims of our great technology. What man makes remakes man.

James Feibleman

As we saw in the preceding chapter, the importance of community leadership to successful, sustainable community development cannot be underestimated. Nor can the impact of various types of networks found within geographical rural communities. This chapter will broaden the contextual framework for the field research begun in chapter 2 by examining the literature surrounding these two things. It will explore the body of literature examining the concept of social capital, defined by Putnam (2000) as “social networks and the trust and reciprocity that arise from them” (p.19)¹; because this is a vast area, the literature review will focus on those writings which concentrate on the role of ICTs and communication in rural development. Specifically it will consider:

- social capital and social cohesion, and the effect that ICT usage may or may not have on their creation and sustainability;
- the changing nature of capacity building within a community as the means of communication change and develop;
- the role and impact of ICTs on rural communities and rural community development, as well as the role of community networks, both traditional and wired; and finally,
- the rural / urban divide and the issues that rural development organizations are facing such as youth outmigration, encroaching urbanization, an aging population, and economic sustainability.

¹ Another good definition for social capital is “Networks, understanding and values that shape the way we relate to each other and participate in social activities” (Community Services Council of Newfoundland and Labrador, n.d., glossary). This definition acknowledges that social capital, while generally considered to be a positive thing, can also exist in unhealthy ways, e.g., a street gang often has high levels of social capital, but few would say that the outcomes of these types of networks are beneficial to their members.

Social Networks, Social Cohesion and Social Capital Linkages

While social capital and social cohesion have certain linkages, the literature suggests that they are not necessarily interchangeable. Part of the reason for this may lie in the plethora of definitions extant for both concepts. Beauvais & Jenson (2002), in their excellent and exhaustive review of the research and literature concerning social cohesion, note that while there is still no single definition of social cohesion², a great deal of progress has been made towards finding one in the last few years. However, they stress that where one chooses to begin to look for a definition has immediate consequences for the lens through which one examines the concept and resulting policy. They use Kearns and Forrest's (2000, in Beauvais & Jenson, 2002) five constituent elements of social cohesion to illustrate their point, i.e., 1) common values and civic culture; 2) social order and social control; 3) social solidarity and reductions in wealth disparities; 4) social networks and social capital; and 5) territorial belonging and identity. Using each element as a starting point, they come up with five very different definitions of social cohesion. Thus, according to them, social capital may, or may not, be strongly linked to social cohesion. However, they stress that in their literature search, "By far the most important definition of social cohesion used in these studies is one that treats social capital and social networks as the constitutive element. Social capital occupies almost the whole stage – except the literature on health outcomes, where patterns of resource distribution have always been central, and in the new literature that focuses on economic well-being rather than a single aggregate measure of macro-economic growth. Rates of social participation have also been described as the result of social capital" (2002, p.v).

² A fact which, as they point out, can also be said of social capital.

For the purposes of this literature review then, we will accept that social capital, as defined by Putnam (2000) above, and social cohesion, are complementary, if not identical, concepts³. Indeed, many commentators (e.g., Kawachi & Berkman, 1999; Schuller, 2001; Stone, 2000; van Kemenade, 2003, etc.) suggest that without social capital, social cohesion, which tends to look more at economic well-being, cannot exist. In particular, McCracken (1999) and Helliwell (2001b) both point to a growing body of evidence that there is a strong causal linkage from social cohesion to macroeconomic performance. Knack and Keefer (1997) take it one step further and show that social capital matters when considering measurable economic performance. In the rural context, Dayton-Johnson (2000), in his comparison of rural economies in Canada, Romania, Nigeria, and India, asks if there truly is more social cohesion in rural areas, and whether or not this differs from that found in urban environments. He uses trust, i.e., social capital, as his measure to determine this and concludes that there is indeed more social cohesion in the rural context. Sobels, Curtis and Lockie (2001), also find that social capital as defined by trust, contributes to community development in their study of one rural network formed to combat land degradation.

While there is an increasingly large body of literature on social capital and social cohesion, very few commentators foreground communication per se as the essential ingredient therein. An exception is de Souza Briggs (1998), who, in his discussion of civic involvement, foregrounds the role of communication in community development.

³ While there are definite correlations between the two concepts, as Beauvais & Jenson (2002) note, this does not necessarily translate into causation. "It is important to keep in mind the warning, so justly sounded by John Helliwell when he wrote (in his case, about studies of social capital), 'Right from the start it is important to note that here, as is so often the case in the social sciences, it is easier to find correlations than it is to discover the directions and strength of causation' (Helliwell, 2001b: 44)" (p.6).

Further, Ken'idi (2002) notes that it is the day-to-day interactions that form the bulk of our social networks, and so the role of communication is vital to social capital development: "Our daily communication takes place in interpersonal informal situations, more often than in intermediate organizations. Thus, the focus is on the role of daily interpersonal situations in terms of network capital" (p.4). As well, Preece (2002), although exploring the role that ICTs may have for social cohesion in a post-9/11 world, stresses that off-line communication is equally important in creating strong communities.

However, while the concept of communication is often implied in discussions of social capital and social cohesion, what is far more common is the inclusion of *communications*, i.e., the product of technologically mediated communication. It would appear at first glance that ICTs, and especially the internet, being inherently about interconnections and networks, should support and facilitate social and communal networks. Indeed, until fairly recently, ICTs have been enthusiastically held up as generators of social capital. This is particularly true in the mainstream, non-academic literature, where the rhetoric often outstrips real-world experience, occasionally with worrying results⁴ (see for instance Odasz, n.d.; Association for Community Networking,

⁴ For instance, recent newspaper articles have discussed the I-Neighbors project at the Massachusetts Institute of Technology (MIT). This project set up a neighborhood web-site which let participants set up an e-mail address list, post personal profiles and then connect with other members of the community with similar interests in their suburban community. Over three years, those that used the site came into contact with more new neighbors than those that didn't (9 to 0.13). Keith Hampton, the lead researcher on the project, noted that by meeting those with similar interests through the website, people formed more diverse social ties. However, he also found that these new on-line relationships typically lacked strength, and tended to be weaker social ties (New York Times, www, 26 August, 2004; Toronto Star, www, September 13, 2004). This type of connection is reminiscent of on-line dating services or other types of chat-rooms; the potential for false, or at the least misleading, information being posted, has been well-documented in the literature. In general, it is easier to mislead others when no physical cues are present to help the receiver process the information being sent. Even telephone conversations provide verbal cues such as tone of voice, accents, etc. Indeed, if we accept Albert Mehrabian's breakdown of types of interpersonal communication i.e., 55% of information is derived from facial expression and body language, 38% is paralinguistic, and only 7% comes from the actual words used, then we can see that the information derived from a purely textual discourse such as exists in chat room etc. only contains 7% of the intended meaning, leaving an

n.d.; National Civic League, 2003, etc.), but is also seen in the work of the so-called Cyberutopians, those academics such as Lévy (1997), Heim (1998) and De Kerckhove (1997) who claim that the internet has created new and better ways to communicate. Indeed, research has found some empirical support for this view. For instance, a 2000 UCLA study indicated that internet users had a moderately increased contact with family, friends and professional colleagues, a finding supported by Kavanaugh and Patterson (2001). There also is evidence that the internet enhances social networks at a distance, especially with friends and relatives, through the use of e-mail (see for instance Boneva, Kraut & Frolich, 2001; Hampton & Wellman, 2001; Haythornthwaite, 2001b; Kavanaugh & Patterson, 2001; Kazmer & Haythornthwaite, 2001; Wellman, Quan Hasse, Witte & Hampton, 2001).

Further, researchers studying wired communities such as Blacksburg, Virginia, and “Netville”, a suburb of Toronto, also found that increased levels of civic involvement corresponded with higher internet usage (Hampton & Wellman, 2001; Kavanaugh & Patterson, 2001). Tied to this is the finding that existing connectivity levels off-line appear to increase the potential for positive on-line connectivity. For instance, Kavanaugh and Patterson (2001) note that the Blacksburg Electronic Village project may well have been as successful as it was because it was located in a place-based community where high levels of social interconnectivity already existed. They suggest that high levels of social capital may be a prerequisite condition for, rather than a result of, effective computer-mediated communication. Wellman et al (2001) also found that those who had frequent contact with others via the internet also had frequent contact with them off-line. In their survey of 39,211 visitors to the National Geographic Society Website in

awful lot of room for error on the part of the interpreter.

order to determine whether or not the internet increases, decreases or supplements interpersonal contact, participation and community commitment, they found that the internet supplemented the participants' face-to-face and telephone communication rather than either increasing or decreasing it. They also found that heavy internet use can be associated with increased civic engagement, but concluded that for the most part, this did not mean that people became more engaged, but that those already engaged are increasingly using the internet as another tool in their work.

A number of other studies echo this finding. As Haythornthwaite puts it, "connectivity seems to go to the connected, that is, greater social benefit from the Internet accrues to those already well situated socially. As Nie (2001) pointed out, connectivity already goes to those with higher levels of income and education" (2001, p.376). In other words, those that had strong social ties off-line were more likely to have strong ties on-line; the converse also appears to be true⁵. However, as a number of more critical researchers considering the question of whether or not ICTs actually do help to increase social capital point out, it is simply too early in the development of the internet to determine with any authority whether or not ICTs do or do not increase social ties in any lasting or meaningful way; in part, this is because of the way that the research has positioned itself to date. A number of researchers are very explicit in their warning that setting one type of communication against another i.e., face-to-face against computer-

⁵ However, a number of studies also found that very high internet usage appears to contribute to higher rates of depression among individuals (e.g., Kraut, Patterson, Lundmark, Kiesler, Mukhopadhyay & Scherlis, (1998); LaRose, Eastin & Gregg, 2001). Of particular concern is a case in Winnipeg concerning the death of a 53 year-old man. Because he had few social ties, suffered from a disability and so was rarely seen outside his apartment, and had all of his day-to-day banking deposits and withdrawals set up on-line, it was two years before anyone discovered his body (George, 2004a). As George goes on to point out, "new technologies like electronic banking have created a system in which it's possible to become so physically disengaged from the day-to-day administration of your own affairs that your life can effectively go on without you, perhaps indefinitely" (2004, p.32).

mediated, is counterproductive, especially as ICTs become more and more integrated into our everyday lives. Caroline Haythornthwaite perhaps says it best:

Much existing research on computer-mediated communication (CMC) and online behaviour has laid out differences between CMC and face-to-face communication and provided in-depth reports on online communities. Whereas important research has been done from this perspective, its concentration on CMC versus face-to-face, online versus offline, and virtual versus real has perpetuated a dichotomized view of human behaviour. These dichotomies pit one form of CMC against another...as well as one category of human endeavour against another....In considering the integration of the Internet into our daily lives, we also need to remember that, as many point out, the Internet is a new social phenomenon that has been in place for fewer than 11 years. We already see that experience and time online changes behaviour; we are watching an emerging phenomenon, not a mature one. (2001, p.363/378)

Other researchers echo this caution. Pigg and Crank (2004), in their exploration of the functionality of various ICTs and the resulting ties to social capital formation, conclude that "More research and further documentation is necessary before we can say for certain that ICTs can and do create social capital and, thereby, build community. Enhancing social networks is obviously necessary, but this analysis suggests it is certainly not sufficient to support the claim of ICT advocates" (p.69-70). Anderson & Tracy (2001), Blanchard (2004), Huysman and Wulf (2004) and Kavanaugh & Patterson (2001), echo this sentiment. At the present time, it is safe to say that ICTs, as they are being assimilated into society, tend to be used as an adjunct to other older technologies, such as the telephone and should be considered in this light.

If the jury is still out on whether or not ICTs generate the social ties that constitute positive social capital, the same may not be said about opinion on computer mediated community networks. Overwhelmingly, the literature suggests that where community networks exist, they prove beneficial to the community in question to some extent (see

for instance, Casapulla, de Cindio & Ripamonti, 2001; Day, 1997; Gurstein, 2001; Jones, 2003; London, 1997; Odasz, n.d.a; Schuler, 1996; Silver, 2003, etc.). For the purposes of this literature review, community networks can be defined as “a network of computers with modems that allow users to connect to a central computer which provides community information and a means for the community to communicate electronically....Unlike ‘virtual communities’ community networks are based in a physical place...The common element of users of community networks is their physical proximity and interest in local issues that affect them all” (Hall, n.d., ¶12). This is the type of community network that exists in some of the research’s case study sites. In general, community networks have three characteristics that separate them from other forms of computer based communication:

- 1) they focus on local issues, and emphasize local issues, culture, and ownership, as well as providing forums for community discussion and problem solving;
- 2) they strive to reach all groups and individuals in a community, stressing public access and computer skills acquisition (e.g., the Community Access Program in Canada, as well as the many freenets found in various cities) for not just the computer literate, but also marginalized groups and non-traditional users of technology; and
- 3) they emphasize democratic participation and community development.

To this might be added a fourth characteristic, if not of the network itself, then of the individuals who run it: they believe implicitly that “community networks can build and strengthen community identity and ties” (Hall, n.d., ¶ 27). This is borne out in some of the more common aims underlying the creation of most community networks, which are particularly important in a rural context: providing otherwise inaccessible services and information to the community, stimulating local economic development enterprises, providing training to marginalized groups, etc. The fundamental point to community

networks however, is that by definition they are developed by the local people for the local people, with an understanding of just what the local needs are.

Communication and Capacity Building

Closely related to the role of communication in creating social capital and social cohesion, is its role in building capacity in rural communities. Although in a general sense, capacity building can be defined as “activities that increase an individual’s, population’s or community’s ability for growth, development, or accomplishment” (Humboldt Area Foundation, www, n.d.), in much of the literature, it is defined much more specifically as in this definition from Britain’s Community Safety Advisory Service: “Activities, resources and support that strengthen the skills and abilities of people and community groups to take effective action and leading roles in the development of their communities” (Community Safety Advisory Service, n.d., glossary). That is, the emphasis is on more formal, organizational training of the voluntary sector⁶ (e.g., Harrow, 2001; McCall, 2003; Murray & Dunn, 1995; Ontario Ministry of Municipal Affairs and Housing, 2004; Osborne, Williamson & Beattie, 2002; Simpson, Wood & Daws, 2003). Further, very little of this literature deals explicitly with the role of communication in developing capacity⁷; rather, where communication is mentioned, it is usually to do with building communications capacity in a formalized “public relations” manner (e.g., Conway & Rademacher, 2004).

⁶ For a comprehensive critical overview of the theoretical roots of the concept of capacity building, see Harrow (2001), who explores the concept’s development in the international, national and local community literature. The article concludes that the concept appears theoretically homeless and emphasizes the need for clarification of the concept’s multiple meanings, so that the chances of a useful evaluation of publicly funded capacity building programs might be enhanced.

⁷ The University of Guelph’s Don Snowden Communication for Social and Environmental Change is one of the few programs which focuses on communication in a capacity building sense. The program’s website contains a wealth of information: <http://www2.uoguelph.ca/snowden/#>

However, having said that, like the body of work concerning social capital, much of this literature does implicitly involve communication, although not foregrounded as such. For instance, in their discussion of developing community leadership capacity in South Africa, Kirk and Shuttle (2004) explore the issues related to developing empowerment, which they suggest is the capacity of a system where power is unequally distributed, to engage in enterprising dialogue. They end by proposing a community leadership development framework that comprises three components: leading change through dialogue, collective empowerment and connective leadership. Walter (2003) also stresses the importance of discourse in his discussion of developing capacity in communities where market-based initiatives are failing to provide economic security, such as when a resource based industry collapses. Westcott (2002) summarizes initiatives in the area of capacity building between communities, governments and universities since the World summit in Rio in 1992; among the key findings is the importance of discourse between various stakeholders, from the community level to universities to all levels of government in order to create useful and viable partnerships. He particularly stresses the importance of grass roots communication (“bottom up”) to the capacity development process.

Increasingly, capacity building is involving the use of ICTs, especially the internet and e-mail. This is another trend noted in the literature which combines communication and capacity building. Of particular interest is an article by Donovan, Taylor, Tharp, and Lloyd (2002) whose case study involves the development of a community through e-mail; they outline how using this type of communication developed strong cohesion among parents whose children attended a rural school threatened with

closure, and discuss the role of informational control and empowerment in capacity building. Mabudafhasi (2002) discusses the use of distance education for capacity building in a number of South African communities in a region which is rapidly shifting from being economically dependent on resource-based industries, especially diamond mining, to a more economically diverse base. Huggins and Izushi (2002) and Lennie, Hearn, Simpson and Kimber (2005) consider the importance of developing community capacity surrounding ICTs, given the increasing importance of these technologies in rural service delivery. This latter sub-theme is brought out in most of the literature concerning rural communities lacking technological capacity due to the “digital divide”; there is increasing importance being placed on the ability of communities to provide capacity building through the use of ICTs, especially in terms of health promotion (see, for example, Avrill, 2003; Joffres, Heath, Farquharson, Barkhouse, Hood, Latter, & MacLean, 2004; Smith, Littlejohns & Thompson, 2001; Woloschuk, Crutcher & Szafran, 2005). Schuler (forthcoming) stresses the concept of “civic intelligence” and describes how mediated community networks can build and foster it within both place-based and virtual communities.

Thus, it would seem in this age of globalization that one of the necessary means to achieving sustainable community development is the use of ICTs. This might be especially true for access to markets and services for rural and remote communities. As Gurstein suggests, “Technology is not a release from the burden of place, but rather a tool to respond to the challenge and opportunities of the ‘local’”. In this context there is an opportunity to be productive and economically vital, not by being ‘anywhere’, but

precisely by being 'somewhere', and particularly by being part of larger distributed networks where 'place' is a 'resource' not a burden " (1999, ¶ 4).

Yet, as we saw in chapter 2, the issue of ICT usage in rural communities, despite government and corporate (and even academic) wishes to the contrary, is a complex one. In their (1999) study of internet access and use in rural and small town Atlantic Canada, Bruce and Gadsden note that usage varies quite widely by community size and locale and most other demographic characteristics other than province and gender. Some of these follow the trends in larger urban populations, such as higher usage amongst students, and those with higher education and income levels. As well, usage is much higher in towns such as Kentville, NS, and Tignish, PEI, which are considered regional service centres with higher populations and locally-based, stable market economies. Towns such as Barrington and Guysborough, NS, which are smaller and more isolated and whose economic well-being is mostly dependent on globally-focused, fluctuating markets in the fishery or lumber, have a much lower rate of internet use. There is also the whole issue of access; there are still large areas of rural Nova Scotia with either no internet access or only dial-up service. Increasingly, the web is becoming a graphics-dominated domain; the slow speed with which these are downloaded (if in fact they can be downloaded at all) on dial-up service is a huge impediment to use.

However, it is within these same communities, with what Bruce and Gadsden call "lagging economies" (1999, p.25), that half of those taking any kind of course or skills upgrading were enrolled in an information technology related course. Further, in Nova Scotia, 24% of the rural respondents overall use the internet; within the smaller Nova Scotian communities, even with problems of access due to things such as a lack of

appropriate infrastructure or long distance dialing costs being incurred to reach an internet service provider (ISP), between 17% and 22% of the population still used the internet. And it is in these communities that the community access sites (or CAP sites) enjoy the greatest use.

So it would seem that the ground is ripe for an increase in internet use in rural Nova Scotian communities. There have, of course, been some quite successful community initiatives involving ICTs in Nova Scotia. The best example of this is perhaps the research's case study site of the Western Valley Development Authority (WVDA), which came into being in 1994 when the federal government closed CFB Cornwallis, the region's main economic driver. But even in this case, as we shall see in chapter 7, ICTs eventually became a bone of contention and ultimately led to the demise of the organization. But despite impediments to the adoption of ICTs in rural Nova Scotia, one thing is certain: ICTs have become a fixture in the 21st century world, and their usage will only increase with time. Thus, the question is not so much *if* these technologies are being used in attempts to create sustainable community development, but rather *how* they are being used, and to what effect.

It is also necessary to understand however, that the use of communication technologies for capacity building is not a phenomenon that arrived with the world wide web. Rural communities have long used the more traditional media⁸, such as local newspapers, radio, television, etc., to inform, educate and engage community members. However, much of the recent literature which discusses this area has concentrated on comparisons between "old" media and the "new" media characterized by computer and

⁸ The traditional media under discussion are the mass media, especially those concerned with news and public/current affairs, as opposed to other media of interpersonal communication such as telephones, etc.

satellite technology, especially in terms of displacement of the old with the new (see, for example, Althaus & Tewksbury, 2000; Flanagin & Metzger, 2001; Kaye & Johnson, 2003; Dutta-Bergman & Mohan, 2004). However, it must be said that interest in the role of, and effect on, the public that the mass media has had extends back into the early years of the 20th century. As early as the Payne Fund studies of the 1930s (see Jarvis, 1991; Jowie, Jarvett, Fuller & Short, 1996), which attempted to test the effect that movie attendance had on youth, but beginning more rigorously with Lazarsfeld, Berelson and Gaudet's (1948) *The People's Choice* study, which explored the role that newspapers had in influencing voter opinion in the 1940 US federal election, scholars have conducted exhaustive research into the ways in which the mass media interacts with people, for good or ill. And in many ways, the body of work, whether by communication scholars or not, which explores the role that the local media plays in community capacity building or civic participation might be said to fall into this general category of media effects literature. Thus, much of the literature on local media is concerned with the problem of community integration and community involvement, exploring the assertion that local media use can promote engagement in community thus enhancing civic participation (e.g., Emke, Bruce & Wilkinson, forthcoming.; Litwin, 1978; Lundby, 1988; Moy, McCluskey, McCoy & Spratt, 2004, etc.). For instance, an interesting article by Beaudoin and Thorson (2004) explores whether the effects of the mass media on social capital and related processes vary between rural and urban communities. They determined that newspaper use has positive effects in each case, while those of entertainment TV viewing are negative. Further, local TV news use had positive effects in only the urban context, while network TV news use had positive effects only in the rural context⁹.

⁹ While there are few local stations located in rural areas, these regions would still receive their local news

On a theoretical level, Dissanayake (1981) outlines the four main historical approaches to development and communication: 1) that which stressed the role of the mass media in fostering a conducive atmosphere to growth by industrialization, found in the 1950s and 1960s; 2) that whose focus was on raising awareness among the public on issues of income distribution and both endogenous and exogenous factors of development, and which encouraged the use of the traditional media to encourage citizen engagement in the development process; 3) that which stressed the interdependence of the developed and developing world, suggesting that one must consider the context of the community or nation before discussing the role of communication; and 4) that which explicitly emphasizes self-reliance, combining the role of traditional and non-mediated communication in rural development and popular participation. Moy et al (2004) provide a summary of the literature supporting this latter integration claim, citing authors from Tocqueville to Putnam. Finally, Jankowski (2003) in his extensive review of the literature dealing with community television, community radio and community networks, concludes that despite the fairly large body of work surrounding these three areas, there has been little contribution to the development of theoretical perspectives and theoretical model building suitable for guiding further empirical research. He uses one of his case studies to develop an example of a theoretically grounded model that could be used for understanding the role of the media within community, and community within the larger society. Indeed, Jankowski is not alone in his wish for more empirically ground research in this area; much recent work has critiqued the lack of empirical evidence backing up the integration claim, and some have questioned the causal direction of the relationship

from the local stations located in their regional urban centres. For example, in the Maritimes, ATV, the local CTV affiliate, is located in Halifax, but maintains news bureaus in, and broadcasts to, the entire region. The representation of rural and urban viewpoints on ATV is fairly even.

between community engagement and local media use (e.g., MacLeod, Daily, Guo, Everland, Bayer, Yang & Wang, 1996; Stamm, Emigh & Hesse, 1997; Westerik, 2001).

On the other hand, a number of authors have conducted strong empirical research to try to prove the link. For instance, Bunton (1998), using content analysis, shows how two rural community newspapers fostered understanding, as well as created divisiveness, around a controversial local topic. Higgins (1999) conducted an interpretive study of producers at a local community television station in order to determine whether or not using technologies of communication for democratic purposes is possible. He draws upon media literacy and societal change theory, as well as Friere's taxonomy of social action. In a Japanese context, Tamura (1984), conducted research to determine the rural communication media's place in the dual-layer Japanese communication environment of the time. Emke (2001, 2003) has conducted extensive research into the role of community newspapers in creating community identity in rural Canada (see also Emke, Bruce and Wilkinson, forthcoming). McLeod et al (1996) also show strong empirical evidence for the hypothesis that greater use of local media leads to higher levels of community integration. Their research shows support for relationships between local political interest and local media use, community knowledge and local media use, local participation and local media use, and psychological attachment to community and community involvement. The question of causation is still open, however, and as we saw above with the connection between internet use and strong community ties, it is considered likely that strong community ties also lead to greater use of local media (MacLeod, 1996). Finally, Stamm, Emig and Hesse (1997) consider four mechanisms by which local media use might contribute to community involvement:

- 1) identifying a problem, and letting people know about it;
- 2) helping to identify groups within a community through which collective action can be taken;
- 3) helping individuals understand and think about problems within a community, allowing them to form their own views; and,
- 4) emphasizing that actions such as reading the local paper or listening to the local radio station result in time spent thinking or learning about local issues.

Thus, their research findings show linkages between media use and community involvement. However, they state that interpersonal communication is still the “primary mechanism for the individual in ‘community’” (p.105)¹⁰.

Indeed, a much smaller body of literature concerning communication and capacity building stresses the importance of non-mediated local knowledge and how it is passed on. For instance, informal capacity building through intergenerational discourse, while most evident in the body of literature dealing with capacity building in indigenous populations (see, for example, Briggs; 2005; Harmsworth, 2002; Scrimgeour & Iremonger, 2004; Smith, 2002) nevertheless is acknowledged by a few commentators. Ritchie (2000), discussing this in a Japanese context, notes the importance of passing down knowledge orally for sustainability in community development. Some authors decry the ever-expanding range of technology, and the decreasing linearity of communication potential; Milojevic (2002) for instance, discusses ways in which globally mediated communication is creating unequal capacities in terms of economics, language, religion, and interaction with nature. Parker and Sofiarini (2002) show how, in

¹⁰ As we shall see in chapters 5, 6, and 7, this reliance on interpersonal communication is still one of the hallmarks of rural Nova Scotian CD organizations. Increasingly, however, as the research for this thesis shows, such interpersonal communication is being facilitated by electronic means such as e-mail. Inevitably, as McLuhan said, the medium being used to communicate shapes that communication to some extent. In the case of sustainable development, it may also shape development efforts as well.

terms of community capacity building, it is often conversation between individuals that has the most impact on learning. This is echoed by Inayatullah (2002) who says,

The process of communication thus is a central way out – conversation both as methodology and as solution. It is this imagination of conversation – of deep participatory democracy – that is central to the creation of a third space of social and political activity outside the sphere of the prince (the state) and of the merchant (capital)...Ultimately, it is about conversations that are sustainable: meaning cooperative, shared and concerned with future generations. (pp.7-8)

While essentially agreeing with the idea of non-mediated conversation as important to capacity building, Balthelt, Malmberg and Maskell (2004) debate about the efficacy of “local buzz,” as they call it. They suggest that by directing such tacit knowledge into more efficient communicational channels (or “pipelines”) new outward channels may be created, which could prove to have economic benefits. Herbert-Cheshire and Higgins (2004) consider the dismissal of local knowledge in regard to rural community capacity building in an Australian context, and the often privileged role of expert knowledge; they stress the

central role of such expertise in defining, governing, and setting limits on, the capacities of rural communities to respond to change. In addition,...a key effect of expert knowledge is the production of categories of risk in which those communities that follow the prescribed paths of development are represented as ‘active’, responsible and worthy of government funding, while those who do not are marginalized and targeted as risky and irresponsible (p. 290).

Interestingly, they do not mention communication explicitly in their theoretical discussion, but in their case studies of two Australian rural towns, various means of communication and the resulting capacity are illustrated. Shirlow and Murtagh (2004) echo some of their critique in considering who decides what capacities should be built in a city in crisis in Northern Ireland. Finally, Rothenbuhler (2001) suggests capacity

building must come from within a community, rather than through the outside intervention of “experts”; this can only happen through discourse between and among community members. This of course echoes Habermas’s concept of communicative action, which at its root is about capacity building, although not explicitly so.

Other commentators are more critical of the concept of capacity building itself. For instance, McCall (2003) notes that the current emphasis on capacity building in community development rises out of a government move towards devolution of job creation to the private sector, the growing currency of self-help, and the reduction in government social programs, and cautions that commitment from government must be there for the long term, since community development is by its nature a slow progress. Shortall (2004) voices some concern that in the rush to develop rural community capacities which foster economic sustainability, those which foster social and civic development are being overlooked. Simpson, Wood and Daws (2003) echo this concern, and suggest that government, in its attempts to develop rural capacity, needs to enable and empower while allowing rural communities to identify their own needs and development direction. This idea is also supported in Banks and Shenton’s (2001) critical evaluation of capacity building methodology. They note that

some of the approaches that adopt the strategic approach to capacity building...and the implication that capacity can be ‘built’ – rather like a bucket can be filled and its contents measure – signal caution not just in the use of the term, but also in its implementation. We need to question whose purpose capacity building is serving and ensure that local residents are not mere ‘puppets’ in the regeneration game played out by large national, regional and local agencies. (p.297)

Finally, Williams (2004) suggests that government initiatives at capacity building in local community groups too often privilege a culture of community involvement which is more

characteristic of affluent populations and which relatively few community members engage in; this model of capacity building tends to disregard the informal acts of communicative one-to-one engagement that are both a more popular form of community involvement and more characteristic of the participatory culture of less affluent populations.

The concept of learning is implicit in capacity building. Often, adult educators, who might also be termed capacity builders, are at the foreground of such efforts. Indeed, the efforts of the Antigonish and other co-operative movements in the early 20th century were based upon communication; informal discussions among community members which often took place around the kitchen table developed into what Father Jimmy Tompkins termed “really useful knowledge” in the absolute sense of bottom-up development. Harris (2002) terms this type of learning “communicative learning,” which she describes as “the process whereby people come to understand more fully their particular social, cultural, economic and political situations and are thus able to effect greater control over their own affairs” (p.32). She stresses, however, that while communication lies at the core of all types of programs which deal with capacity building, each of these must be individualized for the context they are to be delivered in, and must concern not just those things which contribute to economic capacity building, but also social and civic development.

Closely tied into the concept of communicative learning, especially as practiced by rural community development organizations, is the idea of participatory communications (PC). Also known as development communication, PC has been defined by the Community Education Network in southwestern Newfoundland as follows: “the

methodology of participatory communications is respect for local knowledge and local ways of doing things. Learners and facilitators are peers in a long process of self-development and social awareness. The process mobilizes individuals to analyze and plan for their own future and the future of their communities” (n.d., website glossary). While this certainly is not the only definition in existence for this concept, it was found to be the one which best sums up the basic tenets of PC. In essence, it is communication by community members for community members in an attempt to create positive development and change for the community.

The theoretical roots of participatory communication can be found in the adult education literature; there can be no doubt that the concept springs from the work of the Antigonish Movement and other co-operative movement writers, as well as from Paolo Friere, Jürgen Habermas, and John Dewey, in addition to a number of other education theorists. This is borne out by much of the writing dealing with the theoretical aspects of participatory communication. For instance, Dervin and Huesca (1999), focusing on the communication for development literature that has come out of Latin America in recent years, identify six metatheoretic aspects: authority, naturalism, cultural relativism, constructivism, postmodernism, and communitarianism. They stress, however, that of these metatheories, communitarianism¹¹ is the one that best embodies an approach that is both socially constructivist, and practically process-oriented. Jacobson (1993) draws upon the work of Dewey and the Pragmatists to argue that participatory communication recognizes the central role of values in constituting knowledge while at the same time committing to no single normative position. Thus he contends that the use of such a

¹¹ Communitarianism focuses on the importance of civil society, and not the primacy of the individual, as opposed to liberalism, which stresses the importance of the individual over community.

method allows for flexibility in a variety of development situations. Further, Jacobson and Storey (2004), using Habermas' theory of communicative action with a focus on the concepts of "ideal speech" and the "public sphere," conduct an analysis of a case study of population programs in Nepal to illustrate that participatory communication works not just at the small scale "village level" but also on a larger national and even international scale. Drawing upon more recent theory, the articles in Jacobson and Servaes' (eds.) (1999) book "Theoretical Approaches to Participatory Communication" identify and explore the relevance of such theories as postmodernism to the concept. Using practical, field-based experiences (mostly from the developing world) as case studies, the authors in this book address community participation, communication, and culture from specific contemporary theoretical perspectives. Finally, Tufte (2004) proposes a concept of participatory communication which he suggests combats Beck and Willms (1992) idea of today's world as being a risk society, as well as Bauman's (1998) of our "liquid modern world" (p.viii). Rather, argues Tufte, communication for social change "is an approach to communication which recognizes the fact that to pursue sustainable solutions to the development challenges of the 21st century...we must address – and communicate – the root causes of these problems" (p.3-4).

While in general, those directly involved with bottom-up participatory communication initiatives are overwhelming in their praise for the methodology (see below), there are still some who are critical of the concept. Servaes and Arnst (1999), while generally in favour of the PC approach, nonetheless point out that there is a lack of interest in the process among influential academic and political figures because often these types of programs do not result in quantifiable results. Since funding agencies in

general require programs with highly specified time frames, clearly articulated outcomes, and easily summarized evaluations, they often reject proposals for funding such qualitative projects. This is borne out by the research done for this thesis.

Berkowitz and Muturi (1999) point out that especially in a developing world context, too often participatory communication programs are a top-down process which only pay lip service to community participation. It is easy to see the potential for this if we accept the authors' definition of PC strategies as pertaining to the creation of "conditions for and facilitating dialogue between programs and the stakeholders" (p.3). McLoughlin (2000) agrees, and calls for a shift in thinking in academic circles towards empowerment of a community driven model, especially where ICTs are involved. Indeed, one of the major criticisms found in the literature is the question of who participates and who benefits (see, for instance, Hayward, Simpson & Wood, 2004; Huesca, 1995; Kapoor, 2002; White, 2004, etc.). As Berkowitz and Muturi (1999) note, often the poor, those living in rural and remote areas, and those without access to communication infrastructure tend to be left out of the participatory decision making process. The potential for this is echoed in White, Nair and Ascroft's (eds.) (1994) work, although on the whole this book is positively inclined towards participatory communication. In short, as Berkowitz and Muturi (1999) point out,

Overall, authors tend to portray development communication in black-and-white terms, where the approach is, on the one hand, fully manipulative of the people whom programs are designed for, or on the other hand, entirely willing to respond and incorporate whatever suggestions are offered by recipients of a program's concerns. The role of the communication...typically is portrayed as either a technician or a researcher/technician who tries to understand local people in order to more effectively implement a communication program" (p.3).

The above quote points to one of the basic tenets of participatory communication's best

practices, i.e., it must be a bottom up community-driven process. Moore (1986) suggests that the success of participatory communication depends on achieving a judicious balance between goals, resources, messages and strategies designed for specific and different objectives, locations, and situations; in other words, designs for participatory programs are not necessarily transferable, and there is no universal model. Thus, while there is a vast number of program examples available on the internet, only a few broader examples will be outlined here, since many of these are aimed toward a developing world context. Hilbruner (1996) describes the methods used by USAID's GreenCOM Project, which concentrates on environmental problems. She has conducted an analysis of a number of project initiatives, especially those which relate to protected areas, and drawn up a list of best practices. Above all, she notes that strategic participatory communications is a process that foregrounds the human dimension instead of the technical. Gumucio Dagron (2001) outlines a number of case studies from the developing world to illustrate his point that both traditional media and more traditional forms of communication are being successfully employed in community development work. Among these are dance, music, storytelling and drama. Otsinya and Rosenberg (1997) use a case study of a tree planting project to show why participatory communication is essential to the success of rural development projects. This is an interesting article in that it not only shows what went right with the process, but also what went wrong; in most instances, problems arose when local farmers were not fully involved in the planning process. UNICEF (n.d.) also presents an excellent example of participatory communications and capacity building among youth in Jamaica; its "Right to Know" initiative focuses on empowering youth to address youth issues. Bierle and Konisky (2000) discuss the role of values, conflict and

trust in several case studies of environmental planning in the Great Lakes region of the US, and conclude that empowerment and trust especially must be present in order for participatory communication strategies to work.

Another set of examples of participatory communication strategies draws upon use of the web for community participation. For instance, Kanungo (2004) notes that too often problems with infrastructure and access diminish the great potential of the internet for participatory communications initiatives. However, he uses an innovative Indian case study to show that social processes can form a viable basis for providing sustainability to ICT initiatives in rural regions. Musso, Weare and Hale (2000) examine the ways in which using ICTs can promote local governance through both entrepreneurial and participatory models drawn from California. Although not always explicitly using the term participatory communication, the body of literature which discusses the role of community-based networks often stresses the idea of community participation. Ramirez, Aitkin, Kora and Richardson (2005) do an excellent job of evaluating community-based networks in this regard. They note that sustainable development is a long process, and show how communities can use the data gathered from community web sites to support community participatory communications initiatives. Odasz (n.d.b) outlines how by using interactive internet technologies, Alaskan native villages were able to realize cultural and community sustainability. Lennie, Simpson and Hearn (2002) describe their Learning, Evaluation, Action & Reflection for New Technologies, Empowerment & Rural Sustainability (LEARNERS) process, which was a pilot project aimed at empowering community members to conduct participatory evaluations of development initiatives which employ ICTs. This innovative project exemplifies the concepts of participatory

communication, and concludes that without such methods, ICT initiatives are difficult to sustain. Finally, Williamson (2003) shows how, in a New Zealand context, interactive community websites are promoting discourse and civic engagement.

ICTs and Rural Youth

This use of these new technologies to engage community members is especially important when dealing with rural youth. Youth outmigration is a major problem in rural communities; when young people leave, and do not come back, in many ways they take with them the community's future. While this is ameliorated somewhat by new people moving into rural communities¹², and by some rural community's initiatives to encourage young people to return home to work (see George, 2004b, for instance), nonetheless emphasis is being placed on involving youth in community development in many rural communities. As Checkoway (1998) and Checkoway, Richards-Schuster, Abdullah, Aragon, Facio, Fiuroa, Reddy, Welsh and White (2003) note, despite media depictions of troubled youth, and the emphasis on the deep need for social services in rural areas to help them, young people are, for the most part, competent citizens with much to offer their communities. McGrath (1998) looks at youth in Western Ireland, and describes how their scope for action is shaped and mediated by social practices and relations within their communities, especially in times of economic restructuring. He concludes that policy which enables youth to participate in community development on their terms would go a long way to encourage youth to stay in their rural communities. Checkoway et al (2003) look at one specific youth-oriented program in a US context. The authors caution that the success of this program cannot be considered typical in development endeavours, since

¹² See Johnston, Swallow, Tyrrell and Bauer (2003) for an interesting discussion of the role new residents of rural communities play in development and conservation efforts.

youth are too often a problematized object of development initiatives instead of active participants in problem solving. In an earlier study, Checkoway (1998) looks at a number of youth capacity building programs, and draws the same somewhat pessimistic conclusion; he states that since so many problems in development are systemic, and have their roots outside the community, while efforts to involve youth are to be admired, they cannot in and of themselves solve development problems.

Other commentators are somewhat more optimistic, however. For instance, Smith, Smith, Boler, Kempton, Ormond, Cheh and Waetford (2002) describe a New Zealand project aimed at giving rural youth a chance to voice their feelings about what it means to be living at the end of the 20th century. This particular research project was interesting in that it arose from a grant for young researchers and was thus designed by young people for young people; this in turn shaped the themes that arose, such as “not being listened to.” The authors conclude that instead of a homogenous concept of rural childhood, there are many possibilities inherent in the idea of growing up rural, often based on geographical location, ethnic background, etc. They also note that although the youth involved in the project were “vehemently clear about the ways in which they were excluded from participating in community life and their strategies of resistance, rural youth in this study also provided analysis which showed their commitment to positive possibilities which they saw as part of rural lives and communities” (p.157). In another interesting article, McDevitt and Chaffee (2002) propose a model of family communication which encourages youth to change negative patterns of communication within the family. Calling this a “trickle up influence,” they suggest that young people can actually get their parents involved in civic matters by being the ones to initiate

political discussions at home. Camino (2005) describes a community-based service learning (CBSL) program put in place in two rural American schools. This program, which was run through the 4H program, stressed youths' participation in and initiation of community based activities to foster community development. As the author notes, "The practices described here also highlight that in community building, learning is not just learning for the sake of youth; all in the community can become learners. Residents learned about their communities through asset mapping activities and reflection sessions led by youth. The vehicle for the youth to do this, CBSL, focused on community building that aimed to promote broad critical learning about the community, including the contexts of history, culture, economics, and politics" (p.8). Finally, in an older study, LeBaron (1975) shows how by engaging youth as active participants in what he calls the three major influences in a child's life – school, community and television, which he suggests often act at cross purposes to each other – they can be given a sense of participation in their community. This is done by having them produce programming on civic issues for their local community channel.

In a more recent vein, other commentators have discussed how the advent of ICTs is actually encouraging youth to either remain in, or return to, their rural communities to live. Valentine and Holloway (2001), for instance, explore the ways in which rural youth use ICTs such as the internet, especially in terms of chat rooms and e-mail; they conclude that rural adults would do well to look at how their children use ICTs in their everyday life, instead of concentrating on these technologies solely as tools to encourage future employment or educational opportunities, since they have now become interwoven into their children's sense of themselves in the world. Laegran (2002) echoes this in her study

of two internet cafés in rural Norway; she challenges the view that the internet is an urban phenomenon and a practical means to accomplish global reach, because she says use among rural youth is often shaped by their local context.

The Role and Impact of the Internet and ICTs

Thus, we can see that the advent of new forms of communication technologies such as the internet, satellite delivery systems and digital technology are beginning to have an effect on the communities that they are entering into. This is particularly true of that body of literature which deals with ICTs and sustainable community development.

Sustainable development can be defined as “providing for the needs of today’s generations without compromising generations of the future” (Brundtland, in Scrimgeour & Iremonger, 2004, p.2). The body of literature concerning the introduction of ICTs into the mix for sustainable development is vast, and space allows only a brief overview of some of the findings here. In general, this literature emphasizes the problems inherent in the “Digital Divide” i.e., the barriers faced by developing and remote communities in accessing the technology in the first place. This lack of access creates a tension with the often uncritical opinion found in the developed world that if a community has access to ICTs then sustainable development is sure to follow. As will be noted in the next chapter, this enthusiasm is particularly prevalent in the literature of the field of community informatics. This field of theory explores the use of ICTs within the culture of place-based communities and tends to privilege the technological rather than the human element. Thus, much of the literature in the field exudes a certain technological determinism, placing ICTs in the role of saviour, especially in terms of community economic development. In some of the early (and even more recent) work in this field,

little regard is given to the actual inhabitants of the communities themselves (see, for example, Carroll & Rosson, 2003; Gurstein, 1998; Pigg, 2001; Schuler, 2001; Surman & Reilly, 2003). More recent work has begun to examine these types of questions, and while there is still a faint air of “boosterism” underlying some of this research, overall, it is safe to say that there has been a shift towards a more critical approach in assessing technology’s place within a development context in both the developed and developing world (see, for example, Keeble, 2003; Keeble & Loader, 2001; Page & Scott, 2001; Tharp, Taylor, & Lloyd, 2003).

Hurley (2003) frames the access to ICTs in a human rights context, beyond just that of sustainable development. She argues that the human rights framework, although challenging to implement, is firmly entrenched in legislation, while the field of information policy is still in its infancy; this is providing an unparalleled opportunity for the inclusion of human rights within this policy. Human beings have the universal right to communicate, and to have access to the technologies of communication. As she points out, the dawning of the Information Society in the developed world started with an interaction between a human and a desktop computer; in the developing world, it is more like to be using the text messaging functions of a cell phone. The point, she maintains, is not the shape of the technology, nor even necessarily access, but the development of the skills needed “to enable people to find the information that is useful to them, to absorb it, and to adapt it to their own lives and needs” (2003, p.11)¹³.

However, as many commentators point out, in areas where indigenous communities have little or no access to electricity or telephone services, ICTs become

¹³ Which of course speaks to capacity building.

somewhat irrelevant (Mansell, 1999; Pryor & Gharthey Ampiah, 2003; Spennemann, Birkhead, Green & Atkinson, 1996; Wakeham, Silva & Bracewell, 1998; Webb, 2002). For instance, in many places in Africa and India, community telecentres (i.e., public access to phone services where communities can receive outside information and transact business beyond their locale) are of far more use than cybercafés. As Noronha and Pratim Sarker (2002) note, most indigenous communities already have very efficient community networks in place for communicating information; the role of development workers should not be to try and develop new networks, but rather to identify and utilize those already in place. They give the example of tea stalls in rural India and Bangladesh, which are the communication hub of these communities; placing a telecentre within these tea stalls would be a relatively simple thing to do, and could provide not just opportunity for government to reach citizens, but also business to business opportunities. One might note that the Canadian government's Community Access Program (CAP) also has attempted to leverage community meeting points by using them to install CAP sites.

Pryor and Gharthey Ampiah (2003) who are conducting research in Ghana concerning the capacity of ICTs to bridge the Digital Divide, are pessimistic about their success. They note that even when they have access to ICTs, indigenous people in the poverty-stricken areas of Africa are "sufficiently involved to be drawn into the periphery of the global media world, but both the means of access and the nature of the texts only emphasize their sense of inferiority and exclusion" (p.xii).

Mansell (1999), in her extensive review of the United Nations Commission on Science and Technology for Development (UNCSTD) Working Group on ICTs and Development programs, also points out the dangers of inappropriate use of ICTs in a

development context, in both the developing and developed world. She echoes Pryor and Ghartey Ampiah (2003) in saying that these technologies may destroy more jobs than they create, widen the gap between rich and poor, and in areas with few financial resources, may be taking funding from other development activities that would create greater benefits. However, in the final analysis, the UNCSTD found that despite the high cost of building new information infrastructures, the cost of not doing so would ultimately be higher because of the growing dependency of global economic forces upon these technologies.¹⁴ Although recognizing that it is impossible to create a generic “best practices” model for the implementation of ICT strategies for sustainable development because of the vast range of cultural and economic contexts among countries, the Commission did come up with a basic checklist for issues needing to be addressed, prefacing it with “the principal questions for developing countries are: what economic, political and social resources can be used, even by the poorest countries, to develop distinctive information infrastructures that maximise the social and economic benefits of ICT applications? How can resources be extended through new partnerships between the public and business sectors? And, what are the most effective roles for national governments and regional coalitions?” (in Mansell, 1999, p.46).

These are questions that could also be applied to the use of ICTs for sustainable development in the developed world. As much of the literature stresses (especially that dealing with Canada’s First Nations communities), the Digital Divide does not exist just between rich and poor nations, but is firmly entrenched within even the richest countries.

¹⁴ One is reminded of the advent of the telephone, which was seen by many as the devil’s own tool (see Martin, 1991, for a good discussion of the early social history of the telephone).

However, this literature review has shown that if lack of access to ICTs for sustainable development is perhaps a somewhat less important problem in the developing world when faced with issues like basic health, starvation, and armed conflict, in the rich countries of the developed world, where the Information Society is firmly entrenched, it becomes a much larger one; to lack access to ICTs in this context is truly to lack the ability to join into the economic mainstream, even in terms of simple things such as e-mail. In the area of community economic development, especially in rural and remote areas such as Northern Ontario and the Arctic, ICTs can be beneficial, removing, as Gurstein calls it, the burden of place:

Technology provides a new and powerful set of tools to enable participation rather than to create a “virtual world” with frictionless interchangeable parts. The key to this “real world,” is “local,” fixed (even anchored) in place and time. Technology is not a release from the burden of place, but rather a tool to respond to the challenge and opportunities of the “local.” (1999, ¶ 4)

However, the literature also suggests clearly that simply adding ICTs to the mix of community development will not necessarily create a strong and vibrant community. For instance, as we saw above, Kavanaugh and Patterson (2001) note that the Blacksburg Electronic Village project in Virginia may well have been as successful as it was because it was located in a place-based community where high levels of social interconnectivity already existed.

It is worth noting that in an Aboriginal context, this social cohesion often comes with a value system at odds with the cultural mainstream. By the same token, however, if we return to our original definition of sustainable development, it becomes evident in the literature that indigenous value systems are often most appropriate for truly sustainable development and that these values can be incorporated into a successful economic

development plan. For instance, Harmsworth (2002) and Scrimgeour and Iremonger (2004) describe how the Maori of Aotearoa-New Zealand are using traditional concepts and approaches, especially in terms of environmental concerns, to respond to increasing global economic pressures and opportunities.

In Canada, the Mi'kmaw of the Membertou, NS, reserve have incorporated traditional values into their vigorous business plan, creating employment and cohesion within their community (Membertou website, n.d.). The same is true of the Nishnawbe-Aski First Nation, who have created ties between Cree communities in Northern Ontario to further their business interests, including the development of their server, Knet (Knet homepage, n.d.). In short, the literature suggests that ICTs are indeed useful for sustainable development, but only as one tool among many, and only useful where culturally and economically appropriate.

The Rural / Urban Divide

Before moving on to consider the case study sites in the next chapter, it is first important to understand what is perhaps the biggest underlying issue in rural development in Nova Scotia: the rural/urban divide. Increasingly, with the decline of the resource based industries as discussed in Chapter 1, rural communities are losing not just their youth but many others to the urban areas, either out of province, or the sprawling Halifax Regional Municipality (HRM). Over half the province's population now lives within the boundaries of HRM. While encroaching urbanization is also becoming an issue in places, it is the loss of economic development opportunities to the urban areas which is causing the biggest problem for rural community development organizations.

However, while the body of literature which deals with urban/rural linkages is fairly large, that part of it which deals with communication in this regard is not. For the most part, communication is dealt with implicitly or else in terms of mass media and ICTs, as well as in discussions of telecommunications infrastructure. And by far the most predominant theme in this work is the gap between urban and rural areas in terms of economics, access to technologies and services, lifestyle, and encroachment of urban areas on rural environments. For the most part, the urban/rural linkages are presented as being in conflict. In fact, Gillis (2004) titles his article “The War between Town and Country,” and suggests that this is the ground where Canada’s next “culture war” will be fought. Alm and Witt (1997) discuss the urban/rural gap in the work of American academic Clive Thomas and environmental policy, doing a county by county analysis of environmental policy, in the face of encroaching urbanization in Idaho. Mellow (2005), in her study of how rurality affects the work of professionals such as medical people, clergy, lawyers, etc., concludes that most conventional standards of professional behaviour reflect an urban bias, and thus many rural professionals are caught up in what she calls “the Gemeinschaft-Gesellschaft Gavotte” (p. 50). And even though they take a somewhat more pacific tone, Hindman, Ernst and Richardson (2001) still focus on the apparent absence of resources in the rural area. Their study of the social structural context of community newspaper editors’ use of a variety of information technologies found that newspapers in more pluralistic, urban areas were more likely to use a broader range of information technologies than their rural counterparts, with the result that these technologies “are more likely to reinforce than to remove the more fundamental constraints affecting local mass media in small, rural communities” (p.160). While they

acknowledge that this may well have to do with lack of access, fewer economic resources, and community structure in the rural environment, they express concern that the result of their findings indicates a growing knowledge gap between urban and rural communities.

On the other hand, there is a growing body of literature which takes a more conciliatory tone. Tacoli (1998) provides an excellent overview of urban/rural development theory, stressing positive urban/rural interactions and the ways in which they have been affected by economic, social and cultural transformations in a global context. The Urban Upgrading Communities website (<http://web.mit.edu/urbanupgrading>), which is sponsored by the World Bank, echoes this, stating that “understanding rural-urban linkages matters because it provides the basis for measures that can improve both urban and rural livelihoods and environments” (n.d.) They also note the importance of the concept of decentralization, with an increasingly important role of local government in determining the best methods (although not necessarily supplying the funding) for sustainable development, including in terms of communication infrastructure. Mutizwa-Mangiza (1999) notes that traditionally there have been two dominant views of the urban/rural divide: the anti-urban, which idealizes rural life, and decries the threat of encroaching urbanization, and the pro-urban, which sees urbanization as a progressive process. His article describes the UN Habitat program’s attempts to combine the two views into one of a rural-urban continuum; noting that this middle way has a long history in the study of economics, he suggests that the justification for it lies in the “visible and invisible flows and interconnections, or linkages, between rural and urban areas. In the context of human settlements studies,

these linkages have traditionally been categorized into economic, service, demographic, environmental and infrastructure, even though these categories are not mutually exclusive” (p.1; see also Weliwita & Okpala, 2003). This idea is supported by Rabinovitch, who emphasizes that “Rural/urban linkages are not an abstraction; they exist in terms of the concrete flow of people, capital, goods, information and technology between rural and urban areas. Realizing the potential benefits of rural/urban linkages rests not only on strengthening these linkages but also mitigating their negative impacts” (1999, p.1). In fact, some commentators suggest that perhaps the perception of the “rural/urban gap” is not as wide as we are led to believe. For instance Hindman (2000), using US national survey data, explores whether the digital divide between urban and rural areas is widening; he concludes that rather than geographical location, innovative uses of ICTs are more closely determined by socioeconomic factors.

Another theme in this literature is that of the concept of the peri-urban, which is certainly a feature of the Nova Scotian development environment. This can be defined as:

...where urban and rural activities meet. Peri-urban areas are a mosaic of agricultural and urban ecosystems, affected by material and energy flows demanded by urban and rural areas. They are socially and economically heterogeneous and subject to rapid change. Small farmers, informal settlers, industrial entrepreneurs and urban middle class commuters may all coexist in the same territory but with different and often competing interests, practices and perceptions. Few institutions can address both urban and rural activities. Local government agencies have either an urban or a rural focus. Few metropolitan governments include rural jurisdictions. District and regional governments fail to bridge urban and rural concerns. (Allen & Davila, n.d., ¶3)

There is still a sense of difference in some of this literature, although not necessarily in a negative sense. For instance, Lindsay, Greig & McQuaid (2005) compare the importance of informal job search methods in a small rural town, a remote rural area, and a peri-

urban labour market in Britain. In rural areas, most used social networking to gain employment, while in the peri-urban environment, job seekers utilized more formal approaches through government-sponsored job centres. Debertin (1996) also discusses social networks in his comparison of social capital in urban and rural communities. His conclusion is that the concept of “neighbourhood” is more significant to the development of social capital than geographical location.

This is an important point for this research, because this is a finding echoed by all of the case study communities; the perception of the network, whether it be in the form of a CAP site or a network of CAP sites, or a webpage with discussion forum, was cited as one of the main benefits of ICTs (other than e-mail) by most participants. In addition to this, it is universally recognized that without access to the internet, either through high speed or broadband, it is virtually impossible to attract outside businesses to set up in rural and remote areas. Thus many CED organizations, especially those in areas who either have no access to the internet, or who only have dial-up service, tend to make broadband access a priority.

Closely tied into the rural/urban literature is that of conflict resolution in the context of rural communities. As we have seen, perhaps the largest current source of conflict in the North American, and possibly European, context is the increasing encroachment of non-rural residents and/or development into the rural environment. Gillis (2004) outlines a few examples of this, going so far as to say, “Fact is, country folk had best get used to living in an urban world, because city values are fast taking over their communities” (p.56). He gives two examples of instances where transplanted urbanites banded together to stop local farms from engaging in practices which they said

interfered with their enjoyment of their new homes; however, he also quoted the farmer as regretting that the conflict between him and his neighbours had been allowed to escalate into a court battle: “A smile goes along way,” he noted (p.56). After all, not all communication is verbal!

A recently completed research project from the University of Guelph under the direction of Dr. Wayne Caldwell is aimed at identifying the sources for such conflict, and then providing a method to try to resolve problems. Entitled “Conflict resolution in rural Ontario: Strategies for Responding to the Environmental, Economic and Social Impacts of Agriculture,”¹⁵ it has been trying to identify best practices for conflict resolution in rural environments. One of the major initiatives of this project has been to help communities set up farm mediation committees; however, Caldwell stresses that such a body will only be of use if done with support from the community and local farm groups, a sentiment reiterated by Shirlow and Murtagh (2004). Caldwell notes that mediation committee members must be objective, level-headed, and have good listening skills. McTavish (2005) echoes this in his fact sheet outlining how conflicts between farmers and their neighbours can be prevented by education on both sides. Finally, Fiske (2000) does an excellent job breaking down the stages that occur in an environmental conflict, and showing how a variety of intervention practices can be used to resolve, or at least defuse such conflicts.

Other issues where conflict arises in rural areas stem from conflicts between producers and other sectors over limited resources, especially in the world’s fisheries. The Food and Agriculture Organization of the United Nations has produced a number of

¹⁵ see www.gov.on.ca/OMAFRA/english/research/new_directions/projects/2002/sr9120.htm for project details.

working papers dealing with conflict resolution in the fishery (see, for example, Marmulla, 2001). A particularly interesting one in that it deals with conflict in a traditional society, similar to some of the conflicts between indigenous and non-indigenous fishers in Canada, is Ruddle's (1987) discussion of the methods that Japanese coastal fishers use for conflict resolution. He gives examples of not just the personal and community level, but also of the national and international; in Japan, such conflicts are dealt with in a very formal manner through small group discussion, verbal communication and the use of go-betweens, which ensures that the conflict is not allowed to escalate and become entrenched.

Building on the Literature's Framework

When looking at the literature, it is not difficult to see the importance of communication, both interpersonal and technology-mediated, in the rural development process. Indeed, as noted in chapter 1, communication can be said to form the base for all development work, whether implicitly or explicitly. However, it is the specific mix of the interpersonal with the technological and the results of that mix which form the remainder of this thesis.

Further developing the background context provided above, chapters 5, 6, and 7 will explore the entrance of ICTs into rural Nova Scotian communities through the examples of the thesis' field research case study communities. The mediations which occurred as the technology was introduced and began to spread within a CED context (and indeed, within the community as a whole) will be examined, emphasizing any adaptations of the technology to fit specific CED efforts (e.g., e-business, on-line research, communicating with remote areas, etc.). These chapters will also explore

whether or not the adoption of the ICTs by the case study community leaders involved in CED and the utilization of ICTs within this context had any trickle-down effect on the rest of the community. In other words, they will examine the changes (translations) in both the community network(s) and the technology itself through the mediations between the two.

However, before we can review the case studies arising from the field research findings, it is first necessary to outline the theoretical lens through which the research findings were considered. And so, chapter 4 will provide a brief exploration of that lens, actor-network theory (ANT), as well as outline the process through which this particular theory was chosen. It will also summarize the methods used to collect and analyze the field work data, and end with an explanation of how that analysis fits into a broader ANT framework.

Chapter 4

Where Technology and Humans Meet: The Spaces of Actor-Network Theory

This empty space 'in between' the networks, those terra incognita are the most exciting aspects of ANT because they show the extent of our ignorance and the immense reserve that is open for change... . ANT is not a theory of the social, it is a theory of a space in which the social has become a certain type of circulation.

Bruno Latour, 1994, p.19

The preceding two chapters provided the broad historical, sociocultural and economic context within which to consider the results of the field research conducted for this thesis. This chapter will deepen this contextual framework by providing a discussion surrounding the choice of a theoretical lens within which to consider the data resulting from the fieldwork; this discussion will lead to the rationale for ultimately choosing actor-network theory (ANT), i.e., because it is one of the few theories which considers the outcomes of the interactions between human and non-human actors without privileging one over the other. I believe this to be very useful if one is to understand the true systemic change dynamic in these communities, since human agency is not always the reason that systemic change occurs. The chapter will conclude by outlining the methods used to collect and analyze the fieldwork data, ending with an explanation of how that analysis fits into a broader ANT framework.

Searching for a Theoretical Lens

When any concept of change is being scrutinized, it is necessary to use a theoretical framework which considers the roles of *action* and *agency*, and ideally, *contingency*. Because these three terms can be interpreted in many different ways, some clarification is in order: for the purposes of this thesis, *action* implies movement along a chain of events. *Agency* may be defined as “The capacity, condition or state of acting or of exerting power” (Merriam-Webster, 2003, p. 24). It is important to note that while this

concept may include human agency, i.e., the capacity of humans to make choices, it does not have to necessarily. For instance, a hurricane cannot be said to have the ability to make conscious decisions as to its strength or path, yet it is certainly capable of exerting power. Thus it becomes an agent (or actor). As Latour (2006) notes, “agencies are always presented in an account as *doing* something, that is, making some difference to a state of affairs, transforming some As into Bs through trials with Cs” (p.53). As we shall see, the same holds true for technology; it cannot be said to have agency in the way a human does, yet its presence in a culture does make “some difference to a state of affairs.”

Finally, *contingency* is considered to be an unexpected action or occurrence which shifts the course of events: “A conjuncture of events occurring without design; a juncture” (OED Online, 1989). Every day we make a myriad of both large and small decisions which shape our lives to a greater or lesser extent in a variety of directions. While some actions can be generally anticipated, predicated in part upon past behaviour, others occur in reaction to unforeseen events and the actions of other actors. For instance, a seventh generation farmer is injured in a farm accident, becoming a paraplegic. Despite the fact that all he ever wanted to do was farm, he must shift his life trajectory into another direction. He studies law and eventually becomes a family court judge. The main contingent event is the accident; however, the decision to go back to school instead of living on a disability pension, or to study law instead of becoming a teacher are also contingent events, in that they move the action in a different direction. Thus contingency can be one of the instigators of agency.

Some Theoretical Possibilities

With these definitions in hand, it is possible to consider a number of possible

theoretical options which one might use to frame the problematic for this research, i.e., what, if any, effect does the use of ICTs by rural Nova Scotian community development organizations have on the culture of the communities they are part of?

Political Economy

Political economy might be useful in considering the role of power dynamics found within these communities, and with the adoption of ICTs therein. There is a growing body of literature within this field which deals with the adoption of technology (e.g., Bell, 1989; Calhoun, 1992; Feenberg, 1995; Graham, 2000; Silverstone & Haddon, 1996; Winseck, 2002). As we saw in chapters 2 and 3, an underlying theme to much of this work is the inescapable role and power dynamics of the global capitalist forces which are shaping the adoption, design and use of ICTs throughout society. Indeed, such forces are evident within the context of the research done for this thesis; in much of the developed world governments and their corporate supporters are driving the adoption of ICTs in rural and remote communities, in large measure because these technologies allow both governments and corporations like banks to withdraw place-based services in the interests of cost-cutting. For instance, many rural communities in Canada have lost bank branches and post offices, requiring inhabitants of these areas to either travel long distances to access these services or go on-line to perform such day-to-day tasks as paying bills, accessing information about government services etc., a task made very difficult in those communities only served by dial-up service or with no access at all.

However, while the concerns that revolve around power issues are very real and important, it is important not to limit this research solely to the question of top-down power dynamics; to do so may well lead to missing other important potential reasons for

rural cultural shifts which have less to do with power, and more to do with, for instance, questions of bottom-up context-specific adaptations of ICTs, generational shifts in information consumption, and, of course, contingency. This last is especially important to the holistic nature of this research; political economy, as a whole, tends to ignore contingency, focussing instead on the intentionality of action. Thus, political economy may be used to inform the research, but will not serve as an overarching theoretical framework for it.

Community and Cultural Communication Studies

These strands of theory were briefly explored in the preceding chapters, and as we saw there, in many ways they form the underlying base for this thesis in terms of the formation of human communities. Both these areas have a rich history of ethnographic research as well as being deeply grounded in sociological theory; however, these two fields deal mainly with human/human interactions, or when considering human/technology interactions, privilege the human actor over the technical. So, while providing important background for understanding the complexities and subtleties of communal culture, nonetheless, they do not provide a holistic picture of the infusion of technologies into that culture.

Social Networking Theory

Social networking theory (SNT) also emphasizes the relationship *between* human actors within a social network, not just the actors themselves. Coming out of a very strong structuralist tradition, social networking (including organizational networking) theorists use SNT to map things out in linear, hierarchical ways emphasizing the nodes and ties between actors (see, for example, Borgatti & Everett, 1992; Howell, 1988; Jones,

Conway & Steward, 2001; Jongmans, 1973; Lin, 1999; Pattison, 1993; Steward, 2001; Wellman, 1999). This can be useful for understanding exactly how the social relationships within an organization or culture work and the potential effects that the connections found within the network can have upon the individual; however, it can also be somewhat limiting, since it fails to take agency into account.

Perhaps the most famous articulation of social network theory is Stanley Milgram's concept of six degrees of separation which he developed from work he did in the late 1960s. In this experiment he showed that the chain of social acquaintances required to connect one person chosen at random to any another person chosen at random anywhere in the world is generally short. Although the popular perception of his work is that anyone can be linked to anyone else on Earth through only six links, it is somewhat inaccurate. In actual fact, he suggested that there were three possibilities for human networks: 1) that of three degrees of separation in which he showed that some people have such good links that they can get to someone far away with only three links; 2) that of one hundred degrees of separation, which shows that for other people, it can take up to a hundred links to reach someone else, and finally 3) that there are some people who are so isolated from the rest of society that they are unable to establish any links to distant others.

Building upon Milgram's work, sociologist Mark Granovetter developed the idea of strong and weak ties within a social network. This idea is very important for understanding the usefulness of SNT, because it goes a long way to explaining *why* social networks work and why they are important. In his 1974 paper "The Strength of Weak Ties," Granovetter shows how society is organized from a network perspective, a concept

which he further developed in a follow-up 1983 paper. It was the first such articulation of social networks and one that has served as the basis for a great deal of sociological research in areas as disparate as job hunting, economics, and Renaissance banks by researchers such as Caroline Haythornthwaite (2001), Ronald Breiger (2002), and others.

SNT is of particular use to the understanding of how on-line communities work. Indeed, much of the recent work done using SNT has revolved around virtual communities, as well as the mediations created within social networks. However, one of the drawbacks to SNT is that it fails to explore exactly how non-human actors influence these social networks. There is a tendency to see technologies such as the internet as simply tools, which a large body of research (e.g., Howard, Rainie & Jones, 2001; Ihde, 2002; Law & Singleton, 2000; Serres, 1993 / 1995) has shown to be a somewhat simplistic view. For that reason, it is necessary to supplement SNT with a strand of theory that foregrounds human/technology interactions.

Community Informatics

Community informatics comes somewhat closer to bringing the technological element into the picture. This field of theory explores the use of ICTs within the culture of place-based communities. Unlike cultural communication studies, which, as noted above, concentrates on the human actor in the human/technology interaction, it tends to privilege the technological actor rather than the human element. Thus, much of the literature in the field, (keeping in mind that it is still a relatively new area, having been around for perhaps a decade¹) exudes a certain technological determinism, placing ICTs

¹ There were diverse individuals such as Heather Hudson, Donna Haraway and Robin Mansell writing on this topic prior to the 1990s; however, the term community informatics first began to be seen in the early 1990s, and it is this term (along with social informatics, which tends to look at the use and effects of ICTs in an institutional or organizational context) that writing in this area is now placed under.

in the role of saviour, especially in terms of community economic development. In some of the early (and even more recent) work in this field, little regard is given to the actual inhabitants of the communities themselves (see, for example, Carroll & Rosson, 2003; Gurstein, 1998; Pigg, 2001; Schuler, 2001; Surman & Reilly, 2003). The reader is left wondering how, for example, the use of these ICTs, and especially the internet, changed the way the inhabitants of these communities viewed the world, and how that in turn, changed the way in which they interacted with other members of their own communities.

In many cases, the community leaders were the ones most involved in community economic development initiatives using ICTs; therefore, from a two-step flow perspective (as discussed in chapter 2), as opinion leaders, did their use of ICTs change the way in which they governed, or collaborated with, other community members? Did they become boosters of the internet, for instance prioritising access issues over other problems within their communities? In short, did the introduction of ICTs into a community change these communities in any significant way from a cultural perspective? These are the questions that this thesis is attempting to answer.

More recent work has begun to examine these types of questions, and while there is still a faint air of “boosterism” underlying some of this research, overall, it is safe to say that there has been a shift towards a more critical approach in assessing technology’s place within a development context in both the developed and developing world (e.g., Keeble, 2003; Keeble & Loader, 2001; Page & Scott, 2001; Tharp, Taylor, & Lloyd, 2003). However, while there is certainly some useful work which may be used to inform this research, nonetheless there has not been enough work done within the community informatics field using rural communities in the developed world to enable an

overarching theoretical framework for this thesis to be developed from this body of theory.

Actor-network Theory

What is needed for this research therefore, is a body of theory which takes into consideration both human/human and human/technological interactions, without the privileging of one over the other, as well as one which acknowledges the important role of contingency to that of action and agency. Further, because the intent of this research is to explore the change dynamic found in the human/technology interaction within community, a theory which contains a sense of dynamism must be used. While all of the paradigms mentioned above have strands of thought that are useful to this discussion, none of them fully addresses the important idea of dynamism and contingency which is found at the root of the thesis's *community + technology = change* problematic. There is, however, one theoretical lens which does: Actor-network Theory (ANT). Thus, while the other theoretical paradigms will be used to supply background context for the broad picture of rural communities and the adoption of ICTs, the change dynamic at the heart of this thesis will be considered within the framework of ANT.

Although, as we shall see, actor-network theory is somewhat controversial, nonetheless it has become an established theory within sociology, and its roots lie in the sociology of science and technological change. Despite its sociological roots, however, in general, ANT has not been used to any great extent in North America, especially in communication studies, although it has much to offer as the interplay between technology and humans is adding increasingly complex dimensions to human communication and indeed, existence.

Perhaps part of the reason for this is that ANT has almost as many versions as there are academics who use it (see, for instance, Bruun & Hukkinen, 2003; Callon, 1999; Gomart & Hennion, 1999; Hetherington, 1999; Murdoch, 1998, 2001; Saldanha, 2003; Tatnall & Lepa, 2003); in some ways, this is inherent in the theory itself, which is essentially about the dynamism of change and contingency. As John Law (1999) notes, ANT is about the translations of actors in networks and the results of those translations. It is about the tension that exists between the individual actor (either human or technological) who strives to become the centre (or what we shall call *obdurate*²), and hence to direct others from the centre, and the network, within which the notion of centre is constantly shifting. Part of the resolution of this tension is found within the notion of relational materiality, which

takes the semiotic insight, that of the relationality of entities, the notion that they are produced in relations, and applies this ruthlessly to all materials—and not simply to those that are linguistic....the semiotic approach tells us that entities achieve their form as a consequence of the relations in which they are located. But this means that it also tells us that they are *performed* in, by, and through those relations. A consequence is that everything is uncertain and reversible, at least in principle. And here...there has been much effort to understand *how it is* that durability is achieved. How it is that things get performed (and perform themselves) into relations that are relatively stable and stay in place. (Law, 1999, p.6, italics in original)

It is therefore, a theory uniquely suited to research which highlights change, since change is inherent within it. It is the intent of this thesis to strip away some of the “fixed” method that has come to be associated with ANT and to use ANT in the manner for which it was

² In ANT, obduracy is taken to mean something which endures, resisting enrolment by other actors, and has become stable over a length of time. One might say it is an actor/actant who is “Resistant to persuasion or softening influences” (Merriam-Webster, 2003, p.855). In other words, if something has become obdurate, it has lasted in a relatively similar form, through a variety of translations within the network. By the same token, an actor-network may be said to be obdurate if through the enrolment of outside actors, it is able to continue to be stable.

first postulated i.e., to measure change in a culture through deconstruction and translation. Having said that, it may be useful to examine some of the basic tenets of ANT, since the exploration of the case study communities' engagement with ICTs in the next three chapters will be framed within an actor-network context.

ANT grew out of a perceived need by Bruno Latour and Michel Callon in the early 1980s to create a new social theory which better fit the work of those researchers working in the field of science and technology studies. They felt that the idea of society, and the social, had become too laden with assumptions to be useful in trying to actually explore how the social is constructed, and to determine what technology's role is in that construction. In other words, "the social has never explained anything; the social has to be explained instead" (Latour, 2006, p.97). In part, ANT was perhaps an attempt to find a middle ground between technological determinism, which holds that technology shapes human action and cultural development, and SCOT (the social construction of technology), which holds that humans shape technology to best serve society.

As Bingham and Thrift (2000) note, Latour, Callon and their British colleague John Law, were trying to create a language which would enable them to systematically prove that the social and natural sciences were symmetrical. Indeed, it can be argued that the theory finds its roots in the work of the French philosopher of communication, Michel Serres³, whose lifelong project has been to reconcile the humanities and sciences. In time, however, these early thinkers came to see that this constructivist approach was at odds with the development of ANT, since "actor-network theory questioned notions of society just as much as notions of science. Actor-network theory could therefore be described as a realist approach which emphasizes the high degree of contingency of the world, a

³ Serres was Latour's teacher; indeed, Latour has been called Serres' apologist (Bingham and Thrift, 2000).

language for both upsetting and collecting the collective” (Bingham & Thrift, 2000, p.282).

ANT’s foundational texts are considered to be Michel Callon’s *Some Elements of a Sociology of Translation: Domestication of the Scallops and the Fishermen of St. Brieuc Bay* (1986), John Law’s *On the Methods of Long-Distance Control: Vessels, Navigation and the Portuguese Route to India* (1986), and Bruno Latour’s *The Pasteurization of France* (1988). In these works, what would normally be considered non-human (and even non-sentient) passive objects in the social realm (scallops, rocks, microbes, and ships) begin to take on an equal role to the humans’ in the development of the “action” in these case studies. For instance, John Law, explaining Callon’s (1986) article notes that in ANT “an actor is anything/anyone that acts upon others... [ANT] is based on the assumption that as actors struggle with one another they first determine their existence and then (if that existence is secured) define their characteristics. An actor that exists is thus one that is able to exert itself upon others⁴. It attempts the latter by borrowing the force of others in a process that Callon calls ‘translation’” (Law, 1986, p.15). Callon (1986) suggests that there four stages to this translation process:

1. *problematization* in which an actor attempts to become indispensable to the other actors, “by defining the nature and the problems of the latter and then suggesting that these would be resolved if the actors negotiated the ‘obligatory passage point’” (Callon, 1986, p. 196), which the first actor puts in place; In other words, the first actor tries to force the other actors to come to it (Law, 1986).
2. *interessement* which is a series of processes by which the first actor tries to lock the other actors into the roles that have been proposed for them, by coming between them and any alternatives;

⁴ In other words, is obdurate.

3. *enrolment* which are a set of strategies the first actor uses to seek to define and interrelate the various roles s/he/it had allocated to others, rendering in the process the other actors passive; and,
4. *mobilisation* at which point the first actor, now become obdurate, borrows the “force of the passive agents that it has enrolled by turning itself into their spokesman and talking on their behalf” (Law, 1986, p.16).

This process of translation is not restricted to humans. Indeed, one of the most important facets of ANT (and the cause of some of the biggest critiques of the theory, as we shall see below) is that it levels the playing field, as it were, between human and non-human actors. To stress this point, ANT borrows the term “actant” from literary studies:

'Actor' in the Anglo-Saxon tradition is always a human intentional individual actor and is most often contrasted with mere 'behavior'. An 'actor' in ANT is a semiotic definition – an actant – that is, something that acts or to which activity is granted by others. It implies no special motivation of human individual actors, nor of humans in general. An actant can literally be anything provided it is granted to be the source of an action. (Latour, 1997, ¶ 15)

Thus, as long as the actant is able to make shifts in space and time, i.e., act, it belongs here. Hierarchical reference points such as big, small, above etc. are irrelevant; rather it is the relations *between* things that are measured. In essence, this emphasis on relation, rather than position or importance, means that the potentiality of the spaces between actors/actants are recognized. For perhaps the first time, what is important is not what a thing is, but rather what it does, measured not in terms of power as it is understood in the social sense⁵, but in terms of other actions; it is a way to map not so much the fixed points where objects come together, but rather the trajectories that result: the networks, or

⁵ Although it would be erroneous to suggest, as some critics have done, that ANT does not deal with power issues; the whole process of translation is in essence an attempt by actors to enrol other actors into an actor-network in an effort to make the network stable and ultimately obdurate. However, the difference lies in the fact that the central actor may or may not be human. For instance, as we shall see, in Canso one of the central actors is the fish plant, and its continued existence draws a number of actors into its network, although through no particular intent of its own.

flows, *between* actors, including what starts them, what keeps them going, and especially, what makes them obdurate. Latour (2006) in fact prefers to call ANT a “sociology of associations” and Law (1997) a “sociology of translations.”

It is this emphasis on translation that in part makes ANT such a notoriously fluid theory, and one which many find difficult to understand. In a world where the emphasis is on stability in the face of change, the idea of a theory which could take as its motto “the only constant is change” may be seen as counterintuitive. ANT holds that to fix something is to change and diminish it irrevocably. The danger lies, as both Law (1999, 2000) and Latour (1999) note, in allowing ANT to become a meta-theory, to “lionize” it, for to do this is to fix it in place, and fixing things in place stops them from being able to realize their potential⁶. Latour (1999, p. xxx) says that in his opinion, rather than a grand theory, ANT is “a way to travel from one spot to the next”; it holds within it the spirit of Michel Serre’s *randonnée*, the idea of travelling without a definite purpose or route. Many researchers have tried to develop a method from ANT, but in the process have wound up almost rendering ANT unrecognizable from its origins. Indeed, John Law (1999) has expressed dismay that the theory, in the process of moving into the mainstream, itself has become ‘black-boxed’⁷ and that the insistence on clarity, naming

⁶ In the late 1990s, Law, Latour and Callon all pulled back from ANT, complaining that it had lost its way as mentioned above. Latour was the most outspoken of the three; in his keynote speech *On Recalling ANT*, (1997) to the conference *ANT and After*, he went so far as to say “Hopefully there is a life after ANT and, like Antony I can say I am not here to praise ANT but to bury it. Let us do it properly so that from the ashes something else can resuscitate” (§ 3). However, he recanted his position recently (see Latour, 2006) and even went so far as to apologize for making the speech. However, his (2006) book, which is an introduction to ANT, is, in my opinion, in effect a tacit acknowledgment that ANT has indeed become a meta-theory. Indeed, I would suggest that it would be difficult for a school of thought which turns the traditional worldview of the field to which it belongs upside down, not to become one. Ironically, however, Law’s comments above are correct, because once something becomes fixed, according to ANT, it loses its ‘power’.

⁷ Black-boxing is an ANT term which refers to the entities about which we are ignorant regarding the network of techniques that have brought them (and us) to the present point. Examples of black-boxes might include things as monolithic as the legal system and other institutional entities, or as small as a watch or

and rendering explicit, which goes along with any theory's development and acceptance on a wider scale, has led to the loss of the complex and heterogeneous thinking that marked the original thinking. Law says:

For here is the problem....The single on the one hand, and the plural on the other, this is the dualism that we need to try to avoid, a dualism which is written into and helps to perform vicious limits to the conditions of intellectual and practical possibility... This is something that is indeed *more than one and less than many*. Somewhere in between. Which is difficult to think because it defies the simplicities of the single – but also the corresponding simplicities of pluralism... So the thinking is difficult — no, it is not transparent — precisely because it *cannot* be summed up and reduced to a point, rendered conformable and docile. (Law, 1999, p.12)

This is in part why ANT's critics (and there are many) have often accused it of relativism. This stems, I think, from a misunderstanding of the objectives of ANT. As Latour (2006) notes, the original project was to try to mediate between the position that all science is socially constructed, and the positivist belief that facts are facts only if they can be proven empirically. Where the criticisms begin to arise is with their departure from traditional sociology to do this:

ANT is not the branch of social science that has *succeeded* in extending its methods to scientific activity and then to the rest of society, but the branch (or rather the twig) made of those who have been thoroughly shaken when trying to give a social explanation of the hard facts of science. ANT scholars are mainly defined as those who have drawn from the thirty odd years of sociology of science, a completely different conclusion than those of their best and closest colleagues. Whereas the latter have decided that social theory works *even on science*, we have concluded that, overall and in the details social theory has failed on science so *radically* that it's safe to postulate that it had *always failed* elsewhere. (Latour, 2006, p.94, italics in the original).

laptop computer. Only by deconstructing the black boxes can the researcher understand and trace the mediations that have taken place. For instance, we say that humans fly, but in reality, this is only possible through a whole series of interactions between a variety of sentient and non-sentient actants such as the pilot and the control tower, the cogs and wheels within the machinery of the aircraft itself, even if one chooses, between actants in the factory where the aircraft was built, indeed, in the development of flight itself. Thus the mediations and their results exist in all four dimensions, and all must be considered when examining black-boxes (see Latour, 1994).

Perhaps understandably, this stance has engendered some very scathing critiques (see, for instance, Bloor, 1999; Collins & Yearley, 1992; Schaffer, 1991; and Woolgar, 1991).

Less contentiously put, however, ANT switches the background and the foreground of more traditional sociological inquiry, that is, “universality or order are not the rule but the exceptions that have to be accounted for. Loci, contingencies or clusters are more like archipelagos on a sea than like lakes dotting a solid land” (Latour, 1997, ¶ 6). And so the accusation of relativism, when meant as anything goes, is inaccurate; it is more correct to say that ANT is a theory of relativity. For “Relativism is not the relativity of truth but the truth of relation” (Deleuze in Latour, 2006, p.95n).

Hand in hand with this critique goes the other major perceived problem of the non-privileging of human or even sentient actors. Again, I would suggest that this comes out of a lack of understanding of the purpose of the theory, which was, after all, in part developed to explore technology’s role in shaping the social. Perhaps the biggest problem many have with it is that the term actor refers to both human and non-human, sentient and non-sentient, entities; if we consider the congruent ideas of action, agency, and intentionality to be fundamental to any discussion of change, this seems a nonsensical stance. But as ANT points out, a great deal of change arises from contingency, and so it is necessary to look at the translation that occurs as the result of contingency. For instance, a television camera is not capable of intentionality, but its presence in a room shifts the dynamics of the interactions therein; the same could be said of a computer. It is this shift that researchers who use ANT are interested in, as well as, as noted above, why some of these dynamics become stable and others do not. And so it is a useful lens through which to explore the dynamics of cultural change. Although ANT has been called a postmodern

theory (which is tied to the accusation of relativism mentioned above) it would perhaps be more accurate to call it a poststructural one, since its aim is not to merely deconstruct, but to track the new connections, institutions, procedures and actants that attract and reconnect in forming a new social realm⁸.

ANT is one of the few (if not the only) theories that appears to consider most of the ramifications of human/technology interaction. While many of its critics focus on this “dehumanizing” aspect of ANT, it should not be dismissed simply because it places humans in the unaccustomed, and perhaps uncomfortable to some, role of just another entity found on the planet Earth. Nor should its “contrary” sociological worldview deter us from using it, simply for political reasons. Like any theory, some parts of it are more useful than others; if we honour the pledge to strip it back to its original tenets, it provides, through Callon’s process of translation, and particularly the idea of obligatory passage points, a very useful analytical framework to consider the move of ICTs into rural Nova Scotian communities. In terms of this thesis therefore, ANT is useful because of:

- its foundational question concerning how worlds and realities are performed and/or translated into being;
- as a theory, its acceptance of non-linear relational interactions which more accurately reflects the complex multi-layered interrelationships found within the concept of community;
- its focus on the actions and relationships *between* actors, both human and non-human, instead of privileging any particular actors themselves, the consequence of which, as Latour notes, is that we can learn from actors/actants without imposing on them an *a priori* definition of their world-building capacities;

⁸ Which will of course continue to shift over time. In order to use ANT as an analytical framework, it is very necessary to strictly delineate the period of time being looked at, or at least to identify an end point. In the case of this thesis, this corresponds with the coming to power of the federal Harper Conservative government.

- its focus on the consequences of these actions and interrelationships, which allows the researcher to see (occasionally unexpected) links between traditional culture and technical innovation;
- its theoretical dynamism, which allows for the constant change and contingency found in real world situations as new translations and interactions are being formed; and finally,
- its rendering equivalent of micro and macro sites of investigation, which allows the researcher to move away from focussing only on issues of power imbalances (although these are important, they are still represent only one type of actor interaction, and indeed, are only one part of assessing of cultural change).

Thus, this thesis uses ANT, informed by elements of the other theoretical paradigms discussed above, as its theoretical base.

Diffusion of Innovation / Diffusion of Technology Theory

Although ANT will provide the framework within which the case studies will be explored, there is a final important strand of theory which complements ANT in this research: the diffusion of innovation. This body of thought looks at how technologies enter into society and are taken up by humans. Building upon the work of earlier theorists (e.g., Tarde, 1903; Ryan & Gross, 1943) as well as from rural sociology theory, Everett Rogers has created what is considered by many to be the seminal model for the adoption and diffusion of innovation. He defines diffusion as “the process by which an innovation is communicated through certain channels over time among members of a social system” (1995, p.5). He sees the process of diffusion as taking place through participatory two-way communication and identifies four elements therein:

1. *the innovation itself*: an idea, practice(s) or object(s) that is perceived as new by individuals or group of adopters;

2. *communication channels*: the means by which innovations move from individual to individual or group to group;
3. *time*: the non-spatial interval through which the diffusion events occur. These events include the innovation-decision process, the relative span of time for the individual or group to adopt the innovation and the innovation's rate of adoption in a system; and
4. *a social system*: a set of interrelated units that are engaged in joint problem solving activities to accomplish a goal or goals. (Rogers, 1995)

Rogers further develops the concept of innovation by identifying some of the important characteristics of innovations as perceived by individuals:

1. *relative advantage*: the degree in which an advantage is perceived as better than the idea it supersedes;
2. *compatibility*: the degree to which an innovation is perceived as being consistent with the existing values, past experiences and needs of potential adopters;
3. *complexity*: the degree to which an innovation is perceived as difficult to understand and use;
4. *trialability*: the degree to which an innovation may be experimented with on a limited basis; and
5. *observability*: the degree to which the results of an innovation are viable to others, i.e., the easier it is for individuals to see the results of an innovation, the more likely they are to adopt it. (Rogers, 1995, pp.15-16)

He also stresses that there is a difference between the diffusion process, which he identifies as concerning cultures and/or societies as a whole, and the adoption process, which relates specifically to the individual⁹. I would argue however, that his idea of adoption could also apply on an organizational level, since, although made up of individuals, in the final analysis, an organization can be considered a single entity. Just as an individual receives input from a number of sources in the process of deciding whether

⁹ For instance, an individual might adopt a specific technology such as a wireless mouse. But if the wireless mouse does not become used by many people throughout society, then diffusion can not be said to have occurred.

or not to adopt an innovation, so too does an organization before arriving at a final policy regarding a given innovation. This can be borne out when we consider the five steps in the adoption process identified by Rogers (1995): 1) knowledge (awareness); 2) persuasion (interest); 3) decision (evaluation); 4) implementation (trial); and 5) confirmation (adoption or refusal to adopt). These are, of course, the same steps that an organization goes through when deciding whether or not to adopt, for instance, a given technology such as computers, or a software package.

Of particular use to this research however, and the part of Rogers' thought that best meshes with ANT, is his approach to finding out the rate of adoption. He suggests that there are five variables which affect the adoption rate of any innovation:

An important part of ANT's usefulness lies in its attention to *how* actors/actants become immutable, which is determined through the process of deconstruction. Because Roger's model is about a dynamic process (i.e., the *rate* of adoption, which implies movement), it will also be helpful applied in a broader sense to break down the "black box" of the adoption process of ICTs into rural communities. Too often the uptake of technology into

a community appears as somewhat of a knee-jerk reaction to what is perceived to be innovation, regardless as to whether or not it is actually going to be of benefit in terms of development.

ANT and Community-Based Collaborative Research

While ANT is highly useful for analysis of data in terms of human/technology interaction, as discussed above, it does not hold within it any particular method through which to gather that data. This leaves a great deal of choice for the researcher in terms of conducting fieldwork; my choice was to approach the Coastal Communities Network (CCN) and seek to create with them a community-based collaborative ethnography concerning CED organizations' members uses of, and relationships to, ICTs. This might seem at first glance an odd choice since ethnographic, and particularly collaborative, research highly privileges the human participants and ANT most emphatically does not. But my reasoning for so doing is as follows.

I have a personal bent towards community-based collaborative research, in the interests of developing "really useful knowledge." Savan and Sider (2003) define community-based research (CBR) as "...a range of research approaches that link community members and external researchers in investigations that promote progressive social change as well as deeper understanding of specific issues important to communities....[It] aims not merely to advance understanding, but also to ensure that knowledge contributes to making a concrete and constructive difference in the world" (pp.303 – 304). As such, this form of research places the researcher within the context of the actors being studied. It is particularly appropriate for use with ANT, in part because it acknowledges the dynamic that invariably arises from the presence of the researcher

among the researched; in effect, the researcher becomes another actor in the network (Barnsley & Ellis, 1992; Park, 1997; Selener, 1997). In ANT, as in CBR, the actors/actants studied have their own voice; as Latour (2006) points out, researchers in the ANT tradition must study *up*, that is, the “reactions of those being studied cannot be ignored.... The truths to be explained are equally valued by those who study and by those who are studied as the only treasure on earth worth fight for” (pp.98-99). CBR concentrates, in effect, on the praxis, which we might also call translation, which may develop from the research in question; at the same time the ontology of ANT does not allow for the privileging of either the human or technological side of the equation. Therefore, this combination allows a clearer view of the role of ICTs within these communities.

On the other hand, true collaborative research includes collaboration in the research design. However, as Goldstein (2000) notes,

I designed this study to be collaborative both in order to keep the conceptual and methodological aspects of the project in alignment, and in an effort to live up to some vague and implicit standard of caring research behaviour....this study was my dissertation, and thus had to be my own original work, conceptualized, designed, and executed in a way that would demonstrate my competence as a researcher. Given these parameters it would have been impossible for this project to have been fully collaborative. (p.519)

In my preliminary discussions with the executive director of the CCN, we discussed her involvement with the research design process, and indeed the research overall. While very interested in the results of the research, because she felt she could use it to support her attempts to get funding for improved computer technology for the organization and its member communities, she was only marginally interested in taking on an active collaborative role. This was due, in large measure, to being overburdened with work. She

did help identify the appropriate CCN board members to be interviewed as well as the four community case study sites and provided contact information; however, as in Goldstein's case, to suggest that the project design was truly collaborative would be erroneous. One might more accurately call the resulting data collection ethnographic using key informants, which shifted the tenor of the research design and data collection towards an academic bent rather than a community-based one. Ultimately, the findings will still be of use to the communities studied, but are perhaps more theoretical than practical, as shall be seen in upcoming chapters.

The Fieldwork

The data for the case study portion of this research is drawn from the results of fieldwork conducted between September 2004 and May 2005, involving the current members (and one past member) of the CCN board as well as of the CED organizations of the four case study communities. The data consists of 37 in-depth semi-structured ethnographic key informant interviews lasting on average 45 minutes; of these, 32 were one-on-one interviews, while in one instance three individuals were interviewed together at their request, and in another, due to time constraints on their part two individuals were interviewed together. The breakdown between informants/case study sites was: CCN – 9 (4 female / 5 male); Upper Stewiacke – 10 (7 female / 3 male); Canso – 6 (1 female / 5 male); Isle Madame – 6 (2 female / 4 male); and the WVDA – 6 (3 female / 3 male). The larger numbers for the CCN and Upper Stewiacke occurred because in both cases, individuals were interviewed who were not official members of the organizations, but who had been identified as key by other informants.

In general the demographic breakdown of the participants was varied. 43 of the 45

were Caucasian, and two were of First Nations. Of the 43, the majority were of Anglo-Saxon origin, and six were Acadian. Given that this research dealt with rural communities, this is not surprising, since in general, at least in Atlantic Canada, there is still a certain homogeneity within these communities (although this is beginning to change). All but six were born in Nova Scotia; four of the six were from other parts of Canada, one was from England and one was American. Participants ranged in age from early 20s to early 80s, and were spread fairly evenly within this range. All of the participants would be considered to be economically middle class; however, their occupations ranged from self-employed (farmers, fishers, tourism operators) to professional (lawyers, accountants, medical professions, administrators, academics, teachers, librarians) to clerical (secretaries). Two were stay-at-home mothers, and two were retired, one from nursing, and one from the military. Nine were directly employed by the community development organizations (WVDA, DIMA, CCN), and the others were volunteers.

In addition to the interviews, a document review was carried out to get a sense of the culture of the organizations prior to ICTs being introduced. These documents were for the most part board meeting minutes, as well as the "official histories" of the four case study communities and the CCN. This review was supplemented by an analysis of each community's web site, as well as that of the CCN. Finally, photos were taken of the spaces where the CED organizations located their technology, e.g., offices, homes, etc.

The objective of the fieldwork was threefold: 1) to gather data concerning the way the case study CD organizations carried out their work prior to the introduction of ICTs such as the internet and e-mail, as well as tracing the adoption and integration of ICTs

into the organization¹⁰ (i.e., a historical perspective); 2) to gather data about how the participants themselves view ICTs both in their own lives in general and more specifically in their CD work (i.e., a cultural perspective); and 3) to take a “snapshot” of the current use of ICTs in these organizations and in the community at large (a current communal perspective), which also includes the website analysis and the photos of the placement of the technology within the physical location where the CD work is conducted i.e., office, home, CAP site etc. Through a qualitative analysis of the data covering these three areas, it is possible to gain an understanding of the complex social, organizational and technological networks that exist, and have existed, within the case study organizations as well as in their constituent communities.

The informant interviews that were conducted for this research, although not strictly ethnographic in that they did not take place during the process of participant observation, nevertheless bear a number of similarities to ethnography, as Lindlof (1995) points out. Similar to the interviews he describes, these were centred upon building a relationship with the participants and as is characteristic of semi-structured interviews, were often improvisational. As he also notes however, “Whereas ethnographic interviews are tied to concrete situations, informant interviews range more widely and go more deeply into the person’s experiences” (1995, p.171). The interviews were conducted with key informants; in the five case study sites, virtually all official members of the CD organizations were interviewed. In two cases, past members were identified as significant by other participants, and were also included. In the case of Upper Stewiacke, one individual was interviewed who was not a formal CD organization member, but who was

¹⁰ All of the case study CD organizations came into existence following the advent of earlier ICTs such as fax machines, and of course, the telephone.

identified by other participants as having had an important role to play in the situating of the CAP site in the community. All but one of the CCN board members were also interviewed; the one individual declined an interview due to illness. An individual was also interviewed who was no longer on the CCN board but who had been one of the organization's founders.

The data gathered during the fieldwork will be viewed through an ANT lens in the next three chapters; however, before being able to do so it was first necessary to mine the data for emergent themes and connections, and to choose a method of so doing which would lend itself to a subsequent broader ANT analysis. To this end, ethnographic content analysis (ECA) was used to analyze the interview transcripts, CD organizational documents and photographs.

ECA is an approach first developed by David Altheide in 1985 to adapt quantitative content analysis to ethnographic inquiry. Very generally, ethnography "refers to the description of people and their culture" (Altheide, 1985, p.66). Altheide developed ECA for a study he conducted concerning format and ideology in TV news coverage of the taking of US hostages in Iran in 1979. He initially conducted a quantitative content analysis of the first nine days of the 14 months of news coverage of the event, but found that too many important thematic patterns were being lost because of the format of television news, i.e., coverage of the event was in groups of days spread over the 14 month period, with a concentration of coverage on a particular theme over a number of days or at a particular time of the year (e.g., coverage of the hostages' families around Christmas). Therefore, he showed that conducting content analysis *reflexively* instead of statically, as is usually the case with content analysis, would allow for emergent themes,

as well as providing good descriptive information. This more qualitative version of content analysis is very similar to analysis using grounded theory; as Denzin and Lincoln (1994) point out, such analysis builds on the idea that “working up from the data is often presented as what qualitative research is really all about” (p. xx)

Thus, ECA allows the researcher to

document and understand the communication of meaning as well as to verify theoretical relationships. Its distinctive characteristic is the reflexive and highly interactive nature of the investigator, concepts, data collection and analysis. Unlike [quantitative content analysis] in which the protocol is the instrument, in ECA the investigator is continually central.... ECA consists of reflexive movement between concept development, sampling, data collection, data coding, data analysis and interpretation. The aim is to be systematic and analytic, but not rigid. Although categories and “variables” initially guide the study, others are allowed and expected to emerge throughout the study. Thus, ECA is embedded in *constant discovery* and *constant comparison* of relevant situations, settings, styles, images, meanings and nuances. (Altheide, 1987, p.68, italics in original)

The emphasis on the emergent and interactive, as well as the position of the researcher to the data, makes ECA a good fit with the larger analytical process of ANT. For while there are other emerging forms of data analysis geared particularly to the adoption of ICTs into organizations (see, for example, Pauleen & Yoong, 2004, and Wilkins, Swatman & Castleman, 2004), these methods again tend to privilege humans over technology, and are for the most part geared towards analysis of the use of specific hardware and software features instead of the broader question of cultural change.

Although the findings will be discussed in detail in the next three chapters, it may be helpful to the broader discussion of ANT analysis to briefly note the main themes that emerged from the ECA analysis. Only those that apply to all the case study sites are

noted here; themes specific to each case study site will be discussed in the chapter dealing with that site:

- the importance of the community access program to the diffusion of ICTs into rural communities
- the falling away of older members of the CD organizations as ICTs are increasingly used for intra-organizational communication
- the importance of various buildings as sites of negotiation in each community
- the website as virtual portal into the community, especially for those who have moved away

Although the ECA analysis of the data provided rich findings, not all of these themes fit into the ANT mould. For instance, although the fish plant in Canso may be said to be the inscription¹¹ for an entire way of life, as Latour (2006) says, in order to be considered as a true ANT actor, it cannot be “simply the hapless bearers of symbolic projection” (p.10). Thus, if we consider the above themes, it is necessary to see if there is indeed a fit with the case study findings and ANT. Latour (2006, pp.10-11) suggests that there are three tests to determine if a study truly fits the ANT mould: 1) the precise role granted to non-humans, and the nature of agency that they hold (i.e., more open that traditional natural causality, but not a more symbolic ‘human’ agency); 2) whether or not a hidden social force is credited with any change that occurs (keeping in mind that ANT is a theory of constant change, thus the social cannot stay stable implicitly or explicitly); and 3) connected to this, whether or not the social is reassembled, or left in a deconstructed form.

¹¹ In the ANT sense, an inscription is an embodiment, or representative icon. Thus the fish plant is the icon for the entire fishery, both in terms of traditional employment and the conflicts in recent years.

So does the field research for this thesis pass these tests? The answer, of course, depends on the type of analysis one uses to explore the findings, which in turn is defined by the question one is trying to answer. Since the question in this research involves the interrelations between human and non-human actors, an argument can certainly be made that it is possible to consider the case study communities through the ANT lens:

1) There are any number of non-human actors in these case studies which, although certainly not having agency in the human sense, nonetheless “act” i.e., are “granted to be the source of an action” (Latour, 1997, ¶ 15). As we will see, schools, fish plants, ICTs, CAP sites, government policy, and of course, humans, all play a role in the formation and translation of the networks that will be discussed in chapters 5, 6, and 7.

2) The arrival of ICTs into each of the case study networks radically changes the existing form of the social sphere; while one could perhaps argue that there are hidden social forces at work (e.g., global capitalism, consumerism, and/or all the tacit implications associated with the concept of “community”), at the same time each of these things is contested, and changed, through the enrolment of ICTs into the CD organization.

3) Following on this, as will be seen, at the end of the fieldwork period each of the case study communities networks was reassembled to a greater or lesser extent through the enrolment of ICTs. The social is destabilized, contested, and ultimately reassembled.

Thus the field research results appear to fit Latour’s criteria to be used for an ANT analysis.

The Case Studies in Context

Although, as noted above, there are many variations on the ANT theme, I suggest that its earliest articulations in the work of John Law, Bruno Latour, and Michel Callon speak the most clearly to the reader when looking at the changes that may result from the interaction between technology and culture. Thus, Callon's (1986) process of translation as noted above, developed through his discussion of the domestication of the scallops and fishers of St. Brieuc Bay, will form the analytical framework in the following chapters for the discussion of the coming together of ICTs and rural community development organizations in Nova Scotia, and the translations that result. It must be noted that although Callon's process is laid out in a fairly straightforward format, in actuality, the process of translation is a messy one, with actors simultaneously negotiating in a variety of directions, and phases overlapping back and forth. However, in the interests of presenting the findings of the field research in an easy-to-understand format for the reader, as much as possible the four-step process will be adhered to.

The results of the fieldwork data analysis will be told within a narrative framework, following upon Law's idea of performing ANT when using it as an analytical tool.

Sometimes...I am asked to speak for actor-network theory. To tell about it. To sum it up. To offer a verdict. When this happens I feel uncomfortable. For the request poses a problem. The problem of what it is to be a "faithful representative." And in particular with what it might mean to "represent" a theory that talks of representation in terms of translation. Which seeks to undermine the very idea that there might be such a thing as fidelity....

Perhaps there is no good answer. Or perhaps, on the contrary, there are many. But here is one possibility. That one might represent actor-network theory by performing it rather than summarising it. By exploring a small number of case studies rather than seeking to uncover its "fundamental rules." By telling of examples, representatives of actor-

network theory, that are *both* faithful and unfaithful. By stressing that *traduction* is also *trahison*. To do this one would need to tell stories, stories about noise. (Law, 1997, ¶2-4, emphasis in the original)

Therefore these next three chapters will follow Law's example, and tell the stories of the noises made within the Coastal Communities Network (CCN) and four of its member community development organizations and communities before, during and after the arrival of ICTs. It will do so by positioning them as actor-networks in order to understand best not just the human forces that are determining their path, but also how human and non-human actors affect one another in the search for stability within the network.

Specifically, chapter 5 will look at Upper Stewiacke, exploring how ICTs became the organizing feature around which the community development actor-network became stable. Chapter 6 will compare the similar development trajectories of Isle Madame and Canso, both facing economic devastation in the early 1990s, and consider the increasingly central and stabilizing role that ICTs have come to play in their development initiatives. Finally, chapter 7 compares the two large community development networks of the Western Valley Development Agency, whose emphasis on ICTs resulted in its eventual demise, and the Coast Communities Network, which took a very different approach to the enrolment of ICTs into its actor-network.

Chapter 5

Community Development Organizations and Technology as Actor-Networks I: ICTs in a Traditional Actor-Network - Upper Stewiacke

The point of appropriate technology is that it results from a synthesis of local knowledge and modern technical knowledge, not the mere adaptation of something designed for a different social and economic context.

David R. Newman

Technology is a tool, it's an opportunity, and it still remains so. But at the grass roots level it's not about technology. It's about people and turning them on.

Research Participant

As noted in the previous chapter, each of the following five case studies discussing the field research that was done for this thesis will be described in terms of the translation process described by Callon (1986), and told through John Law's (1997) concept of narrative performativity.

The first of these "stories" then is that of a very small rural community in central Nova Scotia. In some ways, it is a story that is very common to rural communities in much of North America: what were once obdurate stabilizing nodes in the communal actor-network, such as traditional places of employment and community institutions, have been translated into a different configuration or else have become unstable or disappeared altogether. Ultimately, the main question, or *problematization*, to use Callon's (1986) term, in this community is the same as in many others: how can the community be made sustainable in order to ensure its continuing existence? Although, as we shall see, in this particular story there are many actors involved, in a very profound way, this translation was strongly fostered by the attempts to introduce ICTs in the form of a CAP site into the community.

However, before this can happen, first it is necessary to identify the existing actors within the Upper Stewiacke actor-network as well as to explain its shape at the

point in which the new actors who instigated the translation in the network arrived in the village.

Village of Upper Stewiacke, NS (USCDA Website)

Upper Stewiacke As Traditional Rural Actor-Networks

The village of Upper Stewiacke, population 945, is located in a remote and relatively unpopulated area of central Nova Scotia. It is approximately 45 minutes to Truro, and an hour to Halifax¹. Upper Stewiacke was first settled in 1783. Over the next 150 years, it grew into a thriving agricultural and lumber processing community; the main employer in the community (apart from farming) was the local lumber mill. It operated continuously from the 1870s until 1968, when it was shut down. A greatly scaled back operation reopened in 1977, but with its closure in the late 1990s, about 100

¹ It must be understood by those unfamiliar with Nova Scotian culture, that remoteness in this part of the world is not measured in terms of geographical distance from larger communities, but rather in far more intangible ways. An hour from Halifax may not seem like much to someone living in Toronto whose morning commute between one part of the city and another is at least that long. To someone in Nova Scotia however, the hour quite literally represents a shift from one world to another, between two totally different mindsets. It is a shift from rural simplicity to complicated urbanity, from a place where time moves almost literally at a different, slower pace to one where time runs away with the day. It is a difficult concept to articulate to anyone who has not experienced it; it is also the reason why many urbanites choose to relocate to the country, perhaps in an attempt to return to an era when time was a servant, not a slave driver.

members of the community found employment with the MacTara Mill in Upper Musquodoboit, approximately 25 kilometres away. MacTara is the largest mill in the province, and one of the largest in the Atlantic region. However, as in much of the lumber industry in Canada, the ongoing softwood lumber dispute between Canada and the US has rendered this mill's future somewhat shaky, and it has become increasingly dependent on government funding to remain open. While the spectre of the mill closure hangs over Upper Stewiacke, in general it is not spoken about, and indeed, to bring up the subject is somewhat of a social faux pas. Yet it is very definitely the elephant in the room. Until very recently, however, little has been done to begin to put contingency plans into place for alternate means of employment in the community.

As with many other rural communities, because of the uncertain prospects for employment, and with the decline in the number of family farms², there has been a problem with youth outmigration. Although there have been numerous attempts by the area's school board over the last 30 years to close the Upper Stewiacke school, children are still able to attend elementary school in the community. However, they are bussed 25 kilometres to the regional junior high/high school in Brookfield for grades 7 – 12. Any after school activities, or involvement in organized sports also requires leaving the community. Indeed, there is very little in the village for young people to do. Part of the problem is a change in school policy in recent years. For decades, the school was in essence the community centre, where local groups held meetings outside of school hours, where community dances were held, and where the community school (the local term for continuing education) held classes in the evenings. In recent years however, the school

² One participant, a "come from away" (CFA) who recently bought a farm in the area, noted that at one time there were 80 farms in the area of Upper Stewiacke; today there are only 15, including his, which he is trying to maintain as a working farm with horses and cattle.

principal has either denied access to the building outside of school hours, or else has begun charging for use of the facilities, resulting in the end of the community school, and a decrease in other recreational events. This has caused quite a bit of bad feeling in the community, especially amongst those who are trying to keep the school open. As two of the research participants noted,

...it's an ongoing thing, and most of us that have been really involved, recognize that you know, once you start doing anything with the school, that will be the first step towards the school not being there...it's one of those backbones to any community, that once it goes, forget it, you're not going to have any reason for people to move there, like it will take awhile, but other places [have died] out... . You got to keep the school to get the younger families to move in, and stay there.... (Participant B3)

Rural communities are in trouble, and if you don't become more self-sufficient, and I guess independent in many ways, then you're going to get swallowed up and I think the school is a big part, having your elementary school, because that attracts the families into the community. Without it, then people are going to move out, because they don't want their children travelling 30 kilometres each way. (Participant B5)

It quickly became evident during the participant interviews that in many ways employment is inscribed in the MacTara mill, and community continuity in the school building. The external forces of the Canadian/US softwood lumber dispute and provincial school board policy are pulling strongly against these two actors; however, in a way they are also acting as a stabilizing force for the Upper Stewiacke actor-network as they fight against these strong outside networks. This is embodied in part in the effort to change this policy and to make the school back into a community hub. The CAP site was originally located in the school, but was removed after a short period because there was little opportunity for the public to gain access to the site. Recently, an agreement has been reached with the Truro library to establish a satellite branch in the building to replace the now-cancelled bookmobile service. However, like the bookmobile, the library is only

open one day every three weeks, and only during school hours. Nonetheless, it appears that for the moment, the community's efforts to keep the school open have paid off, and stable funding and improvements to the building's infrastructure are being put in place. The change in usage policy is still a contested area, however.

The United Church has also played an important role in the life of the village. Although not the only church in the area, it is the one attended by most of the village's churchgoers. However, as with most churches in North America, it has seen a decline in attendance over the last few years, especially among the young; however, those that do participate are very active both within the various church committees and the community itself. Indeed, as will be outlined below, most of the members of the Upper Stewiacke Community Development Association (USCDA) come from the various church committees. Thus, acceptance into the community might be said to be inscribed in the church building, which sits at the centre of town.

Another strong actor, although one which seems to act more as a destabilizing force upon the community actor-network is the Upper Stewiacke volunteer fire department (VFD). It has been acknowledged as one of the best in Canada, and has won a number of awards to that end. While in many rural communities, the VFD forms the hub of social activity for the community as a whole, this is not the case in Upper Stewiacke. It is very much a closed organization, and while generally proud of the VFD's reputation, this is a source of friction in the community.

I'm not really sure if the grass roots part of the fire department is really into supporting the community per se, outside of providing the fire services they do... . You know, [you] never see them ever do anything other than take care of the fire hall, dedicated fire people, but there's a little more of the community than just the fire department... . Everybody wants to be a fireman, and if nobody wants to do anything else,

community wouldn't last very long. They try to make out like they're the cohesion of the community, but they're actually a fundraising aspect. That's what they do it for. For the dances, [they] have a few dances...and those are cancelled because the community isn't really supporting them to the extent that they're making money. (Participant B3)

The fire station has a recreation room with a pool table and other games, which many community members feel should be opened up to older teens in an effort to give them somewhere to gather in the community. The VFD is adamantly opposed to doing this, although that may be because liquor is served there as well. The most recent issue to come up was the purchase of a home next door to the fire station. The VFD bought it because half of their driveway as well as their sewage system was actually on the adjoining property. However, after subdividing, they wanted to sell the house and remaining land. The community was also interested in purchasing the property for possible use as a seniors' retirement home; further, the home's large back yard slopes down to the Stewiacke River, and plans were in the works to make this into a recreation area for the village's young people. However, the only way the community could afford to buy the property was to put into place a long-term financing arrangement with the VFD; at a town meeting to discuss the situation, the fire chief refused to consider such an arrangement, and indicated that the property would be sold to the first person to show up with the asking price. Needless to say, this did not improve relations with the community development association.

At one time, Upper Stewiacke had quite a thriving downtown. However, very little of it exists today. This is somewhat of a surprise due to the remoteness of village, but that remoteness can be both a blessing and a curse, as one long-term resident noted:

See, I sometimes think our distance away from other communities is what will be our saving point, you know, that we could, I don't know, we won't

blend in so easily... . But it's amazing when you think about how many little general stores there were up here, years and years ago...and now like you have one store... it's a Co-op [grocery store]...we're slowly pulling ourselves out maybe, it's hard, because people want to buy in Truro, but we basically, we've turned into a convenience store, in a lot of ways, [it's] the only way to stay afloat. And if we didn't, then you know, we'd go under and someone else would buy us and turn it into a convenience store anyway. And it's a sin, because if everyone shopped there the prices would come down. (Participant B5)

The other major business left in the village is the local diner, which has in many ways taken over from the school as the embodiment of community. In operation for the last 16 years, it is the social meeting place in the village, since it is the only venue open to the whole community. The Stewiacke Valley is a popular drive for tourists and cyclists, and the diner is a favourite stopping place; it also houses the CAP site, which has also increased traffic somewhat.

There has been both outmigration and migration into the village, which as we shall see below has been the catalyst for a great deal of the negotiation taking place between both new and existing actors within the network. The outmigration is not just among the young, as discussed above; increasingly, due to a lack of medical or long-term care facilities and the absence of a local doctor, elders who are no longer capable of living in their own homes are forced to move to retirement homes in Brookfield or Truro, often in order to be nearer children who have moved away. This is perceived to be a serious problem by the community because both the traditional links with the past and those with the future are being severed. In some ways this is the biggest cause for the translation of the Upper Stewiacke actor-network into its current form; as has happened in much of Western society with the increasing shift away from a resource-based economy, children are forced to look away from the family farm or agribusiness for

employment, and the extended family is no longer in place to look after aging or ailing parents and grandparents. As much as anything, this is causing the “death” of rural communities.

Defining the Actors and Obligatory Passage Points

Up to a point approximately eighteen months before the fieldwork was carried out, there were six central actors in the village: the MacTara mill, the volunteer fire department, the school and its principal, the diner, outmigration, and the church. Of these, the VFD, the school and principal, the church, outmigration, and the diner fit into the definition of “actor” given in the previous chapter, i.e., “the source of an action” (Latour, 1997, ¶15). The continued existence of the mill is dependent on outside forces such as government policy, the global lumber market, trade disputes, etc.; thus it would be inaccurate to suggest that it is an actor, since it can best be described as the object of others’ actions.

The problematization for all of these actors is the continued existence of the village, because if the village disappears, so do these actors. This might be phrased as “what needs to be done to make Upper Stewiacke a sustainable community?” However, to this point, each actor has been striving to become the obligatory passage point (OPP) for the network:

1) the VFD provides vital emergency services in the Upper Stewiacke area.

Without it, the level of risk for those living there might well be too great, resulting in increased outmigration and the eventual demise of the village. This fact alone makes it an OPP. However, it also says that it provides the social cohesion in the village, holding dances and other events; its selectivity over which actors it allows into its network,

although intended to strengthen it, actually has the opposite effect, since the spurned actors such as the community development association and youth and seniors take their allegiances to other actor-networks such as the church and diner.

2) the school is in a similar position, and perhaps the biggest previous translation has occurred here: where once the school was the OPP of the entire village actor-network, with evening classes, dances and other community events, as well as the CAP site, through the actions of the current principal, it has shed many of these other actors, and withdrawn into itself. However, because without the school, the village may well disappear, it creates a case for itself as an OPP almost by default.

3) the church, although a weaker actor within the network, also maintains its position because the strongest human actors within the village are part of its network. It becomes an OPP because other actors (especially human) appear to need to pass through it to enter the central development network.

4) the diner, in its role as the inscription of true social cohesion in the village (despite the claims of the VFD), forms an OPP in two ways: a) because without a place to come together outside of the home, there is little to do in Upper Stewiacke in terms of leisure activity, and b) it is the central point at which the actors from all the existing networks discussed above can meet on “neutral” ground.

5) All of the above actors are agreed that the problematization in this instance is to keep Upper Stewiacke viable. In many ways however, these actors gain their strength through their opposition to the last of the major actors in Upper Stewiacke, outmigration. Outmigration is the one to which the problematization does not apply; indeed, in some ways it might be considered the “anti-problematization” since it has no interest in

keeping the village viable. However, it is also an OPP in that it is the catalyst for the efforts of most of the other actors; fighting outmigration of elders and youth is another problematization (“how do we keep young people and seniors in Upper Stewiacke?”) which, as we will see below, is closely related to the formation of the new USCDA network.

This then is the state of affairs in Upper Stewiacke to the point approximately eighteen months before the fieldwork was carried out: four strong actors each striving to enrol other actors to combat the fifth (outmigration) in an attempt to create one stable Upper Stewiacke actor-network. This is the phase of *interessement*, where as of yet no one actor has emerged as the strongest, although outmigration has the edge as more individuals are leaving the community than are coming in. A new actor however, is about to enter the Upper Stewiacke network, and the process of translation is about to change course.

The USCDA: Translation Through Enrolment

In 2002, the local school board tried once again to close the Upper Stewiacke school. A committee of nine community members was formed to fight the closure; one of its most active members was a retired nurse who had recently moved to the village with her daughter, son-in-law, who is a member of the navy serving in Halifax³, and grandchild. Although they had no roots in the village, both the mother and daughter were eager to get involved in village life and had a particular interest in keeping the school

³ The family had chosen Upper Stewiacke to settle in because of its beauty, and because it is within commuting distance (although a very long commute by Nova Scotian standards) to Halifax. Because the husband is often away at sea for long periods of time, however, the issue of commuting is less of a consideration than it might be for others. As a family they chose the village because they wanted to raise their child in a safe, rural environment.

open. Thus attempts were made to find other uses for the school building, in effect to strengthen the concept of the school as the inscription of community. For instance, the community had been trying to set up a CAP site, working with the Truro library system and Colchester Regional Development Agency (CoRDA), but, as will be discussed below, it was not until this particular actor became active within the network that the idea moved forward. The CAP site was set up in the school in the spring of 2003. At the same time, this actor began to move into other parts of the community network. To her amazement, despite the village's small population base, there were 32 separate community groups to choose from, covering everything from gardening to quilting. To her further amazement, although inevitably there was crossover in membership between these groups, there was little or no interaction between them. They were, in effect, small isolated actor-networks with the larger community network.

I think one of our concerns was that why groups, why there was no overlapping and dipping into one another's areas to help one another, they had lost awareness of what they were doing. They had just got out of touch and I think that they were reintroduced to one another and I think there was a new appreciation and a new, just an increased awareness of the other groups and that's what we wanted to capitalize on.... We've got to maintain that overlap. Overlap can be a very powerful thing. (Participant B8)

Traditionally, this lack of intercommunication between actors is an unusual thing in a rural community, where the social networks tend to be both quite broad and deep. One has to wonder whether or not the newcomers' existing preconceptions of rural life as a series of tightly intertwined social networks led to their attempts to reconfigure the village's social structure from a series of silos to a more broadly-based rhizomatic (and one could argue more traditional in form) network. At the very least, these new actors

coming into the network served as a spotlight which enabled the established actors to view the existing social structure in a new light.

I think what it was was the new people coming in and...people weren't realizing what a treasure they had in their community. They see it being appreciated by other people and then by themselves when they went to the exposition; they were like visitors to the community really, like visitors to the community. They had no idea of many of the little caches and little niches here and there and the variable talents...even long term residents were absolutely amazed at how many variant talents and little mini businesses actually exist in the community. It's virtually self-sufficient, save it doesn't have a hospital or the clinics. (Participant B8)

The nine member group that had been instrumental in getting the CAP site for the village had begun to coalesce into a de facto community development organization. Thus a strong central actor was emerging, which quickly moved into a new phase of intersement as it began to negotiate enrolment with other community actors. The CAP group, again led by this particular individual, felt that another potential use for the school would be to organize an exposition to which all of these village organizations as well as local business would be invited to exhibit. While there had been attempts in the past for members of the community to come together to organize community events, in each case, the group fell apart after the even took place. Indeed, this most recent actor-network had some initial difficulty negotiating with other actors because of a certain degree of cynicism by many in the community: "I don't detect the same degree of isolation, but I still do detect a certain amount of cynicism about whether or not it will be successful. That was the thing that we noticed at the first group, the degree of cynicism, well they tried that before and it didn't work so just being dismissive" (Participant B8). The expo, held in April, 2004, was a great success, with 73 exhibitors and over 500 visitors.

Thus, the community development actor-network, pushed along in large measure by the driving energy of the retired nurse CFA, established itself, through the problematization of the village expo (“how can we showcase all the positive things going on in Upper Stewiacke?”) as the OPP within the community. Although not successful in enrolling the school or the VFD during the process of *interessement*, nonetheless it enrolled enough other actors in the village, including most importantly the diner, that this did not matter.

The Expo committee, as it was known, sought further stability by inscribing the network in a series of bylaws and governing structure; it was incorporated as the Upper Stewiacke Community Development Association (USCDA) in December, 2004. Its mission statement says that its aim “is to respect our community’s heritage and rural aspect while promoting new ideas and partnerships within the community that would enhance the quality of life of our residents” (USCDA First Annual General Meeting Report, 2005, p.1). What is interesting about this statement is that unlike other similar documents in other rural Nova Scotian communities, it does not directly specify economic development, but rather concentrates on the development of the far more intangible concept of quality of life. From a network perspective, this seems to lay the groundwork for problematization on a much broader scale than the strictly economic, thus encouraging the development of actors within the network which have little or nothing to do with the economic realm. This is somewhat unique in community development in Nova Scotia, because, as we shall see in our discussions of the other case study sites, the emphasis is usually on bringing employment to communities, occasionally to the detriment of other aspects of the local culture. Of course, it also

reflects the reality that over the last decade or so Upper Stewiacke has become in some ways a so-called bedroom community from which most people commute to Halifax, Truro or Upper Musquodoboit for employment, but come back to the village to enjoy much of their leisure time. This is also changing the culture of the community, but even among longterm residents this is coming to be accepted as a positive change in that it is allowing the community actor-network not just to survive, but to stabilize.

I think our community is an old community, and you have your families that have always been here for years and years, but that was starting to change, and as becoming [a] more, more transient community maybe, and then we had new people coming in that...thought this place was beautiful, and they wanted to become involved, and then we have people who have lived here all their lives...as well, and we see each other, see things so differently, which is great. It's like because there's a new respect there, that sometimes respect can in a way, make you look at it in a different way, and sometimes we show them, well, the old ways and their use... I was a little sad to see change, but then once I became involved in this, it's I think, exciting, because that's growth really. (Participant B5)

Perhaps the most unique aspect of the USCDA actor-network however, is its success in enrolling and mobilizing both new actors (CFAs who have lived in village for four years or less), and old actors (those whose roots in that place extend back generations within the village); membership of the USCDA board is split almost equally between these two groups. One actor lies somewhere in between: she moved there as a war bride in 1947. In the way of rural culture, she is still considered a CFA by some in the community, despite having lived in the village for almost 60 years. The other four members of the committee were born and grew up in the village or on farms around it. This compatible mix of old and new is rare in rural culture, where new actors are generally regarded with caution, if not outright suspicion, by traditional actors within the community network. Culturally, this goes back to the early days of settlement when a

stranger coming into an isolated farmstead may or may not have been a threat. Change was something to be considered carefully. Today, this has translated into a wariness of new actors who are often seen as coming into the network in order to take it over, despite having little understanding of how it is constructed, as discussed in chapter 2. One of the old actors summed it up by saying:

I think one of the things that's worked really well in that respect, is it's been initiated per se by the new people, but they haven't tried to take over. Usually what happens, is people come in, and they have their own ideas about the way they want to go, they try to implement those ideas and take over organizations and everything like that. They have not done that. They have wanted to start something that everybody gets involved in, you know, and they talked to me, right off from the start, see that was one of the things, when you get lots of people there, new and old. So I think that the very root of the whole thing, the very key is they came into work with the community, not to try to replace the community, and replace everything else... (Participant B3)

Another relatively new actor suggested that it had to do with building trust:

There is a resentment, and I was a come from away. I mean 33 years I've been in the community, but it took a long time to, it's almost like you have to prove yourself and there's certain dynamic there that you have to be astute as to how you come into a community and do things. And I think... [Participant B8] is a good example of someone who's doing it right, you know, she just didn't come in with the bulldozer approach, you know, you go to church, you're a doer, you help in the garden club, you do all these things, right, and people start to trust you, you know, and become more open, but there's a certain technique that you have to use when you go into any rural community You're the new kid on the block and you have to recognize that. (Participant B6)

This slow and careful infiltration of the network by the newcomers has caused the enrolment and mobilization of existing actors into the community development actor-network through the development of trust. Many of the younger people who were born and brought up in the village actors are much more interested in becoming more involved in the community:

I've seen some rise up and fall down again, there wasn't as much participation. It seems like the new blood that came with a lot of outsiders moving in here, it's kind of breathed new life into the community and a lot of the younger generation that's here now are participating with these newer people which we never had before. It's totally opposite to what it used to be. Everybody I find just loves the new people that are coming in here now. We had a different group of new people come in say 15 or 20 years ago and they were mostly hunters and so on and just ignorant hunters and the people that are moving in now are moving in as a retirement place or a place to raise new families... . A lot of us who are getting into this group, we've all gone to school together. So it's sort of a new group of the old people in the town. (Participant B10).

In an attempt to foster this sense of growth and positive change, in effect, to begin the phase of *interessement*, the first thing that the USCDA did following incorporation was to hold a series of three town meeting/focus groups in an effort to determine the top six priorities that the population as a whole felt needed to be addressed within the community. Interestingly, the first priority was economic development. Although this might suggest some tension between the stated aims of the USCDA and the community itself, the USCDA has already put into place such initiatives as the development of a farmers' market; as noted in chapter 2, history has shown that such small scale, locally generated efforts are far more likely to succeed as economic generators over the long term than other larger scale, top down initiatives. The remaining five priorities were identified as: 2) seniors' and health issues (setting up some form of longterm care facility as well as attracting a doctor into the community); 3) recreation and culture (creating activities for the youth of the village, as well as developing local tourism and historical sites, particularly the local museum); 4) retaining the local school; 5) intergroup communication; and 6) longterm planning and employment opportunities. A series of committees were struck which were each given one priority to work on; the current work of the USCDA revolves around the findings of these six committees.

If one were to try to show the change in the Upper Stewiacke actor-network during this process of translation and consultation, it might look something like this:

The USCDA and ICTs: Enrolling a Strong Ally

In discussions with the research participants, they showed a tacit understanding that priority number 5 above, i.e., maintaining and building good communication systems, is the underlying component for all of the other priorities. As noted above, they stressed that it was the lack of communication between different groups of longterm actors within the village which had contributed to a destabilization of the community actor-network prior to the expo. And while emphasizing the importance of face-to-face communication, all participants acknowledged the enrolment of ICTs into the network as an increasingly strong stabilizer especially in terms of communication and information dissemination.

Although the day to day usage of ICTs by the USCDA and other residents of the village is very similar to that found in most places in Canada (i.e., e-mails and searching the web), nonetheless it would not be going too far to say that ICTs have had a profound effect on the stability and move towards obduracy of the Upper Stewiacke actor-network. As we saw above, the series of negotiations which led to the formation and strengthening of the USCDA into the OPP was begun by the attempts to gain access to ICTs, inscribed in the CAP site. Thus, the specific actor which became the initiating change agent for the reconfiguring of the community development network was the CAP site.

The CAP site, even though consisting only of a computer terminal, monitor, and a printer, was representative of much more than simply access to high speed connectivity and another way of strengthening the school's place within the community network, although these are both important roles that it took on. It would not be going too far to say that to the USCDA actor-network, the CAP site holds within it the inscription of a positive technological future.

I think what it did was, it changed the community's perception of who they were. When they saw something come like a CAP site and something zippy about it and with it and yet it's not in your face, it's not a big-time building or something... [T]here are a lot of things that are very sacred to the community historically and emotionally and all the rest of it. But that was a good step into the future that was easy to take... I think it made us see possibilities. And it's not just the physical presence of the CAP site, it was the people we met through the CAP site. (Participant B8).

Like the CFA actors who deftly negotiated their enrolment into the Upper Stewiacke network, translating it into something stronger in the process, so too did the CAP site; in its unthreatening guise, it engaged in a series of negotiations as it, and in the process ICTs, became enrolled into the community network. Initially placed in the school, which is located at the edge of the village, it had little visibility⁴. This was exacerbated by the school's restrictive access policy. An official grand opening ceremony was held as part of the expo, with the local member of parliament cutting the ribbon, but even that did little to raise awareness in the community. In June of 2004, "the principal wouldn't grant access to the school during the summer and so there was no CAP site. It was in my closet, it wasn't allowed to be in the school. I had to take it out and bring it home...."

(Participant B8). The committee cast around for an alternate site, but the fire department,

⁴It did however, have access to high speed through EdNet, the province's internet provider in the school. When the site was moved to the diner, it reverted to dial-up. However, just as the fieldwork was being completed, a high speed connection in the diner was obtained through the Colchester RDA (CoRDA). Today, it is still the only access to high speed access connectivity within the community.

the co-op store, and the local museum all turned them down. Then they approached the owner of the village diner, who agreed to let it be set up in one of her back booths for the summer months. This worked out so well that it has remained there.

Upper Stewiacke CAP site

Because the diner is the social hub of the community, the visibility of the site increased dramatically, and it was in this location that it became a strong actor within the community actor-network, translating the network in the process. As one participant noted, “it didn’t really work until it was in the path of their day to day activities” (Participant B9). In a way, it became the OPP for actors to reach the information age. Placing the CAP site in the diner also solved the problem of finding volunteers to staff the site, because the diner owner and her daughter are around at all times and are happy to help any users needing it. Thus, while usage traffic is not high, it is steady, and is a drawing card for tourists passing by. Most village residents have computers in their home, but often come to use the CAP site if they have technical problems or have a

particular need for high speed. Plans are currently in the works through CoRDA to extend the highspeed connection across the road to the church hall, and to bring in more computers in order to set up job skills classes for local residents.

While the concept of ICTs can be said to be inscribed within the CAP site, it is by no means its only presence within the USCDA actor-network. There are ongoing negotiations and translations of the network through the USCDA's day-to-day use of these technologies. All but one of the development organization's members are regular users of such things as e-mail and surfing the web. Further, age is a very definite factor in members' computer usage; the oldest member, now in her eighties, refuses to have anything to do with computers, because she feels that the temptation to do nothing but surf the web would be too strong: "I'm a very active person and when I get interested in something, I get hooked on it, and I do not want to get hooked on a computer, because I know I would be sitting at it all day...I like to sew, and I like to hook, and I like to do lots of things, I like to go out to meetings, and I feel if I had a computer, it would anchor me to the house" (Participant B4). She also admits to a fear of the technology itself. The member next in age, who is currently in her 60s, actually says that she uses computers less now than she did two years ago. Her brother gave her a computer as a gift in 1998; prior to that she had never used one. Her main use of it was for e-mailing, and for surfing the web a little. But she no longer even does that: "I find it very disappointing. I find that it's a lot of time and a lot of work to get a small amount of information." The father of one of the other participants echoes this sentiment; he suggests that "it's like looking through a keyhole" (Participant B5).

These feelings are directly related to the limitations of dialup connectivity, which, despite promises to the contrary by both federal and provincial levels of government, as discussed in chapter 2, is all that currently is available to residents of much of rural Nova Scotia. And to be sure, among younger members of the USCDA, there is a definite feeling that as frustrating as dial up is because of its slow speed, it is better than nothing. The extent of the infiltration of ICTs into USCDA members' lives and work however, does seem to be dependent on their previous computer training and use. Two individuals, both of whom have used computers in one form or another for the last 15 years for work, currently operate home-based businesses whose main presence is their website. Another individual, who used computers while pursuing her university degree, is an enthusiastic participant in e-business, buying from as far afield as Ireland. When asked how she deals with the slow download speed on her computer, she replied "I just do it and go. I multitask" (Participant B5). She has located her computer in her kitchen, pictured below; as a stay-at-home mother, she finds this works well for her.

What it has done also is brought her community development work directly into the heart of the family.

One of the newcomers had access to highspeed through a previous job in Dartmouth; he became very dependent upon the computer in carrying out his day to day work, and this habit has continued through to his life in Upper Stewiacke. He has a new home-based business, and his office is located in the hallway next to his bedroom (below), not because space is tight in his home, but because it is easy to get to.

This concept of convenience carries through to other things: "I prefer communicating by e-mail, and I, you know, even though there's a couple of people that aren't on e-mail, I'm hoping that information has been getting to them through other means, because that's my number one way to communicate. I'd rather communicate [by e-mail] than talking on the phone... .You can be a lot more to the point, and shorter, and it takes less time" (Participant B1). Most of the participants agreed to some extent with this sentiment, but especially among the group's older members, there was a distinct feeling that while computer-mediated communication was appropriate for routine transactions, or if

something needed to be responded to in a hurry, for the most part, they would rather communicate in person or over the phone. This is reflected in where the computers are located in the other members' home (the USCDA do not have an official office); they are all in rooms located away from the main areas of the house, usually a back bedroom.

The community website was also developed as a result of the CAP site. It has grown to include a business directory, history, current events page and links to a number of other related websites. As an actor, and further, a negotiator for the USCDA actor-network to external actor-networks (an "ambassador," as one participant put it), it presents the community in some ways as a black box labelled Upper Stewiacke. This is certainly not the feeling one gets when one is simply visiting the village, which, like all geographical communities, is made up of a myriad of actor-networks. However, it is safe to say that the enrolment of ICTs into the USCDA actor-network has strengthened it, allowing it to complete the translation process, and move towards stability and perhaps even obduracy.

Other Stories

The USCDA came into being after ICTs were already relatively diffused into rural Nova Scotian society. It can be argued that this existing presence made their enrolment somewhat smoother, since they were already a known quantity and were perceived by the human actors to be a valuable addition to the actor-network.

The four stories in the next two chapters however, are about organizations that came into being before ICTs moved into the cultural mainstream. And so, as we shall see, their negotiation into the network was somewhat more contentious at times.

Chapter 6

Community Development Organizations and Technology as Actor-Networks II: A Tale of Two Fish Plants – Isle Madame & Canso

The introduction of any kind of a technology will change the culture of communities over time. When they first started building fish plants...the big plant down by the pier became one of the major kind of landmarks of the community. Not that people enjoyed cutting fish at minimum wage for eight hours a day but it became part of community life for better or worse. So I think having broadband technology isn't visible like a fish plant, but it could have as powerful effects on people in terms of getting them connected to the larger world without undermining the social interaction of people. It's a tool and like any tool you learn how to use it in ways that are positive and if you want to promote cohesion in your community or culture then you use the tool to do that.

Research Participant

A lot of people were saying well the government will take care of us, and we say no, no, no, no, the government won't take care of you, forget it, it's over, the jig is up, forget that, move on.

Research Participant

The previous chapter illustrated the stabilization of an actor-network through the actions of strong new actors. This chapter will tell the story of Isle Madame and Canso, two communities separated by nine miles of water across Chedabucto Bay. It is the story of what can happen to an actor-network when a long obdurate central node very suddenly becomes unstable or disappears altogether, and in some ways, illustrates the importance of the role of contingency upon the formation of an actor-network. Thus, these next two stories are about two sides of the same coin, about what happens when two sets of actors make very different choices given virtually the same set of circumstances.

When the weather is clear, people in Canso and Isle Madam can see each other, especially at night. But in many ways, although the histories of these two communities have close parallels, the closing of the east coast ground fishery in 1994 and the choices that were made at the time by each community to deal with that crisis set them off on very different paths. Over the next ten years, the multiple actor-networks on Isle Madame, which had been quite disparate (although centred in the nodes of the fishery and the Acadian culture), became, through a series of negotiations, one central actor-

network situated within the Development Isle Madame Association (DIMA). On the other hand, the Canso actor-network, which, although lacking the homogenous cultural component, had been centred around the fishery also, was quite cohesive at the time of the crisis. After the fishery's closure however, it very quickly became very unstable, and increasingly volatile, and ten years on, is only now beginning to show any sense of cohesion.

(Mapquest, 2006)

The “meta-node” of the fishery in both places was inscribed in the local fish plant. Shortly after the closing of the ground fishery in 1994, a cataclysmic event in the region which will be outlined below, both plants were closed, throwing hundreds in the respective communities abruptly out of work. On Isle Madame, the company that owned

it eventually tore the building down. This destruction of the physical embodiment of the fishery was a powerful factor in the reshaping of the island's actor-network, because it forced the community to face up to the realities of the current day fishery: it was gone, and not likely to return, and so other avenues for economic survival needed to be explored. In Canso, however, the fish plant, although idle and virtually empty, still stands and remains at the centre of the community's struggle to deal with this new reality. A monument to the way things were, its presence has hindered (although not stopped) any chance of a strong new actor-network being negotiated to more realistically reflect the current situation.

Before telling the story of the reforming of these two actor-networks however, it is first necessary to understand how and why the disappearance of the fishery was so devastating to these two communities. For that, it is helpful to take a brief look at the history of the area in which these communities are located.

A Historical Fish Story

The area that both Isle Madame and Canso are located in (see map above) was a summer camp for the Mi'kmaq for centuries prior to first contact; because of the teeming fishery off Nova Scotia's shores, however, it was not long after Columbus' voyage in 1492 that Isle Madame and Canso came into being as European settlements. As far back as the 16th century, French, English and Basque fishermen were using the area as their summer base for fishing and whaling expeditions, as well as for hunting walrus. Indeed, the earliest mentions of the area date to 1504, when records show that French vessels fished off Canso. The 18th century brought with it the struggle between the French and English for the New World territories. With the building of the fortress of Louisbourg on

Cape Breton Island in the early 1700s, Basque and French settled permanently on Isle Madame; in answer, across the bay in Canso, the English built fortifications on Grassy Island in Canso's harbour in 1725. At the same time, as many as 250 British fishing vessels came ashore yearly at Canso to land and process their catch.

In the years between 1750 and 1776, Canso played an important role as a British garrison, first during the battles between the French and English, and following the French defeat on the Plains of Abraham in 1759, as a British military post during the American Revolution. However, once its military importance had diminished with the peace between the US and the British, only five families remained. Across the bay, most of the families that had settled on Isle Madame during the French regime also had left with its fall. However, a number of Acadian families resettled there after the period of exile following their expulsion by the British from their lands around the Bay of Fundy in 1755. Their descendants, as well as those of Irish settlers who came in the early 19th century, still live on the island, which today is 70% Acadian.

By the beginning of the 19th century, the island again had become prosperous, due in part to its position on the British trade route between the West Indies and Upper Canada. By the time of Confederation in 1867, hundreds of boats fished out of the island's four main ports of Arichat, West Arichat, D'Escousse, and Petit-de-Grat. Depending on the vagaries of the markets for fish, this prosperity continued to a greater or lesser degree until the 1980s, when the problems with declining fish stocks began to surface. The communities of Isle Madame had been built around fish, and fish alone. When the fishery collapsed, there were no alternative sources of employment whatsoever, leaving the island's inhabitants in fear for their future.

Canso's fortunes, also dependent on the thriving groundfish industry, continued to grow as well in the 19th and early 20th centuries. What might be called Canso's golden age arrived in 1881 with the town's selection as the terminus for the western end of the transatlantic telegraph cable from Ireland. Two companies, The Commercial Cable Company¹ and Western Union, set up offices there; much of the infrastructure that was put in place at that time is still present.

Between the fishery and the cable, Canso grew to become a very rich town indeed right up until the 1920s, when as noted in chapter 2, depression hit Nova Scotia, and then in the 1930s, the rest of the world. As the Depression worsened, many left their home communities to find work in Upper Canada and New England, depleting the town of many of its future leaders. The advent of wireless telecommunications also spelled the end of the need for the undersea cable, and by 1960, all that remained of the thriving cable head terminus in Canso were empty buildings.

The town's other main employer was the local fish plant. It was owned by a variety of individuals over the years, but in 1984 National Sea Products bought it, and received huge processing quotas from the government of the day. This in turn meant steady employment for community members which ended abruptly in 1990 when National Sea closed the plant, throwing hundreds out of work. Seafreez Ltd. bought the plant later that year, and continued to operate it with a reduced workforce. Unable to find adequate numbers of fish to process because of the government quota system, it closed in 2001, and although various attempts have been made to keep at least some people employed processing fish there since then, today it sits empty, a constant reminder to the town of what once was.

¹ Which would eventually become IT&T.

Correspondingly, Isle Madame's main employer for decades had been the Richmond Fisheries plant in Petit-de-Gras. Following the groundfish closure in 1994, it struggled on until 1996, when it closed, leaving 500 of the island's population of 4300 unemployed. But unlike in Canso, the company bulldozed the plant to the ground, leaving nothing for the residents of Isle Madame to pin any hope on whatsoever. And here the stories begin to diverge.

Story Two: Development Isle Madame – Renegotiating an Actor-Network

When the fishery collapsed and the fish plant closed on Isle Madame, there was a huge sense of loss. Given the island's population base, losing five hundred jobs was disastrous. Many, especially the older workers, held out hope that this was just another turn in the anticipated boom and bust cycle of any natural resource. They were willing to take the government grants under The Atlantic Groundfish Strategy (TAGS)² program but the mindset was very much to see it as a stopgap measure until things got back to normal.

A few of the community leaders however, realized that the fishery as the region had known it for almost five hundred years, was gone, perhaps for good; indeed, many had warned that the fishery was poised to collapse as early as the early 1980s. In 1992,

² The TAGS program was a 5 year, \$1.9 billion federal government initiative put in place in 1994 to soften the blow of the closure of the ground fishery. Because this fishery was one of the mainstays not just of the economies of the four Atlantic provinces, but also of the region's culture, its loss was cataclysmic. Although the government meant well, the whole design of the program reflected a deep lack of understanding of the characteristics of the region's culture and population. Further, overwhelmed by applications, the fund was exhausted long before the 5 year time frame was up, and despite pleas to extend it, no further funding was forthcoming. The program ended in 1996. One might ask how the government expected to replace an entire way of life which had endured for over 400 years in just two and a half. There is not space here to go into the myriad of problems associated with this program, which might be described as perhaps the ultimate example of a government bandaid solution to a whole series of systemic problems. Suffice it to say that, although the potential was there for others to use it as DIMA ultimately did, overall, both in the way it was often administered, and the way in which it was used by many displaced fisheries workers, it became an extension to the employment insurance program.

when the moratorium on ground fishing was put in place by the federal government, a group of these individuals representing a cross section of the island's leadership – trade unionists, educators, small business operators, fishing industry management, plant workers, fishermen, youth, seniors, health care workers, regional development and municipal council – came together. “They did not engage in denial or fantasies, instead they began to analyze their situation and bring forth new ideas for the future” (DIMA, 1999, p.1). This was the time of problematization, which could be quite simply phrased, just as in Upper Stewiacke, “how can we ensure the survival of Isle Madame after the end of the fishery?” Out of this meeting came the Industrial Adjustment Service (IAS) committee, who commissioned a study to determine the current state of affairs concerning what was perceived to be the impending collapse of the fishery. The results of this study, made in consultation with the community, were not encouraging. Retraining programs were not seen to be an option by many; low literacy rates, especially among older workers, and a general lack of confidence and skills, combined with few existing employment options outside the fishery meant that very few were even willing to try these programs. Salaries had been steadily declining over the previous six years, and the people of the island were frightened of what the future held. At the same time, there was a sense of denial about the whole situation. There always had been fish, and there always would be fish, seemed to be the general attitude. It was just a question of finding them. And if they could not be found, well, the government would look after them.

Despite this (or perhaps because of it), the 1993 IAS report made the following recommendations:

- The priorities for development efforts should be the strategic directions identified by the Task's Groups research. The priorities that emerged were boutique tourism, wood products, aquaculture, fishing and seafood production, agriculture, crafts and small-scale manufacturing, information, entertainment and education and a Grey Tiger Strategy (i.e., attracting retirees to the island).
- The IAS Committee should oversee the establishment of a Development Company with a mandate to pursue priorities by assisting business, by initiating its own development projects and by improving the island's business environment in every way possible.
- The Development Company should retain a full-time human resources officer who would focus on counselling and the provision of training programs with the particular attention to life skills and stress management, job search and communication skills, and literacy and entrepreneurship. This officer would work closely with the economic renewal team to secure realistic training programs designed to prepare people for the specific jobs to be developed through economic renewal. (DIMA, 1999, pp.3-4)

This latter point is of significance, as will be discussed below. In essence, it laid out a strategy of using any government funding that might be available for retraining and other economic development initiatives, but stressed the importance of not doing so in an ad hoc manner.

In 1994 the federal government closed the ground fishery completely. And just to drive the point home that a way of life had ended, Richmond Fisheries tore down its

Petit-de-Gras plant in 1996. However, in many ways, this event was the turning point for the community mind set:

The employer, they levelled the building to the ground, and ironically, that was probably the best thing that ever happened to the community because it forced people to realize that this wasn't coming back, the plant was never reopening, and they needed to move on. (Participant E3)

People started to realize it then, because the year prior, every time you'd see a boat come in the harbour or on the wharf there was activity, they'd wonder what's going on, they'd call us up, but as soon as they demolished the plant, that was it. So people started looking, and thinking seriously about diversifying. (Participant E1)

The emergence of strong actors within the community development actor-network created a sense of stability. The nucleus of the group (which became DIMA in February of 1995) was made up of three individuals: a well-known local writer, a teacher, and one of the Acadian community leaders. To this group was added an individual who had been the union representative at the fish plant. His hiring as TAGS liaison officer (the local administrator for the TAGS program) was key to negotiating with and then enrolling actors from rest of the community, because he was known, well-liked and trusted. He was also aware of the TAGS failures, especially in Newfoundland, and was determined that the same thing would not happen on Isle Madame. As had been laid out in the IAS report above, the board avoided simply rushing to put retraining programs into place for the sake of having some income generating options for the unemployed workers.

It was a baptism of fire...[but]we were thrown into something with at least having the benefit of a plan. A freshly born plan that gave us some direction.... [W]e started from the assumption that you know, the fishing industry was not going to be a focus, it was dead and so we didn't even look at a renewed fishery...that would have just kept our focus on fishing, right? Keep pounding and pounding and pounding and there was no way that a renewed fishery was going to make up the slack of the old fishery, right? So we focused on all the other sectors that were identified in the plan; tourism and aquaculture and you know, small scale manufacturing,

going on down the list and just looked at innovative ways to do things and at the same time we had [participant E1] who was the TAGS liaison officer who was working with the displaced fishery workers, putting them in a program to try and meet some of the projects that we were coming up with on the development side. (Participant E6)

This was the period of intersement, in which the strong actors – the IAS / DIMA, the three community leaders, the TAGS liaison officer, and the fish plant owners, who in some ways created this cohesion by abruptly leaving the network – negotiated their place in the newly forming network. Unlike Upper Stewiacke, however, there was a strong sense of cohesion among these central actors; because of this “united front” they quickly took on the role of obligatory passage point (OPP), and were virtually uncontested in so doing by any other actors in the community.

Another method of strengthening their role as OPP was to enrol young people, those who had gone away to university and who had not expected to return to the island to work. Employment was found for them in one project or another, and eventually they moved onto the board of DIMA. This strategy was important to the sustainability of the actor-network for two reasons: 1) by actively providing opportunities for the future leadership of the island to come home instead of watching it “go down the road” to seek employment a leadership training program of sorts was tacitly put in place, and 2) the younger members brought an energy and ability to look outside the box that was sorely needed in this crisis.

...I think our youthful exuberance and enthusiasm was one of the keys... . There was a conscious decision by the people called the forefathers of CED on the island here to hire youth...it wasn't just chance that there was a lot of young people involved in the process when we started off as DIMA and you know, I think it did help because again we had fresh ideas, we didn't have any predetermined conceptions on anything and it allowed us to think out of the box, because there wasn't even any box” (Participant E6).

Ten years on, some of these individuals are still involved with DIMA, while others have moved on to other community development organizations in the area.

DIMA also took full advantage of every available community development government program possible to help with the rebuilding of their community. In some ways, this is almost a textbook example of how a stable actor-network is formed, as the actors within the network negotiated with, and then enrolled, outside actors as it sought greater and greater stability and eventually obduracy. One of the research participants explained the process thus:

My role was to work with the people, and what I did was, to help people retrain, diversify, support them in their needs, and make sure to make them aware that all aspects of the options available for them, for them to utilize it to their full potential... I was trying to instil in the people that, you know, people were saying, the fishery is gone, it's only a cycle and the old people said so. And I said okay, that's a good argument, but what I'm saying is, why don't we take advantage of the program, work at something different, you're going to get retrained, and when the fisheries come back, you're even better off. We had a lot of funds available through the tax program, millions, from the federal government, and we utilized every program possible to the full extent, with the people, getting them customized training, and I mean, we had a whole host of stuff here, development on land that, you know, a study we did in the past, a program we put on, for illiterate people, lower levels of education, the higher, some people from the university, and after those three or four years had passed, some of the people that got training, did not go back to the fisheries, if they were offered a job. So people you know, developed skills that they had, that they didn't even know they had...then there were the older people that didn't have that much education. So we worked with them. If they were illiterate, we put on programs that were oral programs, they didn't have to do any writing, and still could get an education of some kind, or a pass, or a piece of paper, or something that would – and I spent a lot of time working with the local businesses to find a job for these people and be the mediator between the employer and the employee. I built a relationship with the businesses that was, it was great, and they didn't have to do anything. They got the employees, and stuff, so we did some of that, and we looked at what was available, what was up and coming, what could we train people for, and we talked to a lot of businesses around the county in Port Hawkesbury. So we did a lot of that,

and it gelled out, and then, while working with our local businesses, to help them grow, we found out that they did well... . There's all kinds of examples of people that took control of their life, and they moved on, and Development Isle Madame was just there to support them, and to help them along. (Participant E1)

Increasing numbers of strong outside actors were brought into the DIMA actor-network: community funds were created in partnership with the local credit union to help establish stable funding for DIMA initiatives and local entrepreneurial endeavours. College de l'Acadie, the French community college affiliated with l'Université de Ste. Anne, placed sites on the island so that people could take classes without having to drive long distances. Premium Seafoods set up a crab plant, which gave employment to those fisheries workers unable or unwilling to make the transition to other jobs. Partnerships were put in place with Mi'kmaq fishermen, who were able to fish year round, to supply different species to the new Richmond fish co-operative. Aquaculture businesses were started as part of the province's development plan. Partnerships were formed with various provincial tourism networks and agencies to help develop opportunities on the island. And today, "I would say that pretty near every person on Isle Madame who is capable of being employed and who wants to be employed is employed as much as they want to be employed... .In fact, I would say we're very soon going to be into a situation where we're going to have skill shortages" (Participant E3).

Although it would be fair to say that the development actors such as the TAGS program, the various partnerships mentioned above, and even the island's young people were mobilized and became strong allies of DIMA, at the same time, during the period of mobilization, other strong actors dissented. Oddly, one of these was what some might consider a central actor which has lasted through any number of translations of the

network: the Acadian heritage of the majority of the community members. On the one hand, most research participants identified the homogenous nature of the island's culture as a central reason for DIMA's success. The majority of the island's inhabitants chose to stay and fight to keep their communities alive following the collapse of the fishery. Going down the road was not the preferred option. "I think that what you find in the Acadian community is that people are close knit, and it's people helping people. And what's happening in this community, is that everybody is inter-related, so you're always helping your family, and what's more to motivate an individual than family. You know, you're working at your own interest, you're working for your family, you're working for your neighbour, and it's vice versa, everybody's doing the same thing. So, for some reason, the Acadian community seems to strive [sic] in times of hardship or crisis" (Participant E1). And as anyone familiar with Canadian history knows, Acadians have had more than their share of hardship. Further, "there's a pattern in the history of the community of having to deal with adversity every so many decades, and it's survived because it's adapted...generally speaking, you'll find Acadian communities are very, or try to be, very forward looking, very progressive, and very open to new and different things" (Participant E3).

Forward thinking however, does not always translate into accepting new actors into the network, or for that matter, obligingly becoming enrolled into new networks. Indeed, many of the existing community networks on Isle Madame strongly resisted being enrolled into the DIMA actor-network at all. Thus, initially one of DIMA's biggest problems was to get individuals to stop thinking of their separate communities of Petit-de-Grat or D'Escousse, and instead to think of Isle Madame as one large community.

One of our biggest challenges from day one has been the individual communities' identities, trying to think as an island, not as a specific community and colloquialism that was heavily taken hold in the communities up to that point...one of the major barriers to development starting off, was trying to get people to think as an island... . We have to think as an island. We can't think of small communities right now, we have to join together, this is a bigger issue than just one community. [It] was a real concerted and conscious effort to portray development as development for the island not development for this community or that community. However in 1994, there was strong community pride or sense of community pride in every one of these communities. Arichat didn't want to work with Petit-De-Grat, Petit-De-Grat didn't want to work with D'Escousse, D'Escousse didn't want to work with Arichat, and it was all a lot of times petty things or things that went back years and years. We just, you know, you drew a line right, arbitrary line here, an arbitrary line there and you said okay now you guys are a community, right? For us, we're an island. By the sheer fact that we are a geographic island, we are a community, that we have defined borders and we have a common past and culture. (Participant E6)

So perhaps DIMA did not so much negotiate with these actors as dictate to them.

They also enrolled other actors to do the negotiating for them. One of the strongest of these was Telile, Isle Madame's community non-profit television station. Most Canadian communities with cable access receive that cable company's community channel; however, Telile is one of only a handful of independent community television stations across the country, affiliated with no one, broadcasting to and for the residents of Isle Madame. It was the brainchild of Silver Donald Cameron, one of the core group who formed DIMA, at the beginning of the fisheries crisis. The rationale behind the station was explicitly enrolment of the community into the DIMA network: "In today's world what's real is what appears on TV – and Telile has helped to make Isle Madame important to itself...Telile was designed to support the re-invention of the community and that's exactly what it did... .Isle Madame had no newspaper, no radio station, no communications infrastructure at all. It was a bilingual community with below-average

levels of literacy, where people got their information mainly from television. If our community was going to talk to itself, then we would need our own television station” (Cameron, 2004, p.2). A dozen individuals were trained in television production through one of the HRDC programs available at the time, with the idea that at least some of them would find employment at the station, which would be up and running by the time the course finished. The station went on air in June of 1994, and is still on air today. Up until the late 1990s, it broadcast DIMA board meetings with a call-in component, which were watched by a large percentage of the community. It also carries documentaries about the island and the development process, as well as an alpha-numeric scroll with local community news and events. Increasingly, however, the biggest draw (and main revenue generator) for Telile is the community bingo³. One might say that Telile as an actor is in the process of being translated from DIMA negotiator to community entertainment, a fact which has not gone unnoticed by the DIMA board: “I still think Telile can do a lot more than what they’re doing to fulfill their original mandate and to do other things and so, you know, I still think they’ve done good things but I still think they can do a lot more. Especially when it comes, you know, to community programming not only for development but also other issues that are affecting the community... I mean bingo is their major draw right now and the thing that they focus around and I would hope that they would expand beyond that and make their programming more than just the bingo” (Participant E6). It is important to note that in actor-networks, the result of negotiations between actors during the period of *interressement* can go both ways, and negotiators can be drawn into contending actor-networks.

³ A number of research participants suggested that the reason there was a relatively high viewership for the board meetings was because it was on just before bingo. “Really prime time” as one participant called it.

To one looking at the DIMA actor-network from outside, however, DIMA's negotiations with the Isle Madame communities appear to have been overwhelmingly successful. Most outsiders see DIMA as the inscription of successful community development all over Atlantic Canada; it has, in many ways, become a black box labelled "community economic development best practices." But many on the island are not so convinced, despite DIMA's successes. As we saw with the Telile example, from within, the actor-network is still in many ways a contested place: "I think that Isle Madame's worst critics are its people. You have people coming in, you come in and say, well you know, I can see that it's very vibrant, it's alive, right? Now, if you talk to an ordinary guy on the street, he might tell you there's a hole in the ground, everybody's on unemployment, and there's nothing to do. Now, and that happens, and that's the way people see it" (Participant E1). Nonetheless, it is safe to say the DIMA has become an obdurate actor-network, and the OPP for community development on the island. At least for the moment.

Reinventing DIMA: ICTs Enter the Network

One of the unspoken rules of community development is that it is often easier to bring communities together during a crisis, and the more acute a crisis, the better. Survival is uppermost on people's minds, and everything else must take a back seat. But what happens when the crisis passes, or has been dealt with successfully? In other words, what happens to an actor-network when the problematization around which it is formed is no longer valid? As noted in chapter 4, one of the hallmarks of ANT is this element of constant change and renegotiation in order to remain stable. At the time that the fieldwork for this project was carried out, this was the situation that the members of

DIMA were facing; speaking to research participants, there was a sense that DIMA has to some extent lost its purpose. Sustainable employment and economic well-being have been established. The dissenting actors were gaining strength, and if DIMA was to remain the OPP, it needed to a) develop a new phase of problematization and b) enrol new allies into its network.

Between 1991 and 2001, the population of Isle Madame declined 11.1% from 4330 to 3850 (NS Government, 2005). Although they are not sure about the reason for the decline, the DIMA board members are very clear on the ramifications of such a drop, as well as the opportunities to be found within it:

Once you keep moving those numbers, it gets that much more difficult to be, as a sustainable community, you start losing your services, and then you start losing the people. So, and I think that was really surprising when people went back and looked at the numbers, and that's when I think they really started thinking, you know what? Our next thing isn't, it isn't the project, it's not doing for the people here. We need to attract more people here. That it's almost DIMA reinventing itself now. And they need to, because they've sung every song and dance to funding agencies. They need to reinvent themselves and that's the piece, or the feeling is, is that's the piece that makes [sense] – so you're not developing opportunities for the local people anymore. You're developing either infrastructure or opportunities for new people to come in, with new ideas. (Participant E4)

In its quarterly newsletter, DIMA has outlined what it intends to do about this new problem (“how do we stabilize the population decline?”), or what it identifies as its “new mandate” (DIMA, 2005, p.2): a new period of interessement is to take place, and new allies enrolled. Thus it has joined with the Strait Highlands RDA and will be employing an “immigration co-ordinator,” as well as someone to do research on the island’s declining population. Further, it will be creating a database and website with the information acquired from the local population and ex-patriot islanders. Finally, its goal

is to retain twenty-five individuals on the island for each of the next three years (2006-2008), and is encouraging locals to get in touch with “anyone who has moved away and would like to return to the island, but has barriers” (DIMA, 2005, p.2) so that DIMA can contact them and facilitate their return. Again, the DIMA actor-network is being translated into a new configuration as it struggles to remain obdurate. And just as Telile was mobilized a decade earlier to act as a negotiator between the DIMA actor-network and the community actor-networks as DIMA strove to become the OPP, so too are today’s new information technologies being mobilized to help the network maintain that role.

ICTs were only a peripheral part of DIMA’s early development strategies. In part, this was because they had not yet infiltrated society to a great extent in 1992, and especially not that of rural Nova Scotia. While at the time computers were beginning to be used in the office for word processing and other business-related work, it was not until a few years later that an awareness of the internet began to filter into the DIMA network. One participant recalls a meeting in 1995 or 1996 at which the chairman of the DIMA board suggested that maybe DIMA should set up a virtual storefront for local businesses, although no one in the room was exactly sure what that would look like, or what it meant exactly.

At the time we were using technology, we were kind of leading edge on technology and I would say not so much that we knew how to use it but that we knew that it was important. The organization knew that technology was important, that it was the wave of the future but just couldn’t kind of figure it out, it was kind of looking at the pyramid saying hmmm, we know it’s really important, it’s got a lot, we’re just not quite sure what it actually means, what it is. Look and study and study and say I’m sure it has lots of importance, but can’t figure it out. (Participant E6)

Despite this, many of the retraining programs that DIMA set up revolved around information technology. Businesses were increasing their use of ICTs and anyone wanting to become employed in a business environment needed to gain those skills. It was, as one board member put it, the path to the future. However, it was also just one of a number of retraining programs in a variety of areas available to islanders.

What really brought ICTs to the fore however, was the CAP program. Indeed, it would not be going too far to state that just as in Upper Stewiacke, the CAP sites brought the computer age to the forefront of community members' attention and led, in time, to high tech becoming a major emphasis of the DIMA actor-network. In 1996, the CAP sites in Richmond County (in which Isle Madame is located) came together as a single entity managed by the Strait East Nova Community Enterprise Network (SENCEN). This organization was a partnership between the three Strait area RDAs and the Strait Regional School Board⁴. Its mandate included "the introduction of information technology into the everyday lives of the people in five counties" (Cameron, 1997, ¶ 9). In general, this introduction was made through the CAP sites in rural communities; by 2000, the number of sites in the Strait area had climbed from 8 to 32, three of which were on Isle Madame (and which are still in use today). These sites were being used for a number of initiatives, including customized IT training for local community groups and small businesses, IT skills upgrading, employment opportunities for youth and other community members, job searching, community website development (hosted at the time

⁴ Just as computer technology is rapidly evolving, so it seems are the organizations put in place to foster the move of ICTs into community. SENCEN disappeared in approximately 2000, although none of the DIMA board were aware of the details. Apparently it was absorbed into the Atlantic Learning Innovations Network, which is a not-for-profit organization based in Port Hawkesbury. Its focus is on e-learning and labour market development, a much more corporate and somewhat less altruistic thrust than SENCEN's; however, one might suggest that it reflects the role that ICTs are increasingly playing on the global sphere.

through the SENCEN home page), and internet access in general. Again, as in Upper Stewiacke, islanders utilized the CAP sites in large measure because they were the only high speed connection available at the time.

However, unlike Upper Stewiacke, in 2004 DIMA was one of the partners with the Municipality of Richmond in applying for, and receiving, federal government funding for high speed infrastructure throughout the island. In fact, there are even places on the island that have wireless access. When asked how it was that a small, rural community like Isle Madame has access to both broadband and wireless, when even parts of urban Halifax do not, one research participant put it down to leadership: "I think it's the leaders, it's the people that have foresight and ambition on what's really needed, and that's important. The municipality [of Richmond] were the champions behind that, you know. I think the CEO was at a conference, and there was a, started being mentioned about bringing broadband to rural areas, and you know, I think the more we thought of it, we thought this is what we should do, so they jumped on it, and were the second county in Canada to complete it, so it's done" (Participant E1).

The ramifications of that foresightedness in enrolling ICTs have been striking. First of all, as in many other places, the usage for the CAP sites has dwindled. While this is perhaps a natural progression as the technology becomes further developed and entrenched within society, nonetheless it means that a significant actor may be on the verge of leaving the network⁵. It remains to be seen what this community access model will translate into, and what role it will play in the future. However, at the moment the

⁵ One research participant noted that as the CAP program has neared its conclusion, it needs to find a new mandate, a "new crisis" just as DIMA did. As will be outlined in chapter 8, the significance of CAP to rural community development, what the end of the program will mean to it, and some of the options for its continued existence are areas of further research to arise from this project.

concept of access through the CAP site is still considered an integral part of the community.

I do believe the community really feels strongly about that, and I think the major component is access, equal access for everybody, because not everybody has internet in their own home, and I think that's the pulse that keeps the CAP site going, and it probably will for some time. It has been a learning ground for new people, whether it be people through literacy programs, or seniors, but that group is starting to get smaller, and that's not a bad thing, it just shows that it's been quite successful... I think it's about partnerships and finding the best location for that access, or being innovative and reinventing yourself. (Participant E4).

One of the ideas for that reinvention is the development of small satellite call centres linked through CAP sites, in which people would be able to work from their homes. This idea of putting a call centre in place was one of the first uses of ICTs that DIMA attempted in the late 1990s. However, because the infrastructure was not yet fully developed, ultimately it failed, although a large call centre opened not long after in nearby Port Hawkesbury which employs a number of islanders. This new potential opportunity to be able to offer employment options to individuals who may not be able to work outside the home for one reason or another, is exciting to DIMA: "we've kicked around this idea for quite some time, but never went anywhere with it because of the connectivity, but now that we have high speed, it just opens the door wide open" (participant E5).

Another community-oriented use of the network is telehealth. Richmond County is applying to the federal government to put a highspeed fiberoptic network into place with the idea that not only will the area's two main health care facilities be accessible, but so will doctor's offices, small health clinics, the local health officers, nursing homes, and pharmacies. In a region where attracting doctors to work in rural and remote areas is

increasingly difficult, this is a big drawing card, because it gives them access to resources they would not otherwise have without having to physically send patients to Sydney or Halifax, where the province's largest hospitals are located. It also allows staff to receive training through teleconferencing. And eventually, it is hoped that this same ultra-highspeed network will be used to deliver distance education through the area's universities and the Nova Scotia Community College. Thus, a very large and stabilizing actor will be enrolled into the DIMA actor-network, but at the same time, the DIMA actor-network will be enrolled into the larger provincial health and education networks⁶.

Increasingly, small businesses being attracted to the island are coming because of the connectivity. "To be able to attract businesses, and even attract retirees that want to come and do business, and they can do their business anywhere in the world, so if Isle Madame is up on technology, why wouldn't they come?" (Participant E1). For instance, a graphic designer whose company has contracts worldwide noted that as long as he can send his files easily, where he lives is irrelevant, and he likes the life style on Isle Madame. A couple, in which the husband is a high level accountant with global contracts and the wife is an award-winning food designer, traced their family roots to the island and decided to settle there from California. There are also a number of freelance writers, photographers and other graphic designers. In general, ICTs are acknowledged to be an important component in the further development of the community: "Well, for sure technology is here to stay, and it's only going to get bigger and better and more complicated, and I think that the community here is interested in moving forward... . You know, there'll be no more days of...teaching people basic internet courses, and things

⁶ This ability of actor-networks to expand and shrink simultaneously is extremely interesting, and highlights the complexity of networks defying a linear depiction. It also seems to be a stabilizing factor in the search for obduracy.

like that, you know, that's gone..., but technology's here to stay, and this community wants to learn and will move forward with whatever is to be" (Participant E5).

Most of the younger board members are very comfortable using ICTs, which in turn is further entrenching their role as allies in the DIMA network; in fact, one is finding himself having to curtail his online activity: "I go to bed late, and I'll be in bed with the laptop on and sit till one or two and get up in the morning and you know, just roll over, grab the laptop and type away, and so yeah, I don't know where I'd be without a computer, I'd be lost for sure!" (participant E6). Although he is perhaps an extreme case, all of the research participants say that they could no longer carry out their daily business without internet access. Even the older participants have come to rely on it. "Everything is done by e-mail, everything is done over the internet, everything, you know, that's where you get your research, that's where you do all your stuff. Now a computer is a tool that you pretty well have to have" (participant E1). One has to wonder how much of an effect this use level has had on Isle Madame being in the forefront of gaining connectivity.

However, the DIMA board members also concede that the enrolment of ICTs into the actor-network is simultaneously a re-stabilizing and a destabilizing force. In some ways, they are taking on the role of OPP from DIMA, in that without ICTs, further development work may not be possible, and this is creating a sense of instability. There are concerns about what ICTs are doing to the traditional social fabric of the community. "They're a great tool, and they're very convenient...but for me, from a more community development I guess perspective, is that the computers take away a lot of the social fabric... They continue to be detrimental to a point, right now you're at a point where

you do your banking online, you do most of your shopping online, you do everything online, your kids play and chat online. I mean at some point, it's going to be a problem that needs looking at" (Participant E1). Indeed, one of the themes throughout all of the fieldwork was the tension to be found in using of technologies of speed to create sustainable development and systemic change, which are by their very nature slow processes. One DIMA board member likened it to the collapse of the fishery:

The thing that I compare it to is that, if you look at the technology that was applied in the fisheries, okay, they can blame whatever they want about the downturn, and I'm sure there were many aspects of things that made the downturn happen, but technology would have played a great role in that, because the fish didn't have a chance. Had they been hunting the fish with things they had been using 30 years ago they'd still be out hunting the fish. You take for example the Clearwater boats, they blast the bottom for clams, it's an air blast. So they blast the bottom to get them floating, right? So what is that doing to the bottom? It's good technology, and it provides dollars, but what does it do to the resource? The computer age of technology is great, but you have to wonder what the results of using it are going to be ultimately. (Participant E1)

Overall, however, there can be no doubt that the enrolment of ICTs has served the DIMA actor-network well as it continues to search for obduracy. Obduracy however, is something that the other side of this story, the community of Canso, is still striving towards.

Story Three: Canso – Trying to Form an Actor-Network Against the Odds

If the story of DIMA is that of an actor-network that appears stable to the external viewer but is contested within, than in many ways the story of Canso is that of an actor-network that is stronger and more stable within than it looks to the external viewer. In large measure, this is due to the recent enrolment of ICTs into the network. But this certainly has not always been the case.

For most fishing communities on the Atlantic coast, the 1980s were a boom time, and Canso was no exception. There was work either on the boats or in the fish plant for all who wanted it. As one research participant put it, “You know, if you were standing on a street corner you would get scooped up and taken to work at the fish plant. As soon as you were 16 it was what you did” (Participant D6). For those who cared to look however, declining catches through the late 1980s served as a warning of the storm about to break.

National Sea Products was one of those paying attention. In 1990 the company consolidated its operations, closing the Canso plant and throwing 700 people out of work. In a community of about 1200, the devastation was even worse than on Isle Madame. However, unlike on Isle Madame, the town had very little warning of the closure, and no time to come up with any kind of development plan. And it appeared that there had been no need when Seafreez Ltd. bought the plant from National Sea later that year and reopened it with a reduced workforce. However, the groundfish moratorium in 1992, and the subsequent closing of the ground fishery entirely in 1994, sounded a death knell for the economy of the town as it had existed for the last 400 years.

Although the town can be forgiven for having no diversification plans in place in 1990, one might question why the warning that was received then was not heeded as it was on Isle Madame two years later. I would suggest that this the direct result of the continuing efforts both at the time and subsequently to reopen the fish plant. One has to wonder what might have happened if National Sea had also torn down the building, as had happened on Isle Madame. As noted above, the fish plant is the inscription of the fishery, and one might almost say, of the past. In the Canso actor-network it is not only a strong central actor, but perhaps the defining node. And so the problematization in Canso

is only in part “how do we keep the community sustainable?”; to some extent, and to some actors, it is rather “how can we keep the fish plant open?” This conflict in defining the problematization within the community network has resulted in a very long period of contestation and intersement between two competing sets of actors: those to whom the only answer to the first problem is the second, and those who see the second as an impediment to answering the first.

However, while the desire by strong actors within the network to keep Canso as a fishing town has undoubtedly had an effect on the inability to stabilize a diversified community development actor-network, at the same time it is too simplistic to say that the presence of the fish plant is the only mitigating factor. Other external actors and actor-networks have also had a negative effect on the stability of the Canso network. The two biggest of these have been the town’s extremely isolated geographical location and the federal government’s fishery policies.

Unlike Isle Madame, which is minutes to the Trans-Canada highway, and 20 minutes to the major town of Port Hawkesbury, Canso is an hour away from the Trans-Canada and an hour and a half to its next biggest centre, Antigonish. Further, the road leading to the town is old and in very bad shape. As is evident from a look at the maps on p.14 and p. 169, it is the end of the line in many ways, especially for tourist traffic. As one participant noted, at one time this isolation was not important; the ocean was the main transportation link between Canso and the rest of the world. Such is not the case now, however. Unless you have a particular reason to go to Canso, you most likely do not make the trip.

The other large and extremely obdurate actor-network destabilizing the Canso actor-network is the federal government's fishery policies, especially as they pertain to fish quotas and licensing⁷. When National Sea pulled out of Canso, it took with it the huge processing quota that the federal government had given it in the 1980s. Seafreez was never able to access as large a quota, and indeed, transferred some of its Newfoundland quotas to its Canso plant. When the groundfishery was closed, repeated attempts were made by all parties in Canso and indeed in Nova Scotia to persuade the federal government to transfer unused portions of quotas for fish species such as red fish 30, herring, crab, and shrimp to Seafreez. Seafreez even spent a great deal of money to modify and modernize the Canso plant to process these other species. The federal government turned the requests down, saying in effect that there was only so much fish to go around, and the quotas had already been allocated, even if those allocations were not being utilized. The truly frustrating part of this for Canso fisheries workers, however, is that these other fish species are being fished by boats out of New Brunswick and even Newfoundland only two kilometres off Canso. They are even being landed in Canso and then taken by truck past the empty fish plant to be processed in plants elsewhere. Further, just as in the 1920s and 1930s, foreign factory freezer trawlers with no concerns for quotas are also fishing just offshore with the tacit approval of the Canadian government, which is perceived as yet another slap in the face for unemployed fisheries workers. Indeed, in speaking to research participants it quickly became apparent that to some sense the stubborn insistence on keeping the fishery as a central piece of the community

⁷ The federal Canadian fisheries policy as a whole is a very convoluted and political affair. There is not space here, nor would it be helpful to delve deeply into this policy beyond that which is needed to clarify the situation in Canso.

economic development plan perhaps arises out of a certain sense of indignation at this treatment by external actors and a desire to see a wrong righted.

Another external actor destabilizing the Canso actor-network is the media. When the fish plant closed in 1990, the national media were there in force to tell the story of the decimated town. It was the third most covered news story in Canada in 1989-1990 (Proceedings of the Standing Senate Committee on Fisheries and Oceans, 2005, p.2). History, mass unemployment, and the potential death of a town all make for what news directors would classify as a “sexy” news item, one that has the necessary story telling component of putting a human face on a large and impersonal concept such as unemployment. Over the following decade, very little good news about Canso appeared in the media⁸. As the town lurched from one setback to another, negative stories would appear, especially in the Nova Scotia press. Quotas not granted, declining population, the struggles to keep the fish plant open, the problems with trying to develop a tourism industry, the town’s huge debt load and subsequent debate over losing town status – all these stories became the public face of Canso to the rest of the world. If one compares this to the same period of media coverage for Isle Madame, where almost every story that came out of the island following the fisheries crisis was positive, it is possible to see how this negative self-image has seeped into Canso’s communal consciousness:

Even when there were lots of issues with Isle Madame, what was projected was all the good things, and we made a point, because early on, we concentrated on getting good news stories out to try to convince people, that yeah, despite the fishery crisis...look around, there’s a lot of good things happening, and you could be a part of that. So it was trying to get into the psyche of people, and I think what happened in Canso, is that they held onto that fisheries for so long, and that got into the individual psyche that it’s a crisis, we can’t do, you know what I mean, and you

⁸ The exception being the story of the Stan Rogers Folkfest, an international folk music festival which every year attracts thousands of visitors from around the world to the town for a week during the summer.

didn't hear about that positive, upbeat, it was just all the doom and gloom, and you heard that on the radio, and it was, I think, really hard on individuals in the community, because you need some leadership to say, you know, we're going to be OK, find a different way. (Participant E4)

It is important to note that the news coverage on Isle Madame was to some extent managed by the community leaders. The same cannot be said in Canso at the time, in part due to the contestation between actors trying to establish themselves as OPPs noted above; however, the problems with this self-image are beginning to be understood by today's leaders: "You know there's a lot of media carryover from 1990 and that's a key part of economic development, is taking that on and changing perceptions" (Participant E6). And increasingly, some good news stories are beginning to be seen, as will be discussed below.

Thus, external actor-networks were pulling against and destabilizing the Canso actor-network, exacerbating the struggle between community actors to both define the problematization, as well as become the OPP. For instance, unlike his counterpart on Isle Madame, the union leader at the Canso fish plant not only did not accept the new reality of the fisheries, but up to his death in the summer of 2005 actively and very vocally decried any attempts for Canso to move in any significant way away from the industry. Appearing before the province's Economic Development Standing Committee in 2002, he asserted that

Canso was founded in 1504 on fish. Canso can and will only survive on fish. There are other things that we have to look at as a community in rural Nova Scotia. We have to look at the diversity of the people. We have to look at community economic development as a stepping stone towards our future. We have to continue our efforts in terms of the Stan Rogers Folk Festival. We have to continue our efforts in terms of economic development by His Worship [the mayor] and the council of Canso to continue to bring things into the community. What things can we bring into the community? I'm sure this council is quite adept at finding out

what they are, but we must have a mainstay. We must have a mainstay and we must have a lifeline. To me, that lifeline is the fishing industry. (Province of Nova Scotia Hansard, 2002, p.5)

He was backed up in this by the mayor at the time. As late as 2002, the mayor and council refused to accept that the fishery was gone: “We want to build Canso and area into the environment that people, young people particularly, will have options of what to do. Our fishery will rebound and we will have a decision of what to do with our fish plant in Canso, stop the outflow or the bleeding of our young people and our residents in general and to make Canso a better place to live and work” (Government of Nova Scotia Hansard, 2002, p.2). Even today, with a new mayor and council in place (who form the opposing set of actors in this case, i.e., the group looking beyond the fishery for answers to the problem of keeping Canso sustainable), in talking to the research participants, all of whom are leaders in community development in Canso, it is evident that the fishery is still the centrepiece of economic development, although, as we shall see, the emphasis is being shifted somewhat towards diversification.

We see economic development as a puzzle and each piece has a role to play. Technology being one of them; the fishery will still be one of the larger pieces but not the only one...” (Participant D3).
It take human willpower, human drive, human ingenuity and everything else going at one time. We’re going to come out of our slump, we’re going to have to get that fish industry sort of stabilized, we’re going to have to try and get some industries around that, you know, like different industries that sort of buoy up the fishing industry when it’s not going good because the fish industry’s up, the fish industry’s down, we’ve got to have something to buckle [sic] that change back and forth. (Participant D4)

Thus, with this acceptance finally that there is a need for some diversification, Canso today has arrived at the point where Isle Madame was ten years ago. One of the research participants explains the delay thus:

I think there's a curve the community goes through after an economic collapse and for every community it's different, it takes a different amount of time. I think for Canso it's a 20 year curve and we're about 15 years in but you know it's anger and then it's hurt and then it's acceptance and then it's adjustment and those are very lengthy and there's carry over. There's different groups within a community that take longer to get through but I think the adjustment stage has you know, came fairly quickly. I think it was five or six years and people realized okay, this is something that's not ever going to be what it was before so they need to, we need to look at other things....(Participant D6)

As he suggested, part of the reason for this delay can be found in the destabilizing actors from both within and outside the actor-network as discussed above. The period of contestation between opposing forces during problematization and interessement has been a long one. All towns, of course, have their political camps; in a large urban centre, however, much of the populace can go about its business without getting terribly involved in these politics. In a very small town, however, there is no place to hide. Politics becomes a very real and tangible part of day to day life. As noted in chapter 1, the ideal of the public sphere is perhaps closer to a reality in these places because it is much more possible a) for residents to have their say, and b) for that say to actually be paid attention to. However, to try to unravel the extremely convoluted Canso political actor-network is almost impossible for anyone outside the network itself; memories are long in a rural community, and there are many nuances and shifts within the network that are missed or misunderstood by the external viewer. Suffice it to say that the leadership that was in place at the time of the initial crisis shifted when the incumbent mayor, who had been in office since 1979, left in 1993 to enter provincial politics. The next ten years saw leadership and council, as well as ideas for development, bounce back and forth between opposing camps. When the dust settled and the 2004 municipal elections loomed, the town was virtually bankrupt, had been called upon the carpet by the

provincial government about its debt load, and still had no long term development plan in place. In the fall of 2004, the individual who had been mayor until 1993 was re-elected. The re-entry of this actor and his new council, i.e., the set of actors who wanted to move beyond the fishery, emerged as the central Canso actor-network, and the OPP. Thus the problematization has become “how to keep Canso viable as a community?” However, still battered by the long years of contestation, as well as the ongoing destabilizing effects of outside actor-networks, this new set of actors enrolled a strong ally and negotiator in its search for stability: ICTs.

Stabilizing the Network: Placing Canso on the Information Highway

Just as DIMA realized in 1992 that if the communities on Isle Madame were to survive intact, it was no longer wise or even feasible to pin all of the community development plans on one or two large projects, so today strong actors within the Canso development actor-network are coming to the same realization. Although, as seen above, the fishery is still the centrepiece of development plans in Canso, nonetheless there is acknowledgement that only through the diversification of the town’s economy will it survive. As one participant put it, “There’s not the 500 person fix anymore. There’s not enough GST centres to go around, there’s not enough Michelins or whatever... . You know, I want to see Canso have 25 different businesses that employ ten people, you know? Then nobody can shoot a scud into the community the way they did in 1990” (Participant D6).

As in both Upper Stewiacke and DIMA, the enrolment into the network of one or two particularly strong actors has had a profound effect. The election of the former mayor, who has brought into the network his experience as a provincial MLA, and much

of his previous council signified a shift from the unrelenting destabilization of the network from both within and without which had seemed to be the norm under his predecessors.

I think there's a few components that each community has to have if they want to take advantage of either technology or economic development and they have to envision where they want to go. They have to know the history, where they've come from and get that their history is relevant to today's society. Like we're a 400 years old fishing community, we know that it will never be the way that it traditionally was, yet there's a role because of our location and the fact that we have trained and qualified people to do the work... The more we can diversify, the more you can cushion the fact of your traditional industry changing. (Participant D3)

Although this would appear to be a somewhat obvious statement, nonetheless it signals a radical change in the community development actor-network, and in the problematization, as well as in establishing the council as the OPP. A strategic development plan has been developed with help from St. Francis Xavier University. This plan has identified a number of potential, viable development initiatives which the council and the chair of the economic development committee are putting into place. In a sense, this use of the university actor-network to help stabilize the community development network has brought with it a very old actor. As was discussed in chapter 2, in the 1920s, Father Jimmy Tompkins was "exiled" to Canso by his superiors at St. Francis Xavier; he found it in much the same economic state as it is now. As an actor, even today he is in many ways the inscription of community self-sufficiency and sustainable development. And there is at least one new actor within the current configuration of the network who is becoming in some ways an extension of that inscription.

I think I ate the book and I reread it every couple of years or so, and it makes probably more sense, everything that [Father Jimmy] said and did now is perhaps even more [needed] or at least as much as it did then... . The way I work is I always kind of just think okay, if this is a problem, what's the opportunity here? A lot of opportunities come from just solving problems somewhere in the mix. You know, the whole people's school model was something that really impacted me and it just makes so much sense, you know? Do you give somebody a loan and say here go do this and succeed or do you train them collectively or however you do that, then set them free in the marketplace? ... You know, within government there's just so much work, and my thinking is that it's better for government to source work to a community that's trying to adjust than to just write a cheque. (Participant D6)

This strong actor has also been responsible for negotiating the enrolment of ICTs into the development network. Increasingly, he is moving to the centre of the Canso actor-network, and in some ways is becoming the OPP for those negotiating with ICTs. His undergraduate degree was in commerce with an emphasis on information technology. When he returned to Canso in 1992, he opened a computer business, fixing and then, under the TAGS program, teaching basic computer skills to displaced fisheries workers. However, unlike Isle Madame, Canso used the TAGS funding as it was used in most other places: as an income replacement for the unemployed. But what came from this program was a new way of thinking about training within the community, as well as a shift in attitudes towards computers. This can be seen perhaps as the first negotiation in their enrolment into the Canso actor-network. And from this first set of negotiations came a number of others, each further stabilizing ICTs' place within the network.

For instance, because working on the cutting line where the fish are gutted and filleted is a traditional employment opportunity for women, the majority of the displaced fish plant workers were women. At the same time there was an acute shortage of nurses in that part of the province. After a series of negotiations, another actor-network was

enrolled: the Nova Scotia Community College (NSCC). The NSCC had a training program already in place, but it had never been delivered through distance education before. Therefore the course material had to be repurposed for distance delivery; the first negotiation was to hire youth from Canso to do this, as well as contracts for doing the same for other programs. The second negotiation was to find out what the requirements for nurses local medical facilities had; as on Isle Madame, training was now being designed to fill the available jobs. The final negotiation was to find a way to deliver the course work in, or at least near, the community, because Canso until the summer of 2005 still had only a dial-up connection. “The students could actually go to the hospitals and use their IT to do their work because most of them had children and it was just easier to go to the hospital and use it sort of as a base location, there was highspeed there at the time and also I think it helped them to get in that mindset that they were becoming a nurse. Once a week they’d come to Canso and a lab instructor would come in and it was just a great project” (Participant D6). All of the students went onto become employed, and the course became the model for nurse training in rural and remote parts of Nova Scotia.

Of larger economic significance to Canso however was the setting up of a call centre in the unused Post Office building in the middle of town. Again, through a series of negotiations, ICTs became further entrenched in the network; in effect, the building became a technology enterprise centre which houses the call centre, the town’s CAP site, and distance education training facilities. Through a series of federal and provincial government initiatives, funds were found to put a highspeed drop into the building, the first in the town. However, of perhaps even greater significance was the use of this

particular building for the creation of the technology enterprise centre, which also holds the town's CAP site. At one time, the post office was the administrative centre of the town, but it has been empty for decades. Its translation from administrative centre to derelict building to technology enterprise centre in some ways mirrors the translations within the Canso community development actor-network. It holds up a reverse image to the fish plant's shift from employment mainstay to intermittent opening to being closed completely, a fact which has not escaped some of the younger members of the actor-network.

It's wonderful to see 75 people working in a building that is the centerpiece of the community, that's finally, you know, for how many years, since I was little, I don't remember people being in that building, and years ago there was a furniture store, and now there was a pop shop where they sold pop, and a Laundromat, like, there was a bunch of stuff in there and then, but I do remember there being a bakery, ran out of that building, and then for years, the place was shut down, and you walk by it, and it's dark. And it's incredible to walk by that building and see the lights on, and see 75 people working, you know, shifts, they're not all there at the same time. My husband works out of that building, and they do training there, and there's people you know, it's a wonderful thing, and yes, you see the community, you see things changing, you see people being trained and working, and you know, yeah, and it has to change. (Participant D2)

The actor who been responsible for the emergence of ICTs as strong actors in the future development of Canso is younger than the majority of the other actors; he exhibits that same ability to "think outside the box" as the young people brought into the DIMA actor-network. And one of the big problems within the Canso community development network is a lack of young leaders. As on Isle Madame, the older actors are beginning to address this; however, unlike on Isle Madame, there is a generation of leadership that has left the community, perhaps forever. This individual also left Canso to go to university; between the time he left in 1988 and the time he returned in 1992, the community had

changed irrevocably. He acknowledges that most of the people of his generation “cut and run for cover” with the collapse of the fishery. The future community leaders became scattered, and since, unlike on Isle Madame there was very little employment to be had, very few of them returned. In some ways, this also contributed to the slowness of the network to change to more accurately reflect the reality of the fishery.

ICTs are being seen as one way to change this. The individual who negotiated the enrolment of these new technologies into the Canso community development network has developed a number of small innovative initiatives designed to engage youth with technology. The best known of these are a number of digitization projects for Collections Canada in which young people are trained to work with archival materials, reconfiguring them into digital collection accessible on the web. Others have become involved in website design, such as that for Canso’s biggest tourist draw, the Stan Rogers Folkfest, which every summer for a week brings 10,000 visitors to Canso. The benefits of these initiatives are acknowledged by the other actors in the community development actor-network, although not unexpectedly, these feeling are perhaps more prevalent among the younger actors than the old. But all agree that the need is there to employ youth in a way that will point them towards the future, not keep them facing back to the past.

In one sense, just as in the Age of Sail, when roads were of minor importance to Canso’s well-being because most traffic came by sea, it may be that the electronic highway proves to again remove the isolation factor from the network.

I think that computers can make the rural areas in a way competitive. You can live in Canso for instance and work on the computer and make a living. Now that was never possible in the past. You’d have to live close to the city and sell to the population of the city but I don’t think that’s true anymore, I don’t think it is at all. The call centre is a long ways from Halifax, but ...their customers are, my god, they’re all over the world.,

and they're everywhere so it doesn't matter where they live. (Participant D4)

I don't see a downside. Like it eliminates that distance and remoteness barrier.... Technology forces you to standardize things and to measure things and...I'm a big fan of remote management and I still think there's ground to be covered there. (Participant D6)

This shift in the Canso community development actor-network is still on-going. It is fair to say that the period of mobilization is still underway. Increasingly, however, the role of ICTs within the network is that of the stabilizing actor.

What Happens When the Network Widens

This chapter has shown how ICTs have been enrolled into two parallel individual community development networks, and to what effect. Although these two actor-networks in some ways ended up in very different places, nonetheless, it is evident that ICTs have indeed helped to negotiate the translation of the actor-network into a more stable configuration in the case of Canso, or re-established it as the OPP in the case of DIMA.

It is important to note, however, that sometimes the opposite can happen. Chapter 7 will explore this shift in one of the case study sites, as well as look at how ICTs can help to create and stabilize a meta actor-network.

Chapter 7

Community Development Organizations and Technology as Actor-Networks III: “Nobody Really Wants to See the Face of Change” – The WVDA and The CCN

By definition, CED organizations undertake a balancing act. They make purposeful interventions to address market failure and “the repercussions...of corporate decisions made in the best interests of owners and shareholders rather than the communities where [firms] operate” (Mitchell, Longo & Vodden, 2001, p.151). Meanwhile, they recognize the importance of the private sector and often use market-based tools or enter into partnerships with the private sector. In a similar vein, CED organizations respond to failures of public policy but are partners with government. This unique relationship with the public and private sectors means that CED organizations (and nonprofits in general) are a function of both but an element of neither.

Ryan MacNeil

We took a holistic approach to economic development, believing that what we were trying to do was to build a healthy society... . We recognized that if we were going to attract businesses, we had to have an educated workforce and a high-tech infrastructure... . Because our approach did not look familiar, it challenged a lot of assumptions. It forced local leaders to admit that perhaps they really didn't like change after all. Growth is nice, change is not.

Research Participant

Each of the three case study sites discussed in the previous chapters are small, geographically localized actor-networks, with ties to other larger networks that support them. As we saw, it appears that ICTs can serve as a stabilizing actor within the community development actor-network; however, in each case, this was only true when ICTs were enrolled into the network in conjunction with other development initiatives.

This chapter will continue the story of ICTs and community development actor-networks in rural Nova Scotia. It will look at two larger networks: the Western Valley Development Agency (WVDA), which covered two entire counties in southwestern Nova Scotia, and the Coastal Communities Network (CCN), which is province wide in scope. In some ways, a comparison between these two case study sites demonstrates how the way in which ICTs are enrolled into the network, especially in a traditionally rural culture, has a direct impact upon their stabilizing effect.

Story Four: The Western Valley Development Agency

This is the story of how what appeared to be a strong, obdurate actor-network ultimately became destabilized because of the way in which it negotiated the enrolment of ICTs into it. As we saw with the story of Upper Stewiacke, often how a new actor is negotiated with and enrolled into an actor-network will determine the effect that actor will have upon the network, as well as how stable the resulting translation of the network is. In the case of the WVDA, what appeared to the outside observer to be a hugely successful enrolment of ICTs into the community development network was, in effect, the factor that ultimately led to the organization's demise, although of course the story is not as simple as that. It is also a particularly good example of the concept of relational materiality which lies at the heart of ANT. As noted in chapter 4, "the semiotic approach tells us that entities achieve their form as a consequence of the relations in which they are located. But this means that it also tells us that they are *performed* in, by, and through those relations. A consequence is that everything is uncertain and reversible, at least in principle" (Law, 1999, p. 6, italics in original). In other words, what can be made through the actions of existing strong actor-networks coming together, can also be unmade, or perhaps, translated into non-existence.

The WVDA – The Ultimate Inscription of Innovative CED

Nova Scotia's Western [Annapolis] Valley region is made up of Annapolis and Digby counties. It is a geographically diverse part of the province, covering approximately 5600 square kilometres, and traditionally has been a rich area for fishing, forestry and agriculture. It is also a culturally diverse area which includes an almost 10,000-year-old Mi'kmaq community, some of the country's earliest Black settlements,

the largest Acadian population in the province, as well as Scottish and English communities. Indeed, the town of Annapolis Royal is the site of Canada's first permanent European settlement. Although by Nova Scotia standards a very remote part of the province, nevertheless, from 1940 until the late 1980s, between the fishery and the large military training base at Cornwallis, for the most part, the 40,000 people living in the region did quite well economically.

(NS Government Website, 2005)

Between 1990 and 1994, however, that economic wellbeing virtually disappeared. The collapse of the groundfishery, discussed in the last chapter, was as devastating to the fishermen of the Western Valley as to those in other parts of the province, although the region overall was not quite as dependent on the fishery as either Isle Madame or Canso. To make matters worse, however, in 1994 the collapse was coupled with the closure by the federal government of the region's largest employer, CFB Cornwallis¹. As in Canso

¹ Cornwallis was established by the Canadian military at the beginning of World War II to train recruits, and after the war, continued to serve as one of two main recruit training establishments, the other being CFB Borden near Toronto. With the downsizing of the military that took place throughout the 1970s and

and Isle Madame, the death of a way of life coupled with the loss of seven hundred jobs on the base left the population reeling and drew attention to many of the same problems as in the other communities: youth outmigration, a poorly educated workforce, lack of training and educational opportunities, an antiquated telecommunications infrastructure, decimation of the municipal tax base, and the loss of many of the area's small businesses.

The mid-1990s, as noted in chapter 2, was a time of great debate over community economic development in Nova Scotia. It was becoming quite obvious that the traditional top-down, industrial model of economic development was not working in terms of sustainable employment. However, it was unclear what this model should be replaced with. This is perhaps understandable in view of the problems facing the provincial and federal governments at the time. The loss of so many jobs in the fishery was compounded by the effect this was having on other sectors such as small business and manufacturing. Jobs were needed and needed quickly. At the same time, a realization was beginning to dawn in some sectors that bandaid solutions were not only not fixing the problem, but instead were prolonging it in an ongoing cycle of short-term employment followed by longer term unemployment. Interest in the academic concept of community economic development (which, as discussed in earlier chapters, revolves around the concept of what has come to be called *capacity building*) began to be aroused. Perhaps if communities could be given the skills to help identify and then solve their own problems, the solutions might be longer lasting. Although this may seem obvious to readers today (especially given that the Antigonish Movement was born in Nova Scotia), at the time this was quite a revolutionary thought, at least amongst policy makers. Industrial quick

1980s, it was felt that the number of recruits no longer justified keeping both bases open. The decision to close Cornwallis however, was viewed to be a highly politically motivated one; the feeling in the region at the time was that the area's economic wellbeing was being sacrificed to keep voters happy in Ontario.

fixes were just that: lots of jobs being made available in a relatively short space of time, even if they did not last. On the other hand, capacity building takes a long time; as with a deep river, to many eyes it appears that little is happening even if there is a lot of activity going on below the surface. As one participant put it,

The kind of debate that was going on was, you know, you can't do all this soft stuff and expect to have jobs in industry and business and so on and there was an argument that said you must build the capacity of the community so that everyone is able to participate. So everyone benefits, so that you don't have a segment of the society being left behind. So that economic development includes more than just jobs, it also includes quality of life and levels of community participation and the other kinds of things that people value like a clean environment and preservation of heritage, cultural development, etc. (Participant C4)

The solution that the provincial government came up with was a compromise between the old industrial model and the new CED model: the concept of the regional development authority (RDA). As discussed in chapter 2, the RDA system, put in place in 1994-95, represented a new direction for community economic development in Nova Scotia. In each of the province's thirteen regions, seven municipal units were expected to work together through their RDA to create economic development on a regional, as opposed to a municipal, level. Each RDA was to be, in effect, "an independent, citizen-run NGO which would be given the 'authority' to lead local economic development efforts" (Larkman, 2005, p.1).

The WVDA was the first RDA to be established in the province. It was created in 1994 on the bones of various industrial commissions and other local economic development agencies in response to the devastating blows to the region's economic

wellbeing. It was acknowledged by the region's seven municipal units² that the only way to solve the area's pressing economic problems was to work together. However, as on Isle Madame, centuries of competition between the different communities made this easier said than done. And there were no obvious answers to the crisis; it is no surprise that the WVDA's mission statement is less than specific, although it does form the basis for the problematization phase: "Building on our diverse cultural heritage, the WVDA will work with the community to create a vital, prosperous and self-reliant region where all people have ample opportunity for a full and satisfying life" (MacNeil, 2004b, p.1).

The RDA's stated objectives offer a little more direction:

- encourage businesses to explore new market opportunities;
 - partner with community organizations;
 - encourage and support the development of a competitive workforce;
 - encourage new business development in the area;
 - ensure vital transportation, communication and technological infrastructure is in place, maintained and improved; and,
 - ensure each sector considers environmental issues in decision-making.
- (Praxis, 2000, p.18)

Most telling of all however, is the WVDA goal statement. It reads, in part, that "The goal of the WVDA is to communicate the need for communities to take responsibility for their own economic well-being" (Praxis, 2000, p. 18). In terms of economic development, this was a startling break from tradition, and was not arrived at lightly.

In ANT terms, there were a number of existing actor-networks that negotiated the formation of a new actor-network, the WVDA. If we accept that in the concept of relational materiality, the actions of an entity are performed into being through the relationships it engages with, then we can see that the actions of the new RDA "child"

² These are the Town of Annapolis Royal, the Municipality of Annapolis County, the Town of Bridgetown, the Town of Digby, the Municipality of the District of Digby, the Municipality of the District of Clare and the Town of Middleton.

were in large measure determined by the three funding partners, and, although they created the WVDA as the OPP for any community development activity in the region, any attempted movement away from these originating actor-networks would result in instability not just in the WVDA, but in all of the “parent” networks as well. The provincial government, the federal government through ACOA, and the seven municipal units were all strong existing networks who, to a greater or lesser degree negotiated and enrolled existing actors within each network into the WVDA actor-network. This is important, because while the core funding for the new RDA was an equal federal / provincial / municipal government split, in real terms, the municipalities were the actor-networks who most needed the WVDA network to be strong in order to maintain their own economic wellbeing. Thus, despite providing only one third of the funding, in less tangible terms, they played a much bigger role as strong network supports. Ultimately, its demise would be the result of this relationship, proving that, as Law asserts, actions are indeed reversible. This was still 12 years in the future, however. The phases of interessement and enrolment lasted approximately a year, with negotiating going on between community actors, the WVDA, and the municipalities; the decision was made that instead of following the old industrial model, the RDA would instead follow a more holistic path of community development. As far as the WVDA was concerned, this path led straight to the information highway.

ICTs as an Empowering Actor

In each of the preceding case studies, it is evident that the presence of one or two strong central actors within an actor-network, or what one might call *initiating actors*, is key to the enrolment of other strong actors. In the case of the WVDA, these initiating

actors were the RDA's second executive director, and the federal government's Connecting Canadians initiative (initially the CAP program, and ultimately the Smart Communities Program).

The executive director had been originally hired as the district strategic planning co-ordinator, a role through which she had a strong voice in determining the eventual configuration of the organizational network. This is not to say however that she was dictatorial; indeed, her approach was quite the opposite. A firm believer in community consultation, team work, and grass roots development, it might be argued that the ultimate success of the WVDA was a direct result of this method of negotiation and enrolment. It must be noted however, that there is a somewhat sanctified aura around the concept of community consultation within CD; it is not as simple as finding out – or helping the community find out – what it wants, and then doing it. The negotiations involved in translating a dependent community actor-network into a self-sufficient one can be complex, lengthy, and difficult. “The so-called success of the WVDA has not been without spilling of blood in many ways and it's a function of some people's visions and of the coincidence of the stars, that two or three of those people came together at the right time and in the right place” (Participant C1). The importance of contingency in the evolution of an actor-network should never be forgotten; as well, these individuals made themselves an OPP.

This is evident when considering the direction that many of the development efforts of the WVDA took. Although it is certainly not fair to say that the RDA only undertook development projects where ICTs were involved, nonetheless a review of the projects discussed in a number of documents (Industry Canada, 2003; Larkman 2005;

MacNeil, 2001, 2004a, 2004b, 2005; Praxis, 2000; Province of Nova Scotia Hansard, 2005) shows a marked shift in that direction. This is no surprise if we look at the WVDA's stated objectives above; number five deals specifically with technological infrastructure. Although the executive director was not a self-identified technophile, nonetheless she recognized the potential within ICTs:

I saw an opportunity ten years ago [1994] for technology to be a vehicle for community empowerment. I saw this to be a tool that could really help advance this rural community and it really started with the CAP program. And when the CAP program came onboard, that was right at the beginning of our time. Actually the Bridgetown Regional High School was one of five pilots in the country in 1994, and then the official roll out came in 1995. So we were right there at the beginning of that, and we said you know what? Nobody really has a clue what this world wide web is supposed to be and you know, computer literacy levels are very low. We still at that time had party [telephone] lines, never mind broadband, we didn't even know what that was. So I took a very personal interest in the CAP program as a vehicle for engaging communities, number one. And number two, making sure that this community wasn't left behind in terms of being full participants in the global economy. It didn't take a rocket scientist to see what a major role technology was going to play in the growing economy. So with the CAP program, it gave us a really wonderful tool to go into communities and form relationships at the very grass roots level community groups and provide them with something that they could mobilize around.... (Participant C4)

Thus the CAP program once again became a stabilizing actor within various community actor-networks; for ten years, this concept of ICTs as an empowering actor within communities' development actor-networks was the RDA's central pillar. It was a theme that came up repeatedly in the research interviews.

[We] essentially made a pact to ourselves as an organization that if we're going to be tromping around the countryside saying that we're using technology as a community empowerment, community economic development tool, we should be model users. So we set about assessing the way we operate at the very internal level and pushing ourselves to become more efficient and to use the technology to help us do that. Never to use the technology just for glitz or whatever, but to really use it in a strategic way. (Participant C3)

Every member of the WVDA had an example of a program where ICTs served as the central node for mobilizing the community networks. For example,

- the Smart Senior Program, which gave seniors within the communities an opportunity to learn basic computer literacy; graduates of the program went on to become the instructors, expanding the network;
- the VolNet program which was implemented to support technology adoption by voluntary organizations;
- the creation of a virtual community resource centre and an e-business support program;
- the Milford Genealogy Centre, created around the community's CAP site;
- the Bay of Fundy Marine Resource Centre, which is using GPS technology to map the floor of the Bay of Fundy in order to track how shifting geology is affecting the fishstocks;
- growth through the use of sophisticated CAD technology and e-business opportunities at a local shipbuilding firm;
- the Youth Internship program which is teaching at-risk youth computer literacy and employment skills; and,
- three digitization projects which both archived the history of the area and taught youth computer skills.

These programs and others like them (not all of which were ICT-centred) led to the WVDA being recognized provincially, nationally and internationally as a model for community development.

- In 1998, UNESCO named the Digby region an international model of development processes. As well, the UN Centre for Human Settlements called the WVDA one of the 100 Best Practices in the World for improving living conditions in rural communities.
- In 1999, the Province of Nova Scotia awarded the WVDA its highest prize for sustainable development and the Economic Development Association of Canada (EDAC) and the Royal Bank called the WVDA's forestry program (which included an industry advisory group) the best economic development program in Canada.

- In 2000, the EDAC named the WVDA's "Building Tomorrow – Vision 2000" as best research paper in the country.
- In 2001, the Government of Nova Scotia presented the WVDA with the Bay of Fundy Partnership Award for environmental stewardship, and the WVDA again received the Royal Bank sponsored Best Economic Development Program Award for the West Nova Agro Commodities Grain & Forage Centre.
- In 2003, the Intelligent Communities Forum, a project of the World Teleport Association (a trade organization which focuses on satellite communication) named the Western Valley one of its seven Intelligent Communities worldwide.

(MacNeil, 2004b, p.1)

Perhaps of most significance to confirming the presence of ICTs as strong central actors within the WVDA actor-network, however, was the RDA's selection in 2000 as one of Industry Canada's 12 Smart Community demonstration projects. Like the CAP program, the Smart Community program was an initiative under the Connecting Canadians umbrella. Its purpose was to "help establish world-class Smart Communities across the country so that Canadians can fully realize benefits that information and communications technologies have to offer... . These communities will become world leaders in the integration of information and communication technologies into community life — in areas such as health care, education, training and business" (Industry Canada, 2003, p.1). The Western Valley was Nova Scotia's Smart Community. The \$4.5 million federal investment was matched dollar for dollar by the community and the projects that the program supported eventually led to the region having one of the highest levels of computer literacy of any rural community in the country. Further, and perhaps most impressively, the WVDA built and maintained a 145-kilometre fiberoptic infrastructure, FUNDYweb, without the involvement of the existing telecommunication

carriers.³ At the time it was the only such network in Canada owned and operated by a not-for-profit community organization.

ICTs as a Destabilizing Actor

Yet, despite all the awards and accolades for the progress made in preparing the region to meet the global technological realities of the 21st century, not everyone in the area was applauding. Although the WVDA had established itself as the OPP in terms of community development, and with the support of its parent networks negotiated the enrolment of an impressive array of ICT-based supporting actors, it cannot be said that the fourth stage of the translation process – the mobilization of allies – was ever completed. With the inception of FUNDYweb, expectations among the region's communities were high for immediate access to highspeed internet service; this failed to materialize when the deal with Aliant (see footnote 3 below) fell through and plans were put on hold while an alternative implementation and funding model was being researched. The delay seriously eroded the goodwill that had been created by the fanfare accompanying the WVDA's selection as the province's Smart Community. Feelings in the region began to turn to resentment over the perception that most of the RDA's efforts appeared to be directed toward ICTs and not enough to other forms of economic development. This was fuelled in part by the media; as MacNeil (2004b) points out, in 2000, 49% of WVDA related media coverage was on the RDA's ICT projects. And, although according to the RDA itself, "technology has never been the sole focus by any

³ The original agreement in principal to provide highspeed service throughout the region was actually between the WVDA and Aliant, Nova Scotia's main telecommunications carrier. However, while the WVDA and its community partners saw the introduction of highspeed broadband in terms of economic development, Aliant saw it as a business opportunity, and the Smart Communities fund as a catalyst. However, once the funding was used up, it planned to revert to its traditional business model. Since it was the high cost of service provision that had been the barrier to access in this area in the first place, the WVDA withdrew from the partnership and eventually decided to build the network itself.

means” (Participant C4), nonetheless, as much as 73% of the content of the RDA’s own newsletters dealt with ICT-related information. Despite an equally impressive track record with non-ICT-related initiatives in areas such as the fishery, forestry, small business, and agriculture, given that ICTs were all that the region’s residents were hearing about, it is little wonder that this negative perception existed.

Even within the WVDA an awareness of the potential pitfalls of ICT usage existed. Many research participants stressed that technology was a “tool” only, that it could be a “barrier” for those without the skills to use it, that the ergonomic issues surrounding ICT use in offices were causing physical issues in many places, and that especially amongst youth, problems with decreasing social skills because of time spent on-line were beginning to surface. Further, all the participants stressed (often in negative terms) the changes in the way they conducted their own day-to-day work because of the organization’s emphasis on ICTs. In every office, the computer was placed in the centre of each participant’s desk and work space; it was not uncommon for there to be two or more computers, as well as additional peripheral computer equipment to be present as well. The technology was at the centre of the organization, both figuratively and literally.

One repeated concern was about the over-emphasis on e-mail versus face-to-face communication between not just those outside the WVDA offices, but within as well: “[Participant C4] is a couple doors down from me and she’ll send me e-mails constantly all day and I’m required to keep up with the e-mails and send her the information she wants. Well, sometimes she’ll phone and ask me ‘how come you didn’t respond to my e-mail?’ And I’ll say ‘actually, I haven’t got it’ And I find that frustrating” (Participant C3). Other participants noted the intrusion of work into their leisure hours as a result of

being constantly accessible. While these are not new complaints about the intrusive nature of new communication technologies, they are not often heard in areas as rural as those covered by the WVDA.

Thus, while the research participants overwhelmingly saw ICTs as a development tool, they also noted a distrust of them, and appeared to be firmly aware of technology's increasing role as an independent central actor – in effect, an OPP – within the organization itself. There is an underlying sense in their responses of the organization perhaps having the tiger by the tail: “...here I am working for an organization that's pushing technology, but I'm of the firm belief that technology is not the way to go. I think we should be going the other way. People seemed to be locked up in these little cubicles and sitting in front of computers and it is so unhealthy, no matter which way you look at it. It is dehumanizing and that's what we're doing to people” (Participant C3).

On the other hand, some board members, as well as the executive director, expressed the awareness of a need to both acknowledge and manage the use of technology as a cultural change agent. “ [We're looking at] the whole idea of how you take a primary based economy in this area in particular and what other characteristics allow you to transform it into a knowledge economy.... Is it purely providing courses in computers or is it an attitudinal thing or is it a presence thing?” (Participant C1). It takes a long time to answer questions such as this, and unfortunately, time is one thing that the WVDA did not have.

Death and Transfiguration of an Actor-Network

As noted above, the WVDA derived its core operational funding from the three levels of government. It also used these funds to leverage other project-based funding

from a variety of sources, the largest of which was the Smart Communities Program. However, like most project-based funding, the Smart Community program was only in place for three years. As we saw with the earlier case studies, it takes a long time to change a mindset. “The whole idea of Smart Community was to incorporate technology in new and creative ways. Well, that’s not a three year project, that’s an evolutionary process and you know, there’s a lot of work that needs to be done” (Participant C5). A good example of this can be seen with the communities on Digby Neck, a 40 mile spit of land consisting of 11 fishing villages (see map on p. 208). Perhaps even more than other communities in the region, in general the Digby Neck residents were not willing to be enrolled into the WVDA’s actor-network, and resented its position as OPP. There was already a strong development actor-network in place among these communities, as well as a strong culture of independence. The WVDA’s emphasis on ICTs was perceived to be interesting, but of not much use. “In general [with] the IT initiatives, people could not tell you what that had to do with their lives of livelihoods or anything and so there’s a pretty interesting disconnect there.... . From the angle of our community anyway it’s not so much that it’s a failure, it’s just that it didn’t help” (Participant A1). This was a sentiment that began to be heard not just from the region’s citizens, but increasingly from the seven municipalities funding the WVDA. Again, just as on Isle Madame, to the outside observer the central development actor-network appeared to be strong and cohesive; viewed from within, however, the picture was one of contestation and constant negotiation. One participant summed up the problem very well:

There’s a battleground forming in regional development, not only in this area but all over the place.... . It’s the position of the attitude of the principal funders who happen to be the municipalities that are beginning to say regional development has got to be job creation, right? If regional

development is job creation, then there really isn't too much of a role for regional development agencies. Job creation is done by businesses. But this is the nitty gritty of small "P" political reality that, you know, jobs mean votes. Whereas being one of the top seven intelligent communities in the world doesn't get you any votes. (Participant C1)

Shortly after the field research for this project was completed, the Municipality of Clare withdrew its support from the WVDA, followed a few months later by Annapolis and Digby Counties. With the cessation of municipal funding, the provincial and federal governments also withdrew their funds, as per the original RDA agreement. The WVDA ceased to exist as a corporate entity on August 26, 2005. Despite being in existence for 12 years, it never managed to finish the translation process.

At the time, the municipalities stated that they had wanted the priorities of the WVDA to shift from community development to business attraction and retention; in other words, they wanted to return to the traditional industrial model. The mayor of one of the municipalities stated that "The board and staff of the WVDA were focused on capacity building that was doing nothing except absorbing human and financial resources. It didn't create any tax base to sustain them" (in Fairclough, 2005, p.B1). This statement shows clearly the lack of understanding by the municipalities of the concept of capacity building itself. For instance, it took twelve years for the WVDA to bring the region's technological infrastructure from multi-party telephone lines to highspeed and even wireless internet access which in turn has attracted businesses like the Convergys call centre to the area. But far beyond the technological infrastructure, the WVDA invested time and money in building human capital and capacity, and that work will have far-reaching economic effects with or without the RDA.

It would be easier perhaps to analyze the causes of the demise of the WVDA in political economic terms; to do so however, would negate in part the translations that occurred within the local community development actor-networks because of the capacity building work the RDA did over its 12 years, both in terms of human and technological actors. Nor would it acknowledge that the physicality of the WVDA has not really disappeared but, like Father Jimmy in Canso, rather has been translated into an intangible but still present entity. In short, the WVDA may no longer be an “living” actor, but its ghost continues to work as a negotiator within the Western Valley development actor-network in the ongoing struggle for the region’s economic well-being and self-sufficiency.

Story Five: The Coastal Communities Network

In some ways, this story is the other side of the coin from the one above. As with the WVDA, it is also about what can happen when a large actor-network is created through the coming together of other actor-networks. Thus, the concept of relational materiality is also in evidence here. However, since these member organizations do not directly fund the Coastal Communities Network (CCN), the resulting dynamic became very different from that of the WVDA. The entity that emerged from the confluence of these particular actor-networks was not treated like a recalcitrant and headstrong child; instead, the new actor-network is truly an example of a meta-actor-network: a network of actor-networks who work together for the common good.

Like the WVDA, the CCN came into being just at the time that ICTs were beginning to move into the mainstream of western society. However, unlike the WVDA, the CCN leadership did not choose to focus their attentions on these new technologies;

their infiltration into the actor-network was slow, and they were very much relegated to tool status. Nonetheless, ICTs have come to play an increasingly important role in the CCN actor-network. And so, this is also a story about how the enrolment of ICTs into the actor-network has helped to foster that spirit of co-operation mentioned above, in the process translating the CCN into a much different actor-network than it was starting out. Although perhaps not as dramatic a story as the preceding four, nonetheless it illustrates that intended or not, ICTs are almost always change agents to some degree.

The Birth of a Meta-Actor-Network

As was the case with Isle Madame, Canso, and the WVDA, the initiating actor for the CCN actor-network was the fishery crisis which arose from the collapse of the ground fishery in the early 1990s. As we have seen, this event left coastal communities in Nova Scotia in tatters; to many observers, however, the whole fishery crisis was inscribed in the conditions in Canso. A series of meetings was organized by the extension department at St. Francis Xavier University in Antigonish⁴ to discuss the situation, and it quickly became apparent that not just Canso, but the whole province was in the same predicament. “The start of it all may have been the situation in Canso...but as people from other parts of the province came together it was immediately apparent that what was happening was far bigger than the problem of any one community. There was clearly a province-wide emergency unfolding” (Edgar, in Milsom, 2002, p.2). In order to address the issues, it was felt that the coastal communities themselves needed to identify what they felt needed to be done; this was the period of problematization: “what can coastal

⁴ This was appropriately enough the same department that had sent Father Jimmy Tompkins to Canso in the 1930s to deal with the economic crisis of that time. See Romanow (2004) for a detailed comparison of the situation in the 1930s and the 1990s.

communities themselves do to remain viable in the face of the collapse of the fishery?" A series of workshops were held around the province; out of these an agenda for a provincial conference was developed. In February, 1992, the "Fishing for the Future" conference was held in Dartmouth, and out of that conference, the Coastal Communities Network was born.

Initially, every CCN member organization was in effect a director of the CCN. Although this system honoured the spirit of true participatory democracy, it soon became evident that such an organizational structure was unwieldy, since in time there were over 200 member organizations. In 1998, the CCN established a board of directors⁵ separate from its general membership; this board deals with internal day to day business, and represents the CCN to various governmental bodies. However, all board meetings are open to all members, and the opinions of all members, both individual and organizational are sought on the larger issues such as fisheries management, youth outmigration and other community development concerns. As one research participant put it, "I was absolutely drawn to the idea of fishermen and a government official having to sit at a table and dialogue respectfully over an absolutely crucial problem and how that resolved... . Constantly making sure things get out to the littlest person in the smallest community...." (Participant A6). In many ways, it is this spirit of inclusion that has sustained the CCN actor-network through both good times and bad. It also has had an effect on its role as an OPP, because while increasingly it is recognized that in order to get a community voice heard in the halls of government, it is necessary to go through the CCN (whose slogan is "A large voice for rural Nova Scotia"), at the same time the opportunity exists for all rural voices to be heard at the CCN level. One might call this a

⁵ It is from the board of directors that the research participants for this project were drawn.

“soft” OPP: it is recognized as being in the community-level actors’ best interests to be enrolled into the CCN, which in turn make the phase of mobilization go smoothly.

By 1996, the CCN had broadened its scope to include not just fishing, but other rural communities as well. Increasingly, its work fell into the area of community economic development. Although it would not be inaccurate to say that it became in some ways a lobby group, most observers would say that the CCN’s real strength lies in its ability to build bridges between rural communities, rural development organizations, and policy makers. “A lot of what CCN does is be a conduit for what we’re hearing from the communities” (Participant A2). This ability lies at the heart of creating a stable and obdurate meta-actor-network. For if we accept the concept of relational materiality, then every strong actor that is negotiated and enrolled from both outside and within the actor-network not only helps to stabilize it, but also translates it into a slightly different configuration.

One of the best examples of this can be seen in the uproar that surrounded the Marshall Decision in 1999⁶. The violent confrontations between Native and non-Native fishers seen in other parts of the Maritimes did not take place in Nova Scotia. Milsom (2002) suggests that this is due in large measure to the strong stand the CCN took on the decision in the days immediately following the SCC’s announcement. The CCN’s chair

⁶ Donald Marshall Jr., a Mi’kmaq from Cape Breton, was arrested and charged for catching and selling eels out of season. He appealed, saying that it was his treaty right to do so. The appeal eventually went to the Supreme Court of Canada (SCC), who acquitted Marshall, saying that by the treaties of 1760-61, First Nations did indeed have a right to make a “moderate livelihood” by hunting, fishing, and gathering other natural resources. What exactly constituted a “moderate livelihood” however, was open to interpretation. Non-First Nations fishing communities saw this as extremely unfair; despite already in trouble because of the collapse of the groundfishery, they were forced to fish according to the Department of Fisheries and Oceans’ (DFO) rules, while First Nations individuals were not. This was not an accurate perception of the ruling however, because the SCC also said that the native fishery did need to be regulated. Nonetheless, emotions ran high and there were violent confrontations between Native and Non-native fishers, especially in New Brunswick.

at the time appeared in front of the House of Commons Standing Committee on Fisheries and Oceans, “citing an agreement worked out between Native and non-Native [Nova Scotian] communities in the weeks following the Marshall Decision. [Participant A1] pointed to what CCN saw as a central lesson: ‘that it is the people centrally involved – the fishermen, the communities, both Mi’Kmaq and non-Native – who have the responsibility and wherewithal to reach solutions’ ” (Milsom, 2002, p.4). By enrolling Native fisheries organizations into the actor-network, the CCN was being translated into a diversified, but stronger and more cohesive network. This translation deepened when Canadian Heritage asked the CCN to develop the “On Common Ground” project, creating a dialogue especially in the area of community-based resource management among Nova Scotia’s four main cultural communities: Mi’kmaq, Afro-Nova Scotians, Acadians, and others of European descent.

This spirit of inclusion was the base upon which the CCN was formed, and continues to be one of the stabilizing forces within the network up to the present day; the CCN has very successfully moved into the phase of mobilizing its allies. Although not every project that the CCN has initiated has been successful, the vast majority have been because it does not just work *with* its constituent communities and organizations, but is in many ways the *sum* of its members’ wants and needs.⁷ There are a number of avenues for members to bring forward concerns, such as monthly membership meetings, in which “people travel from all parts of rural and small town Nova Scotia to come together and discuss both new opportunities for, and rising threats to, our communities. We share information about things that work, and about things that don’t” (CCN website, 2003). Part of the field research entailed attendance at these monthly meetings over the course of

⁷ Again illustrating the concept of relational materiality.

six months; although attendance fluctuated from month to month, it was always substantial and included not just representatives of large organizations, but also those from very small communities. Overwhelmingly the membership has indicated that it prefers face-to-face meetings such as these.

I know for example, the highlight of sort of rejuvenating the CCN is our Annual Conference and we work on making sure that our activities are physical, spiritual and mental and fun, so that people can laugh and we create that communal type of spirit... . And that's so needed because the challenges that we face in rural areas are huge and the work progresses so slow that it can be exceedingly discouraging and I don't think there's any way you could achieve that level of real communion and sharing and moral support unless you are all face to face... . That's when you're the most impactful and I don't really know if we do have that, if we can give that through technology. (Participant A2)

Enrolling ICTs into the CCN Actor-Network: A Mixed Blessing?

I would suggest that it is this continued emphasis on personal face-to-face communication that has allowed ICTs to be introduced slowly, and in a relatively managed fashion, into the CCN and its member organizations and communities. Many of the research participants, all of whom were past or present CCN board members, were early users of ICTs. Indeed, some of them first began using these technologies as far back as the mid-1970s. So it is perhaps no surprise that as an organization, the enrolment of ICTs into the actor-network has been, if not totally managed, at least done with some awareness of both their positive *and* negative potentials. As we shall see however, nonetheless ICTs have begun to shape the CCN and its policy directions to some extent.

There can be no doubt that ICTs have been a boon to a perpetually cash-strapped organization such as the CCN; their efficiency and speed in such things as sending e-mails and the dissemination of reports and other publications has lessened reliance on the

post and long distance phone charges. Leading from this, and supported by the evidence in the literature as seen in chapter 3, in many ways, ICTs have changed the way we communicate in our day-to-day lives.

The CCN website is one example of this. It has also been an extremely useful tool for disseminating information to both its constituent communities and organizations and those outside the network. Extremely well designed and easy to navigate, it holds a wealth of information and links to a number of websites covering everything from funding opportunities to international community development organizations. As we saw with Upper Stewiacke and Canso, a website often serves as an ambassador. Its 24/7 availability facilitates the creation of bridges to other actors and actor-networks not just locally or nationally, but globally. In some ways, websites serve as simulacra for their originating source. The face of that simulacrum however, may or may not represent the true face of the organization, not necessarily because of any intent to deceive, but because of a lack of capacity for keeping that face current. When this link is broken, inevitably the local actor-network is weakened to some extent as other actors are removed from the immediacy of contact that the web can provide. This is especially true in the case of many rural CD organizations who rely on project-based funding; it can be very problematic trying to find and keep a webmaster to maintain and update the website. This was evidenced during the course of the fieldwork, as the CCN website became inaccessible for almost 4 months because of problems with its host server. Thus the CCN was in no way accurately represented by its website during this period. It failed as an ambassador. Although this situation has since been remedied, one wonders what bridges failed to be built during this period.

Another facet of ICT-based communication that has had a huge impact on the CCN is the speed at which information is now able to be transferred and processed. “I don’t think [the CCN] would be as successful as they have been without it, I really don’t. Just because of the ability for communications, the ability to send somebody an idea visually, I think it’s a lot easier and it’s instantaneous. Like when we do a joint proposal, I mean bouncing a proposal back and forth. I can’t imagine doing that 10 or 20 years ago...it would take you forever. But now, within a couple of hours you can put a proposal together and bounce it back and forth and have it finished and ready to go” (Participant A3). This emphasis on the positive aspects of speed was echoed by virtually every one of the research participants. They all acknowledged that ICTs have greatly increased their ability to communicate quickly when necessary, especially around issues of funding.

The negative aspects of this increased speed of information were also well noted, however. Access to information is vital for community development; however, as one participant pointed out, too often “you’re getting way more information than you ever would before, which is really useful but then you get to the point where something that would have been key and you may have read and acted on, you don’t have the time because you have 68 more e-mails to read” (Participant A2). This increased work load has also created real problems for the organization, especially that of staff and volunteer burnout. When the CCN was first formed, it had a very specific mandate: to be the voice of small coastal communities to the larger world. The rapid development of the world wide web has greatly expanded the places that voice can and, one might argue, needs to be heard.

CCN used to have these monthly meetings, publish a magazine and do one project a year. That was it. ...Now, instead of being involved in a certain

amount of small things, we're involved in twenty million different sorts of things, which all have subcommittees and different aspects to them. I think there's a certain threshold of what you can do and what we can do well in particular and so you end up not giving your full attention to things and maybe creating things in a way that is [not] well thought out... . People just don't ask the question any more, when is the most effective time for us to move forward on this? It's just boom, there you go, you've sent the thought out, let's get this in and we'll fit you into the agenda and there you go. I mean the amount of balls we have in the air right now is quite unbelievable, what we're doing now compared to what we were doing five years ago, and yet we have approximately half the dollars now that we had five years ago to do those things. (Participant A2)

This comment echoes Gleick (2000) who has written about the effects of the speed of ICTs on what he call the "pause to reflect." He suggests that society has in large measure gotten rid of the pause, and the effects of this on a global scale are beginning to be catastrophic. For the CCN, the result of this may be less dramatic; however, despite the organization's attempts to mitigate the effect of their use, to some extent ICTs are placing themselves in the role of OPP, and are beginning to sweep the CCN along in their path.

It becomes a catch-22 for community development organizations of all sizes: they need ICTs in order to maintain a viable and visible presence and do their job of representing their constituent communities in an efficient manner; at the same time, the use of these technologies is overloading their capacity to perform that task in the best manner possible. Ultimately, despite the ability to exchange information and ideas quickly, the process of sustainable community development is a slow one; as noted in earlier chapters, the tension between using technologies of speed to create inherently slow sustainable development has created frustration at all levels of the actor-network. As one participant noted, ICTs do not speed up the process of development, just the expectations. "Everything is geared up for now, we want everything now... . Even when you're dealing with economic development, community members want the information

now. You know, we did a proposal and we sent it in a week ago. Why haven't we gotten an answer yet?... It still takes time to do stuff, raise the funds, and get the right people involved and that kind of thing...the computers haven't fixed everything by no means" (Participant A3). This perceived need for speed is shifting the translation process in some ways back to the interessement phase within the CCN, as roles are being renegotiated among the community-level actors. For the CCN is also proof of how ICTs, or more specifically access to ICTs, are shaping some rural community development organizations. As with Upper Stewiacke, some of the CCN's older members have been uncomfortable or unwilling to communicate via e-mails. Increasingly, these individuals have removed themselves from active membership; this is exacerbated by lack of access to highspeed connections. There have, however, been some attempts to work around these barriers, circumventing the reliance on ICTs: "We know from past work that we've been doing, that people do take those e-mailed minutes and pass them on to other people... There was a woman in Rock Harbour and she would get her minutes and she would get on the phone and she would say 'well, this is what you need to know' and she would read to people what had happened at the meeting, whatever section she thought was relevant to the work that they were doing" (Participant A2). In the end, while there can be no doubt that the CCN actor-network is being translated into a somewhat more "frenetic" entity through ICT use, nonetheless, because of the interventions of its strong, central human actors, at its core it remains human-centric.

ICTs as Bridging and Supporting Actors

While ICTs are becoming an increasingly important feature of communication within the CCN, they are also shifting the emphasis of some of its policy work, or

perhaps more specifically, the ways in which it carries out that work. In part, this has been brought about by the CCN's partnership with the Rural Communities Impacting Policy (RCIP) project⁸, discussed in chapter 2. It was designed to "increase the ability of rural communities and organizations in Nova Scotia to access and use social science research in order to influence and develop policy that contributes to the health and sustainability of communities" (RCIP Website, 2004). The CCN's enrolment of this very strong actor into its network has helped to translate the CCN into the very strong and stable meta-actor-network it has become.

This is in no small measure due to the creation of a series of web-accessible databases, which was one of RCIP's project objectives. Increasingly, various actors within the CCN network are beginning to share data. Information is, after all, power. "[Previously], there really wasn't many places for community groups to access data in an easy way to use the information to do whatever it was they wanted to do. Now the landscape has really changed...we have a number of different people that are starting to become data providers right and a lot of them seem to be focusing on trying to get community level data and not just from Statistics Canada or whatever" (Participant A5). Thus, the real importance of these computer-based databases lies not just in their ability to more easily analyze, categorize, and manage complex research-based datasets; of far more importance is the ability to access and use this data which is now available to those working within community development.

For the CCN too, we've had a real change because we've become much more involved in research... . Whereas before [ICTs were] a communication tool, now we're getting involved in GIS, humongously huge databases, setting them up in structures so we can analyze various

⁸ The third project partner was the Atlantic Health Promotion Institute; the project is currently in its wrap-up stage.

things and our capacity as an organization, and ...it's translated down to board members being able to say "well, I need to know what the amount of government funding that's coming to this region compared to our economic output." I know that our *Between the Land and the Sea*⁹ database has affected policies. ACOA has a new program coming out in March, and because of our study, which showed the economic value of the coastal regions, they're pretty confident that harbours and marine infrastructure are going to be a part of this funding program. (Participant A2)

The research being done by the CCN has attracted attention not just at the community level, but at various governmental levels as well. For instance, in 2005, the government of Nova Scotia launched their public access "Community Counts" web-site. This database has statistics on almost every community in Nova Scotia, covering a wide variety of demographic, economic and cultural areas. It was developed in part out of the joint research carried out by the CCN and RCIP towards RCIP's 2003 *Rural Report: Painting the Landscape of Rural Nova Scotia*, which created a set of baseline data about rural Nova Scotia for rural communities to measure change against. Thus, in many ways, the databases have become actors in their own right, and the negotiation and enrolment of them into various smaller actor-networks within the CCN meta-actor-network has translated the network at many levels into a stronger, more forceful "voice" speaking to other large, governmental actor-networks.

Despite this, the research participants did not directly acknowledge the contribution of ICTs in the usefulness of these databases, apart from noting how much easier it is to work with large datasets during analysis. However, without access to these databases through the internet, one has to wonder if communities and organizations would have been able to utilize them so successfully. Further, the research participants

⁹ This database holds information on Nova Scotia's wharves and harbours, harbour facilities, fishing activities and tourism operations, and was developed as part of a CCN research project investigating the impact of the province's wharves and harbours (marine infrastructure) on the provincial economy.

generally rejected the idea that there was a direct shift in policy priorities because of ICTs. The one exception to this is the recognition for the need for broadband or other highspeed access in rural areas “because of the reasons that entrepreneurship and etcetera just isn’t going to be able to fly in rural communities unless that broadband is there” (Participant A3). However, as noted above, the increased emphasis on data collection in general has created a shift in resource placement, as well as in capacity building priorities to some extent. While the larger issues such as economic development, youth outmigration, and community-based resource management have not changed, I suggest that, based on the evidence above, the ways they are being dealt with has changed because of the use of ICTs. ICTs have become an OPP.

Thus, as with the other case study sites, the enrolment of ICTs into the CCN actor-network has had a stabilizing effect, and allowed the CCN to complete the translation process from a relatively small community-based development organization, into a large meta-actor-network which deals with government, industry and community on an equal footing.

Summing Up the Stories

This chapter and the two preceding it have presented the discussion surrounding ICTs and their role in as change agents within CD organizations in rural Nova Scotia within an actor-network context. By levelling the playing field between human and non-human actors, it has been possible to see that ICTs are indeed having an effect within these organizations, and in their constituent communities, and have moved into the role of an obligatory passage point for further community development initiatives.

The final chapter will sum up the findings of the research fieldwork from these three chapters, and will end by making some suggestions for areas of further research which came to light as this project evolved.

Chapter 8

Conclusions and Further Research

CED is people-centred economics, drawing its energy from the people who need it most. It could smooth the transition to the almost workless world foreseen by Jeremy Rifkin and others. But CED challenges basic assumptions about what the economy is, what its purpose should be, how it is organized and shaped. Ultimately, it is a revolutionary enterprise. We have been driven to it by desperation. We should embrace it as our future and pursue it with resolution.

Silver Donald Cameron

The discussion surrounding ICTs and their role in community development in rural Canada is a complex one. This thesis has considered their role as change agents within CD organizations in rural Nova Scotia, as well as asking whether there is a corresponding role in these organization's constituent communities. By framing the discussion within an actor-network context, levelling the playing field between human and non-human actors, as it were, it has been possible to see that ICTs are indeed serving as change agents in this respect. This final chapter will sum up the findings of the research fieldwork from the preceding three chapters, consider the implications of these findings in terms of the theory, policy, and rural development discussed in the first four chapters, and will end by making some suggestions for areas of further research in this area.

Some Conclusions

While perhaps sweeping generalizations about ICTs and rural community development cannot be made from only five case study sites, nonetheless, there are some similarities between these stories which may point to the effects that ICTs have had on rural Nova Scotian community development organizations from the very small to the very large. Some of these support the findings in the literature discussed in chapter 3. In general, although most participants in this research project stressed that they view ICTs

mainly as tools to be used to further communication and research in the course of their work, it is apparent that in fact the interaction between human and technology is not necessarily that simple or unidirectional.

First of all, ICTs are changing how these CD organizations conduct their day to day business. This in and of itself is not a particularly startling finding, since the organizational literature is full of examples of this. However, virtually none of the literature deals with rural community development organizations and their ICT usage; thus, this finding is important in two ways in the rural context: 1) it shows that even the very small organizations with only dial-up service have come to rely heavily on e-mail for day-to-day communication within the organization, to the point that those who do not have or are not willing to acquire access, cease to be part of the organization, although they may continue to participate on the periphery; and 2) although this increasing reliance on electronic communication is changing the face of these organizations, the perception of the participants is that there is still an emphasis on face-to-face communication. This dichotomy is interesting, because it shows the gap between the self-perceived rural culture and the 21st century electronic reality. Equally interesting however, is that the members of these organizations are beginning to recognize the changes being brought about by this reliance on e-mail; especially among the older participants, there is a conscious move towards making an concerted effort to foster more face-to-face communication more in keeping with their traditional rural culture.

Secondly, the impact of the speed of computer-based communication has also been felt in both a positive and negative way. The removal of the distance / remoteness factor made possible through the use of ICTs such as e-mail, websites and even fax

machines, has allowed rural community development organizations to facilitate access to funding and other resources in a timely manner. However, the increased workload made possible through this facility of access is causing these organizations to become overloaded, resulting all too often in volunteer and staff burnout. This is exacerbated by steadily decreasing sources of funding, which make hiring individuals for anything but short term project-based contracts difficult. With a small population base to draw upon for volunteer replacements, this problem of burnout is becoming critical in rural areas.

Thirdly, although participants might deny this, increasingly, rural CD organizations are changing the emphasis of their sustainable development initiatives to foreground those which revolve around the use of ICTs (e.g., call centres, e-business, tourism marketing, etc.). There is a recognition of the importance of accessing the global market. To facilitate this, the community or organizational website has come to serve as an ambassador, representing them to the world on-line.

From an ANT perspective, ICTs have become obligatory passage points within each community development actor-network. Further, in all five cases the process of negotiating and enrolling ICTs into the community development actor-networks has had a stabilizing and strengthening effect. Although ultimately this process would signal its demise, even the WVDA's "ghost" continues to linger in the region today. In each case study site, whether serving as a negotiator, an ambassador, a facilitator or a holder of information, ICTs eventually became strong actors in their own right. They also inevitably became cultural change agents, both in terms of the organizations and their constituent communities. There is a sense of inevitability in this, since ICT usage is

increasingly becoming entrenched in our North American culture; the question is, just who is driving this “need for speed” that ICTs bring with them?

There can be no doubt that the switch to a bottom-up development model has been embraced by rural Nova Scotian communities. There can also be no doubt that most communities are aware of the potential role of ICTs in facilitating their hopes and dreams for development whether it be in terms of fostering economic development, keeping youth and seniors in the community, helping with the delivery of social services, or presenting their face to the world. The trick however, is managing the change which comes with increased ICT use; to manage change, it is necessary to first recognize that it is happening. The findings of this research indicate that these organizations are not aware of the full ramifications of their at times tentative embracing of these communication technologies.

Although as noted above, it is dangerous to draw conclusions from only five case-study sites, nonetheless the evidence from this research would seem to suggest the following:

- Rural Nova Scotian community development organizations are cautious about fully embracing ICTs. This may be in part due to their inherent conservatism, but also may reflect an instinctual understanding of the tension between the speed with which these technologies are changing, and the slower processes of sustainable development. To this end, perhaps the WVDA serves as a cautionary tale.
- Having said that, most CD organizations do embrace ICTs as tools to facilitate the process of sustainable community development. However, there seems to be only

a low level of awareness of the impact that the use of ICTs is having on the direction of development efforts in terms of policy and process. While there is a growing awareness that ICTs are rapidly changing the world we live in, at the same time, there is little understanding of how to manage the change being brought about by these technologies in rural communities.

- To the outside observer, these organizations, especially the WVDA and DIMA, are (or were) shining examples of successful rural development; once one gets past the surface, however, it quickly becomes evident that the definition of success within these communities is a contested one. Rural culture changes very slowly, and the efforts of these organizations are not always well received by their constituent communities. As the former executive director of the WVDA noted, “growth is nice, change is not.”
- The importance of the CAP program to rural Nova Scotian communities cannot be overstated. It acted as the catalyst to ICTs gaining entrance to these communities faster than might otherwise have been the case.
- Finally, increasingly rural CD organizations are beginning to understand the need for diversified development, and the role that ICTs can play in such diversification. They are also aware of the benefits of working with other communities to solving problems.

Implications for Theory, Policy and Rural Development

While being careful to not generalize too much, nonetheless it is possible to see some implications on a theoretical, political and rural community development level from these findings. Perhaps the biggest one is the overwhelming feeling that although these

technologies are relatively new, the problems facing Atlantic Canadian rural CD organizations are not. In fact, as one reviews the economic history of the region, it quickly becomes evident these communities have been dealing with the same problems of lagging economies, youth outmigration, distance from services of all kinds, and the “death” of rural culture since the end of the 19th century. The same sets of government-driven, top-down band-aid solutions have been offered decade after decade, exacerbating the problems. Reading the reports of the Sirois and Gordon Commissions, one could be forgiven for thinking s/he is reading about present-day rural communities. And as noted earlier, the parallels between Nova Scotia in the 1920s which led to the development of the Antigonish Movement and the province of today are a bit frightening. It is little wonder that there is an underlying sense of both panic and resignation among many rural CD organizations trying to come up with solutions to century-old problems. The length of time that systemic change takes is at odds with the crisis mentality of both governments and CD organizations. As noted above, this is exacerbated by the use of technologies of speed.

So what is the answer? The participants in this research clearly understand the tension between trying to deal with the day’s latest crisis while trying to develop sustainable solutions to the underlying systemic problems such as massive regional unemployment, project-based funding, and dwindling access to social services in the rural areas. Indeed, they understand it all too well. If in over 100 years, solutions have not been found, how can they manage to succeed now? ICTs would seem to offer some new hope, but the plain fact is that systemic change takes time, and time is something that many of these communities just do not have.

The epigram which begins this chapter is, I think, particularly appropriate to this. Both federal and provincial governments explicitly encourage the people in these rural communities in crisis to take charge of their own destinies and find their own solutions to their economic problems; this is what the concept of the social economy increasingly being found in government development policies is all about. It sounds good on the surface, but sadly, governments are not providing the financial means for it to work. By insisting on maintaining a policy of project-based funding, they are in effect throwing crumbs at these organizations. They allow them to deal with the crises to some extent, but the idea of changing the system itself is not a popular one among funders. A cynical observer might be forgiven for thinking that at some level, governments are happy with the status quo.

Many of the participants in this research noted that if governments were serious about fixing the problems within Canada's rural communities, they would provide sustainable longterm funding for community development organizations, and leave CD organizations to raise smaller amounts of funding for projects. The same amount of money would come out of government coffers, but the difference to the CD organizations would be immense. It is difficult to work on longterm strategies when worrying about whether or not you are going to be here to implement them.

I am reluctant to endorse a best practices approach, since one of the things that quickly becomes evident when talking to different rural communities is that any successful community development solution is extremely context-specific. The literature has shown that overarching models just do not work in rural development at any level, and in my opinion, best practices are still models. Even within a relatively small province

like Nova Scotia, what works for a community in Cape Breton will not necessarily work for a community on the South Shore; local culture, access to services, distance to urban areas, demographics, etc. are all factors which need to be taken into account in each instance. Having said that, one of the benefits of ICTs is the ability to access information on a scale never before possible. Most of the participants noted that they often go online to try to find ideas for solutions to problems. They rarely adopt them wholesale, but are sometimes able to adapt them to their own context. Thus, I would suggest that there are some good examples in this research of what has worked for these rural communities which may be adaptable for others in this region, and possibly in a broader Canadian context.

For instance, DIMA's shift towards an economy based upon small, locally-based, diversified business is one which appears to be an important way of facing encroaching globalization with all of its economic ramifications as discussed in chapters 2 and 3. The concept of *glocalization*, which in sociological terms, "means the simultaneity – the co-presence – of both universalizing and particularizing tendencies" (Robertson, 1997, ¶16) is an important one here. In the context of community development, this term places the emphasis firmly on the empowerment of local communities to co-opt the worst ravages of globalization, both economically and culturally: "Glocalization empowers local communities, linking them to global resources and facilitating initiatives of peace and development, while providing opportunities for the local communities to direct positive social change in the areas that most directly affect them" (The Glocal Forum, 2004, p.3). As tempting as it might be, it is no longer possible to ignore the effects of globalization in this era of high capitalism we live in; this idea of glocalization might offer ways to

mitigate these effects. This is a concept that needs to be explored within these communities, and one which future government policies should foster. It is also one which might be an area for further research within rural Nova Scotian communities.

And what of ICTs themselves? As the research findings have shown, they have become actors in their own right within these communities, as in the larger society. What might the future hold in terms of their further integration into and effects on these communities? As noted in chapter 2, the period covered by this research ended with the fall of the Martin federal Liberal government in 2006. In the ensuing year, Stephen Harper has had little to say about the Connecting Canadians agenda. Indeed, ICTs were not one of his five policy planks highlighted during the last federal election, and so were ignored; it is only recently, with an election in the wind, that any mention of ICTs has been made, and that only in passing. However, the findings of this research suggest that for policy makers to ignore ICTs in a rural development context would be irresponsible. The move of ICTs into rural communities needs to be managed carefully, as the CCN has done, and as the WVDA did not do. Policy to support that management needs to be developed at all levels of government. The provincial Nova Scotia government recently announced increased support for the CAP program in the province, as well as new initiatives to deliver broadband access to 90% of the province by 2009. However, in partnering with the existing ISPs (Aliant and Eastlink), it has doomed areas of the province to little or no access, since the fine print of the agreement says that these providers are to be guided in their choices of access by economic feasibility. This is exactly the problem that led the WVDA to develop FUNDYNet; it would be hoped that

future government policy would address the issues of allowing small fiberoptic networks to be built and funded for rural communities where the ISPs refuse to provide service.

And what of the implications of this research on a theoretical level? The use of ANT as the theoretical lens through which the data analysis for this thesis was conducted is, I think, perhaps an important step for the field of communication studies in North America. It is unclear why communication scholars on this continent tend to stay away from this theory, even though it is an accepted and well-used theory in Europe. Although as noted in chapter 4, it seems to be a good fit with many of the more “popular” theoretical lenses such as community informatics, diffusion of innovation theory and so on, it may be that the poststructuralist tradition is stronger in Europe.

As this thesis has illustrated, by levelling the playing field between humans and ICTs, some surprising findings come to light which might have remained otherwise hidden. The importance of ICTs as OPPs is perhaps the best example of this. By not privileging human actors, it becomes possible to see the full extent of the infiltration of ICTs into these communities and the ramifications thereof in ways which the human actors are unaware of. Another benefit of using this type of analysis is the ability to deconstruct the black boxes of the larger CD organizations such as DIMA and the WVDA; by uncovering the contestation that takes place as the actor-networks are being formed, and the trajectories that result from that contestation, it is possible to trace change both good and bad. Further, it is instructive to see the varying lengths of time that the process of translation can take within different networks. DIMA took 10 years, Canso 15 years later is still not through this process, and the WVDA was unable to finish before being destabilized by larger actor-networks. On the other hand, the USCDA went through

the translation process in just over a year. It may be that by using ANT when approaching questions of change dynamics within these communities, previously unseen effects and trends may be uncovered. Ultimately, it would be interesting to see more research done on humans and ICTs using this analytical framework; it provides the researcher with a new way in which to consider community development, and may well uncover useful answers to some of those systemic problems mentioned above.

The Way Forward: Some Suggestions for Future Research

Overall, the question in a sense becomes “do the individual members of these rural CD organizations really understand the dynamics being created through their interactions with ICTs through the course of their development work?” Unfortunately, the now unemployed members of the WVDA probably do. The others however, are only becoming aware of the changes being wrought in their communities by these technologies, and are beginning to see how they themselves are both acting as change agents while at the same time being changed by the ICTs they work with. There are a number of further potential research projects that evolved from this thesis research that may help map the extent of these changes.

First of all, because ICT usage is still in its infancy, it is possible to conduct longitudinal research on the cultural impact of ICTs on Atlantic Canadian rural communities starting, as this research project has, prior to the inception of ICTs into the development strategy. One suggested research project therefore is to continue to survey the case study sites over the next one to ten years to continue to explore how ICTs figure into these communities’ development initiatives, as well as to continue to track any cultural changes that result from them. In the case of the WVDA, it will be interesting to

follow the ramifications of the demise of that organization within a development context in the Western Annapolis Valley region.

Secondly, a great deal more research needs to be done into the importance of the CAP program to the infiltration of ICTs into rural communities. There is potential not only for future projects to look at the historical ramifications of the program, but also to follow the continuing evolution of CAP. Will it continue to play an important role within rural development, or will it become just an interesting footnote to the history of communication in Canada?

Thirdly, as highspeed access becomes less of an issue in rural Atlantic Canada, will we see some of the promise of e-business being fulfilled in improving the economies of rural communities? Is it better to reach out to a global market, or to use the technology to improve small local businesses? In short, will rural Nova Scotian communities begin to turn inward to find their way to self-sustainability, or will they continue to look outward?

Finally, in terms of policy, what role will ICTs play in empowering rural Nova Scotians in their quest to get governments to listen to them?

A Final Thought

In the 1920s and 1930s, Father Jimmy Tompkins showed the residents of Nova Scotia that it was possible to solve their own problems. And ultimately, although more information and more connections are made possible by these new technologies, in the rural Nova Scotia context, true sustainable community development still often begins with a conversation among neighbours around a kitchen table. However, sustainable development is a very slow process, and changes arising from it, while inevitable, tend to occur over a relatively long period of time. Perhaps the tension that is created by the use

of technologies of speed such as ICTs within the organizations that concern themselves with such change will eventually render them fundamentally changed as well.

References

- Acheson, T.W. (1972). The National Policy and the Industrialization of the Maritimes. *Acadiensis*. 1(2), pp.3-28.
- Allen, A. & Davila, J. (n.d.) Mind the gap! Bridging the rural – urban divide. Retrieved on April 15, 2005, from www.id21.org/insights/insights41/insights-issu01-art00.html
- Alm, L. & Witt, S. (1997). The rural-urban linkage to environmental policy making in the American west: A focus on Idaho. *The Social Science Journal*, 34(3), 271-284.
- Althaus, S. & Tewkesbury, D. (2000). Patterns of internet and traditional news media use in a networked community. *Political Communication*, 17(1) 21-45.
- Altheide, D. (1985). Format and ideology in TV news coverage of Iran. *Journalism Quarterly*, 62(2), pp.346-51.
- Altheide, D. (1987). Ethnographic content analysis. *Qualitative Sociology*, 10(1), pp.65-77.
- Anderson, B. & Tracey, K. (2001). Digital living: The impact (or otherwise) of the internet on everyday life. *American Behavioral Scientist*, 45(3), 456-475.
- Association for Community Networking Website (n.d.). Retrieved on September 8, 2004, from www.afcn.org
- Averill, J. (2003). Keys to the puzzle: Recognizing strengths in a rural community. *Public Health Nursing*, 20(6), 449-455.
- Aydalot, P. (1984). A la recherche de nouveaux dynamismes spatiaux. In P. Aydalot (Ed.), *Crise et espace*, (pp. 38 - 59), Paris : Economica.
- Babe, R. (2000). *Canadian communication thought: Ten foundational writers*. Toronto: University of Toronto Press.
- Balthelt, H., Malmberg, A. & Maskell, P. (2004). Cluster and knowledge: Local buzz, global pipelines and the process of knowledge creation. *Progress in Human Geography*, 28(1) pp.31-56.
- Banks, S. & Shenton, F. (2001). Regenerating neighbourhoods: A critical look at the role of community capacity building. *Local Economy*, 16(4), 286-298.
- Barnsley, J. & Ellis, D. (1992). *Research for change: Participatory action research for community groups*. Vancouver: Woman's Research Centre.

- Bauman, Z. (2003). Liquid love. Cambridge, UK: Polity Press.
- Beaton, B. (2004). The K-Net story: community ICT development work. The Journal of Community Informatics [online], 1(1).
- Beaudoin, C.E. & Thorson, E. (2004). Social Capital in Rural and Urban Communities: Testing Differences in Media Effects and Models. Journalism and Mass Communication Quarterly, 81(2), 378-399.
- Beauvais, C. & Jenson, J. (2002). Social cohesion: Updating the state of the research. CPRN Discussion paper No. F|22. Ottawa: Canadian Policy Research Networks.
- Beck, U. & Willms, J. (2004). Conversations with Ulrich Beck. Cambridge, UK: Polity Press.
- Beierle, T. & Konisky, D. (2000). Values, conflict, and trust in participatory environmental planning. Journal of Policy Analysis and Management, 19(4), 587-602.
- Bell, D. (1989, Spring). The third technological revolution and its possible socioeconomic consequence. Dissent, pp. 164-176.
- Berkowitz, D. & Muturi, N. (1999). Refining the participatory approach to development: Communication through the public relations excellence model. Paper presented to Association for Education in Journalism and Mass Communication Annual Convention, New Orleans, LA, August, 1999. Retrieved on April 12, 2005, from <http://list.msu.edu/cgi-bin/wa?A2=ind9909a&L=aejmc&F=&S=&P=56>
- Bingham, N & Thrift, N. (2000). Some new instructions for travellers: The geography of Bruno Latour and Michel Serres. In M. Crang & N. Thrift (Eds.), Thinking Space (pp. 281- 301). London: Routledge.
- Birdsall, W. (2000). The digital divide in the liberal state: A Canadian perspective. First Monday, 5(12). Retrieved on April 12, 2006, from http://firstmonday.org/issues/issues5_12/birdsall/index.html
- Blake, R.B. (2003, March). Regional and rural development strategies in Canada: The search for solutions. Research Papers for the Royal Commission on Renewing and Strengthening our Place in Canada. St. John's, NF: Government of Newfoundland and Labrador.
- Blanchard, A. (2004). The effects of dispersed virtual communities on face-to-face social capital. In M. Huysman and V. Wulf (Eds.) Social capital and information technology. (pp. 53-74). Cambridge, MA: MIT Press.

- Bollman, R. (1992). Rural and small town Canada. Toronto: Thompson Educational Publishing.
- Boneva, B., Kraut, R. & Frohlich, D. (2001). Using e-mail for personal relationships: The difference gender makes. American Behavioral Scientist, 45(3), 530-548.
- Borgatti, S. & Everett, M. (1992). Notions of position in network analysis. Social Methodology 22, pp. 1-36.
- Briggs, J. (2005). The use of indigenous knowledge in development: Problems and challenges. Progress in Development Studies, 5(2), pp.99-114.
- Bruce, D. (2003). CONNECTING TO THE Connecting Canadians agenda: Rural internet use for government information. [working paper]. Sackville, NB: Rural and Small Town Program, Mount Allison University.
- Bruun, H. & Hukkinen, J. (2003). Crossing boundaries: An integrative framework for studying technological change. Social Studies of Science, 33(1), 95-116.
- Bryant, C. (2000). Information technology and community economic development in Nova Scotia. Retrieved on November 2, 2005 from http://ced.gov.ns.ca/textversion/cedin_ns/region/paperitced.htm
- Bull, C.N. (ed.) (1993). Aging in rural America. Newbury Park, CA: Sage Publications Inc.
- Bunton, K. (1998). Social responsibility in covering community: A narrative case study. Mass Media Ethics, 13(4), 232-246.
- Calhoun, C. (1992). The infrastructure of modernity: Indirect social relationships. Information technology, and social integration. In H. Haferkamp & N. Smelser (Eds.), Social change and modernity, (pp. 205- 235). Berkeley / Los Angeles, CA: University of California Press.
- Callon, M. (1986). Some elements of a sociology of translation: Domestication of the scallops and the fishermen of St. Brieuc Bay. In J. Law (Ed.), Power, action and belief: A new sociology of knowledge? (pp. 196-233). London: Routledge & Kegan Paul.
- Callon, M. (1999). Actor-network theory: The market test. In J. Law & J. Hassard (Eds.), Actor network theory and after, (pp.181 -195). Oxford / Malden, MA: Blackwell Publishers / The Sociological Review.
- Cameron, S.D. (n.d.) That certain point: Beyond the limits of community economic development. Retrieved on 12 November, 2005, from www.chebucto.ns.ca/CommunitySupport/NCC/LISTSERV.html

- Cameron, S.D. (2004, June 20). Telile: The little TV station that could. Halifax Sunday Herald: The Nova Scotian, p.2.
- Camino, L. (2005). Youth-led community building: Promising practices from two communities using community-based service-learning. Journal of Extension, 43(1). Retrieved on April 2, 2005, from <http://www.joe.org/joe/2005february/a2.shtml>.
- Carroll, J. & Rosson, M.B. (2003). A trajectory for community networks. The Information Society, 19, 381-393.
- Casapulla, G., de Dindio, F. & Ripamonti, L.A. (2001). Community networks and access for all in the era of the free Internet : 'Discovering the treasure' of community. In L. Keeble & B. Loader (eds.), Community informatics: Shaping computer-mediated social relations. (pp.89-100). London: Routledge.
- Castells, M. (1996). The Information Age – economy, society and culture: Volume I: The rise of the network society. Oxford: Blackwell Publishers.
- Checkoway, B. (1998). Involving young people in neighborhood development. Children and Youth Services Review, 20(9/10), 765-795.
- Checkoway, B., Richards-Schuster, K., Abdullah, S., Aragon, M., Facio, E., Figueroa, L., Reddy, Welsh, M. & White, A. (2003). Young people as competent citizens. Community Development Journal, 38(4), 298-309.
- Clement, W. (1978). A political economy of regionalism in Canada. In D. Glenday, H. Guindon & A. Turowetz (Eds.), Modernization and the Canadian state, (pp. 89-110). Toronto: MacMillan Co. of Canada.
- Clifford, W.B. & Lilley, S.C. (1993). Characteristics of Rural Elderly. In C.N. Bull (Ed.), Aging in rural America (pp. 3-17). Newbury Park, Ca: Sage Publications, Inc.
- Cloke, P. & Little, J. (Eds.) (1997). Contested countryside cultures: Otherness, marginalisation and rurality. London: Routledge.
- Cloke, P. (1997). Country backwater to virtual village: Rural studies and "the cultural turn." Journal of Rural Studies, 13, 367-375.
- Clow, M. (2005). Just more of the same? Confederation and globalization. In J. Sacouman & H. Veltmeyer (Eds.), From the net to the Net: Atlantic Canada and the global economy, (pp.25 - 50). Aurora, ON: Garamond Press.
- Coady, M.M. (1939). Masters of their own destiny: The story of the Antigonish Movement of adult education through economic cooperation. New York: Harper & Brothers Publisher.

- Coady, M.M. (1945). The social significance of the co-operative movement. [Brief presented to the Royal Commission on the Taxation of Co-operatives] Antigonish, NS: Extension Dept., St. Francis Xavier University.
- Cohen, A. (1985). The symbolic construction of community. London: Tavistock.
- Community Safety Advisory Council. (n.d.) Glossary. Retrieved on April 18, 2005, from www.csas.org.uk/links/glossary.html
- Community Services Council Newfoundland and Labrador. (n.d.) Envision.ca virtual resource centre. Retrieved on April 10, 2005, from <http://envision.ca/templates/blank.asp?ID=56#exec>
- Conway, M & Rademacher, I. (2004). Building communications capacity: Sector programs share their experiences. Workforce Strategies Initiative Update [online], 2. Retrieved on March 29, 2005, from www.aspenwsi.org/publications/04-069.pdf
- Cuneo, C. (1978). A class perspective on regionalism. In D. Glenday, H. Guindon & A. Turowetz (Eds.), Modernization and the Canadian state, (pp. 132-156). Toronto: MacMillan Co. of Canada.
- Day, G. & Murdoch, J. (1993). Locality and community: Coming to terms with place. Sociological Review, 41, 82 – 111.
- Day, P. (1997). The community benefits of electronic networking. Retrieved on May 3, 2004, from www.partnerships.org.uk/articles/day1.html
- Dayton-Johnson, J. (2000). What does social cohesion contribute to the rural economy? A tale of four countries. Paper prepared for the Canadian Employment Research Forum (CERF) Conference on Rural/Urban Differences in Economic Development, Sudbury, Ontario on September 8-9, .
- De Kerckhove, D. (1997). Connected Intelligence: The arrival of the Web society. Toronto: Somerville House.
- de Souza Briggs, X. (1998). "Doing democracy up close: Culture, power, and communication in community building." Journal of Planning Education and Research, 17(1), pp. 1-13.
- Debertin, D. (1996). A Comparison of Social Capital in Rural and Urban Settings. [Staff Paper No. 366.] Lexington, KY: University of Kentucky Department of Agricultural Economics. , on April 15, 2005 from www.uky.edu/~deberti/socsaea.htm
- DeFleur, M. & Ball-Rokeach, S. (1982). Theories of mass communication. New York: Longman.

- Denzin, N. & Lincoln, Y. (1994). Handbook of qualitative research. Thousand Oaks, CA: Sage.
- Depew, D & Peters J.D. (2001). Community and communication: The conceptual background. In G. Shepherd & E. Rothenbuhler (Eds.), Communication and community, (pp.3-21). Mahwah, NJ: Lawrence Erlbaum Associates Inc.
- Dervin, B. & Huesca, R. (1999). The participatory communication for development narrative: An examination of meta-theoretic assumptions and their impacts. In T. Jacobson & J. Servaes (Eds.), Theoretical approaches to participatory communication, (pp. 169-210). Cresskill, NJ: Hampton Press.
- Development Isle Madame Association. (1999). Development Isle Madame: Our story, past, present and future. Arichat, NS: author.
- Development Isle Madame Association. (2005). DIMA news, 1(3).
- Dewey, J. (1915). Democracy and education. New York: MacMillan.
- Dissanayake, W. (1981). Development and communication : Four approaches. Media Asia, 8(4), 217-227.
- Dodaro, S. & Pluta, L. (1988). The Antigonish Movement as a model of regional economic development. In M.A. Choudhury (Ed.), Political economy of development in Atlantic Canada (pp. 49-70). Sydney, NS: UCCB Press.
- Dodaro, S., Pluta, L. & Amoako-Turffour, J. (1998). The relevance of the human factor and a grassroots approach to economic development: A case study of the Antigonish Movement in Canada. In S. Adjibolosoo (Ed.), International perspectives on the human factor in economic development (pp.55-76). Westport, CT: Praeger.
- Donovan, R., Taylor, W., Tharp, K. & Lloyd, S. (n.d.) Building a community using e-mail: A case study of a community group. Retrieved on February 15, 2005, from www.fis.utoronto.ca/iprp/c3n/CI/Donovanetal.htm
- Dutta-Bergman, M. (2004). Complementarity in consumption of news types across traditional and new media. Journal of Broadcasting & Electronic Media, 48(1), 41-60.
- Emke, I. (2001). Community newspaper and community identity. Paper presented at Canadian Sociology and Anthropology Association Annual Meetings, Montreal, QC. Retrieved on March 12, 2005, from [http://132.205.87.156/reports/Emke Editors %20paper.pdf](http://132.205.87.156/reports/Emke%20Editors%20paper.pdf)
- Emke, I. (2003). Survey of community newspaper editors in Canada. Research report for Canadian Rural Revitalization Foundation's New Rural Economy Study.

- Emke, I., Bruce, D., & Wilkinson, D. (forthcoming). Social cohesion and communications. In B. Reimer & A. Woodrow (Eds.), Social cohesion in Rural Canada.
- Fairclough, I. (2005, August 15). Not taking care of business. Halifax Chronicle-Herald, p.B1.
- Feenburg, A. (1995). Alternative modernity: The technical turn in philosophy and social theory. Berkeley / Los Angeles, CA: University of California Press.
- Fiske, E.P. (2000). Reconceptualizing Environmental Conflict Resolution: The Developmental Facilitation Approach. Retrieved on March 28, 2005, from <http://ag.arizona.edu/extension/weld/conflict.html>
- Flanagin, A. & Metzger, M. (2001). Internet use in the contemporary media environment. Human Communication Research, 27, 153-181.
- George, L. (2004a, Sept. 20). A high tech ghost story. Maclean's Magazine, Retrieved on November 12, 2004, from www.macleans.ca/topstories/technology/article.jsp?content=20040920_88654_88654
- George, L. (2004b, Nov. 29). Kids, come back! Maclean's Magazine, 11(48), pp. 58-59.
- Gesler, W., Arcury, T.A. & Koenig, H.G. (2000). An introduction to three studies of rural elderly people: Effects of religion and culture on health. Journal of Cross-Cultural Gerontology, 15, (1), 1-11.
- Gillis, C. (2004, November 29). The war between town and country. Maclean's Magazine, 11(48), pp. 50-59.
- Gleick, J. (2000). Faster: the acceleration of just about everything. New York: Random House.
- Glocal Forum. (2004). The glocalization manifesto. Retrieved on October 3, 2006 from www.glocalforum.org/mediagallery/mediaDownload.php?mm=/warehouse/documents/the_glocalization_manifesto.pdf
- Goldstein, L. (2000). Ethical dilemmas in designing collaborative research: Lessons learned the hard way. International Journal of Qualitative Studies in Education, 13(5), 517-530.
- Gomart, E. & Hennion, A. (1999). A sociology of attachment: Music amateurs, drug users. In J. Law & J. Hassard (Eds.), Actor network theory and after, (pp.220 – 247). Oxford / Malden, MA: Blackwell Publishers / The Sociological Review.

- Government of Nova Scotia. (2005). Community Counts Database. Retrieved on August 21, 2005 from www.gov.ns.ca/finance/communitycounts
- Grace, A. (1995). The gospel according to Father Jimmy: The missions of J.J. Tompkins, pioneer adult educator in the Antigonish Movement. Convergence, 28(2), pp. 63 – 77.
- Graham, P. (2000). Hypercapitalism. New Media & Society, 2(2), pp.131 – 156.
- Grimes, S. (2000). Rural areas in the information society: Diminishing distance or increasing learning capacity? Journal of Rural Studies, 16(1), 13-21.
- Gumucio Dagron, A. (2001). Making waves: Participatory communication for social change. New York: The Rockefeller Foundation.
- Gurstein, M. (1998). Information and communications technology and local economic development. In G.A. MacIntyre (Ed.), Perspectives on communities: A community economic development roundtable. Sydney, NS: UCCB Press. Retrieved on February 3, 2004, from www.firstmonday.org/issues/issue4_2/gurstein/index.html
- Gurstein, M. (1999). Flexible networking, information and communications technology and local economic development. First Monday 4(2). Retrieved on February 3, 2004, from www.firstmonday.org/issues/issue4_2/gurstein/index.html
- Gurstein, M. (2001). Community informatics, community networks and strategies for flexible networking. In L. Keeble & B. Loader (eds.), Community informatics: Shaping computer-mediated social relations. (pp.263-283). London: Routledge.
- Habermas, J. (1973/1989). The public sphere. In S. Seidman (ed.). Jürgen Habermas on society and politics: A reader, (pp.231 – 236). Boston: Beacon Press.
- Hall, S. (n.d.). Community networks – community development through information technology. In The Online Planning Journal. Retrieved September 7, 2004, from www.casa.ucl.ac.uk/planning/articles11/cn.htm
- Hampton, K. (2003). Grieving for a lost network: Collective action in a wired suburb. The Information Society, 19, 417-428.
- Hampton, K. & Wellman, B. (1999). Netville online and offline: Observing and surveying a wired suburb. American Behavioral Scientist, 43(3), 475-492.
- Hansen, N. (1988). Regional consequences of structural changes in the national and international division of labour, International Regional Science Review, 11(2), 121-136.

- Harmsworth, G. (2002). Indigenous concepts, values and knowledge for sustainable development: New Zealand case studies. Paper presented at the 7th Joint Conference on the Preservation of Ancient Cultures and the Globalization Scenario. India, 22-24 November, 2002.
- Harris, C. (2002). A sense of themselves: Leadership, communicative learning, and government policy in the service of community renewal. The Canadian Journal for the Study of Adult Education, 16(2), pp. 30-53.
- Harris, R. & Pendakur, M. (2002). Competing visions: The social impact of information and communications technology. In R. Harris & M. Pendakur (Eds.), Citizenship and participation in the information age, (pp.9 – 15). Aurora, ON: Garamond Press.
- Harrow, J. (2001). “Capacity building” as a public management goal: Myth, magic or the main chance? Public Management Review, 3(2), 209-230.
- Haythornthwaite, C. (2001a). The internet in everyday life. American Behavioral Scientist, 45(3), 363-382.
- Hayward, C., Simpson, L. & Wood, L. (2004). Still left out in the cold: Problematising participatory research and development. Sociologia Ruralis, 44(1), pp.95.
- Health Canada. (2003). What do rural and remote mean? Retrieved on 10 December, 2005, from www.phac-aspc.gc.ca/rh-sr/faq_e.html
- Healy, K. & Hampshire, A. (2003). The “rediscovery” of community in Australian social policy. Paper presented at the Social Policy Research Centre Conference, 9 July, 2003, in Sydney, Australia. Retrieved on July 9, 2004, from www.bensoc.asn.au/research/sprc_2003.html
- Heim, M. (1998). Virtual Realism. Oxford: Oxford University Press.
- Helliwell, J. (2001b). Social capital, the economy, and well-being. In K. Banting, A. Sharpe, & F. St-Hilaire, (Eds.), The Review of Economic Performance and Social Progress. Retrieved on March 27, 2005, from www.csls.ca/review/03-helliwell.pdf.
- Herbert-Cheshire, L. & Higgins, V. (2004). From risky to responsible: Expert knowledge and the governing of community-led rural development. Journal of Rural Studies, 20, 289-302.
- Hetherington, K. (1999). From Blindness to blindness: Museums, heterogeneity and the subject. In J. Law & J. Hassard (Eds.), Actor network theory and after, (pp.51 – 73). Oxford / Malden, MA: Blackwell Publishers / The Sociological Review.

- Higgins, J.W. (1999). Community television and the vision of media literacy, social action and empowerment. Journal of Broadcasting and Electronic Media, 43(4), 624-644.
- Hilbruner, R. (2003). The GreenCOM Project: Using strategic participatory communications for protected areas. In D. Hamú, E. Auchincloss & W. Goldstein (Eds.) Communicating Protected Areas. Gland Switzerland / Cambridge, UK: International Union for Conservation of Nature and Natural Resources.
- Hindman, D.B. (2000). The rural-urban digital divide. Journalism and Mass Communication Quarterly, 77(3), 549-560.
- Hindman, DB., Ernst, S. & Richardson, M. (2001). The rural-urban gap in community newspaper editors' use of information technologies. Mass Communication & Society, 4(2), 149-164.
- Howell, Nancy (1988). Understanding simple social structure: kinship units and ties. In B. Wellman & S.D. Berkowitz (Eds.), Social structures: A network approach, pp. 62-82. Cambridge, England: Cambridge University Press.
- Huesca, R. (1995). A procedural view of participatory communication: Lessons from Bolivian tin miners' radio. Media, culture & Society, 17, 109-119.
- Huggins, R. & Izushi, H. (2002). The digital divide and ICT learning in rural communities: Examples of good practice service delivery. Local Economy, 17(2), 111-122.
- Humboldt Area Foundation (n.d.). Glossary. Retrieved on May 12, 2005, from <http://www.hafoundation.org/about/glossary/index.html#C>
- Hurley, D. (2003). Polestar: Human rights in the Information Society. Retrieved on November, 17, 2004 from www.ichrdd.ca/english/commndoc/publications/globalization/wsis/PoleStar-Eng.html
- Huysman, M. & Wulf, V. (2004). Social capital and information technology: Current debates and research. In M. Huysman and V. Wulf (Eds.) Social capital and information technology. (pp. 1-16). Cambridge, MA: MIT Press.
- Inayatullah, S. (2002). From the information era to a Gaia of civilizations. In S. Inayatullah & S. Legget (eds.), Transforming communication: Technology, sustainability, and future generations, (pp.60-65). Westport, CT: Praeger.
- Industry Canada (2002). The new national dream: Networking the nation for broadband access. [report of the National Broadband Taskforce]. Ottawa: Author.

- Industry Canada. (2003). Smart communities: Report of the national selection committee. Ottawa: author.
- Industry Canada. (2005). The community access program [website]. Retrieved on July 12, 2006, from <http://cap.ic.gc.ca/index.htm>.
- Innis, H. (1930/1995). The economic development of the maritime provinces, 1867-1921. In D. Drache (ed.) Staples, markets, and cultural change: Selected essays of Harold A. Innis. Montreal / Kingston, ON: McGill / Queen's University Press.
- Innis, H. (1956). Essays in Canadian economic history. Toronto: University of Toronto Press.
- Jacobson, T. (1993). A pragmatist account of participatory communication research for national development. Communication Theory, 3(3), 214-230.
- Jacobson, T. & Servaes, J. (Eds.), (1999). Theoretical approaches to participatory communication. Cresskill, NJ: Hampton Press.
- Jacobson, T. & Storey, J.D. (2004). Development communication and participation: Applying Habermas to a case study of population programs in Nepal. Communication Theory, 14(2), 99-121.
- Jankowski, N. (2003). Community media research: A quest for theoretically-grounded models. Javnost: The Public, 10(1), pp. 5-14.
- Jarvis, A. (1991) The Payne Fund Reports: A discussion of their content, public reaction, and affect on the notion picture industry, 1930 – 1940. Journal of Popular Culture, 25(2), pp. 127-140.
- Joffres, C., Heath, S., Farquharson, J., Barkhouse, K., Hood, R., Latter, C. & MacLean, D. (2004). Defining and operationalizing capacity for heart health promotion in Nova Scotia, Canada. Health Promotion International, 19(1), pp.39-49.
- Jones, M. (2003) Can technology transform? Experimenting with wired communities. In B. Kolko (ed.), Virtual publics: Policy and community in an electronic age. (pp.354-384). New York: Columbia University Press.
- Jones, O., Conway, S. & Steward, F. (2001). Introduction: Social Interaction and organisational change. In O. Jones, S. Conway & F. Steward (Eds.), Social interaction and organisational change: Aston perspectives on innovation networks, pp. 1 – 40. London: Imperial College Press.
- Jongmans, P.G. (1973). Politics on the village level. In J. Boissevain & J. Clyde Mitchell, (Eds.). Network Analysis: Studies in Human Interaction, pp.168-217. The Hague: Mouton.

- Jordan, P. (1998). Living in Atlantic Canada, 1998: Perceptions about life in rural and small towns. Sackville, NB: Rural and Small Town Programme, Mount Allison University.
- Jowett, G., Jarvie, I, Fuller, K., Short, K. & Culbert, D. (Eds.) (1996). Children and the movies: Media influence and the Payne Fund controversy. Cambridge, U.K.: Cambridge University Press.
- Kanungo, S. (2004). On the emancipatory role of rural information systems. Information Technology & People, 17(4), 407-422.
- Kapoor, I. (2002). The devil's in the theory: A critical assessment of Robert Chambers' work on participatory development. Third World Quarterly, 23(1), 101-117.
- Karim, K. Smeltzer, S. & Loucheur, Y. (1998). On-line access and participation in Canadian society. Ottawa: International Comparative Research Group / Department of Canadian Heritage.
- Kavanaugh, A. & Patterson, S. (2001). The impact of community computer networks on social capital and community involvement. American Behavioral Scientist, 45(3), 496-509.
- Kawachi, I., Berkman, L.F.(1999) Social cohesion, social capital and health. In: Berkman, L.F. & Kawachi I. (eds). Social Epidemiology, New York: Oxford University Press.
- Kaye, B. & Johnson, T. (2003). From here to obscurity? Media substitution theory and traditional media in an on-line world. Journal of the American Society for information Science and Technology, 54(3), 260-273.
- Kazmer, M.M. & Haythornthwaite, C. (2001). Juggling social worlds: Distance students online and offline. American Behavioral Scientist, 45(3), 510-529.
- Keane, J. (1999). Public life in the era of communicative abundance. Canadian Journal of Communication [online], 24(2).
- Keeble, B. (2003). Why create? A critical review of a community informatics project. Journal of Computer-Mediated Communication, 8(3). Retrieved on July 1, 2004, from www.ascusc.org/jcmc/vol8/issue3/keeble.html
- Keeble, L. & Loader, B. (Eds.). (2001). Community informatics: Shaping computer-mediated social relations. London: Routledge.
- Ken'idi, I. (2002). Social capital and social communication in Japan: Political participation and tolerance. Irvine, CA: Centre for the Study of Democracy,

- University of California, Irvine. Retrieved April 2, 2005, from <http://repositories.cdlib.org/cgi/viewcontent.cgi?article=1003&context=csl>
- Kirk, P. & Shutte, A.M. (2004). Community leadership development. Community Development Journal, 39(3), 234-251.
- Knack, S. & Keefer, P. (1997). Does social capital have an economic payoff? A cross-country investigation.. Quarterly Journal of Economics, 112(4), 1251- 1288.
- Kraut, R.P., Lundmark, V., Kiesler, S., Mykhopadhyay, T. & Scherlis, W. (1998). Internet paradox: A social technology that reduces social involvement and psychological well-being? American Psychologist, 53(9), 1017-1031.
- Krebs, V. (2002). An introduction to social network analysis. Retrieved on November 24, 2004, from www.orgnet.com/sna.html
- Laegran, A.S. (2002). The petrol station and the internet café: Rural technospaces for youth. Journal of Rural Studies, 18, 157-168.
- Larkman, J. (2005). Governance issues in disadvantaged economic regions. Paper presented to the Rethinking Development Conference, Antigonish, NS on June 21, 2005.
- LaRose, R. Eastin, M.S., & Gregg, J. (2001). Reformulating the Internet paradox: Social cognitive explanations of Internet use and depression. Journal of Online Behavior, 1(2). Retrieved on September 8, 2004, from www.behavior.net/JOB/v1n2/paradox.html
- Latour, B. (1988). The pasteurization of France. Cambridge, MA: Harvard University Press.
- Latour, B. (1999). On recalling ANT. In J. Law & J. Hassard (Eds.), Actor network theory and after, (pp.15 - 25). Oxford / Malden, MA: Blackwell Publishers / The Sociological Review.
- Latour, B. (2006). Reassembling the social: An introduction to actor-network-theory. Oxford, UK: Oxford University Press.
- Law, J. (1986). On the methods of long-distance control: Vessels, navigation and the Portuguese route to India. In J. Law (Ed.), Power, action and belief: A new sociology of knowledge? (pp. 234-263). London: Routledge & Kegan Paul.
- Law, J. (1997). Traduction/Trahsion: Notes on ANT. Retrieved on November 11, 2002 from www.lancs.ac.uk/fss/sociology/papers/law-traduction-trahison.pdf

- Law, J. (1999). After ANT: Complexity, naming and topology. In J. Law & J. Hassard (Eds.), Actor network theory and after, (pp.1 – 14). Oxford / Malden, MA: Blackwell Publishers / The Sociological Review.
- Law, J. (2000). Objects, spaces, others. Retrieved on 17 November, 2002, from www.lancs.ac.uk/fss/sociology/papers/law-objects-spaces-others.pdf
- Lazarsfeld, P., Berelson, B. & Gaudet, H. (1948). The people's choice. New York: Columbia University Press.
- Lebaron, J. (1975). School, community and television. Childhood Education, 51(4), 190-194.
- LeBlanc, R. (1997). Speech from the throne to open the first session, thirty-sixth parliament of Canada. Retrieved on May5, 2006 from www.pco-bcp.gc.ca/default.asp?Language=E&Page=sftddt&doc=sftddt2004_2_e.htm
- Lennie, J., Hearn, G., Simpson, L & Kimber, M. (2005). Building community capacities in evaluating rural IT projects: Success strategies from the LEARNERS Project. International Journal of Education and Development Using ICT[online], 1(1). Retrieved on November 14, 2004, from <http://ijedict.dec.uwi/viewarticle.php?id=14>
- Lennie, J., Simpson, L. & Hearn, G. (2002). Can the participatory evaluation of new communication technology initiatives assists in building sustainable and inclusive rural communities? Roundtable presented to the Australasian Evaluation Society's International Evaluation Conference, Wollongong, NSW, Australia on 30 October, 2002. Retrieved on April 3, 2005, from http://64.233.167.104/search?q=cache:in1BBA9_qUsJ:www.learners.qut.edu.au/docs/AES%2520presentation%2520October%25202002.doc+Australasian+Evaluation+Society%E2%80%99s+International+Evaluation+Conference,+Wollongong&hl=en&start=1
- Lessig, L. (1999). Code and other laws of cyberspace. New York: Basic Books.
- Lévy, P. (1997). Collective intelligence: Mankind's emerging world in cyberspace. (R. Bononno, Trans.). New York: Plenum Press.
- Liepins, R. (2000). New energies for an old idea: reworking approaches to 'community' in contemporary rural studies. Journal of Rural Studies, 16, 23-25.
- Lin, N. (1999). Building a network theory of social capital. Connections 22, pp. 28-51.
- Lindlof, T. & Taylor, B. (2002). Qualitative communication research methods. Thousand Oaks, CA: Sage.

- Lindsay, C., Greig, M. & McQuaid, R.W. (2005). Alternative job search strategies in remote rural and peri-urban labour markets: The role of social networks. Sociologia Ruralis, 45(1/2), pp. 53-70.
- Litwin, H. (1978). On new neighborhoods, community work and video tape. Centro Sociale, 25,139-141/235-244.
- London, S. (1997). Civic networks: Building community on the net. Paper prepared for the Kettering Foundation. Retrieved on July 9, 2004, from www.scottlondong.com/reports/networks.html
- Lotz, J. & Welton, M. (1987). "Knowledge for the people": The origins and development of the Antigonish Movement. In M. Welton (Ed.), Knowledge for the People (pp.997-111). Toronto: OISE.
- Lundby, K. (1988). Cultural identity as basis for community television. Nordicom Review of Nordic Mass Communication Research, 2, 24-30.
- Mabudafhasi, R. (2002). The role of knowledge management and information sharing in capacity building for sustainable development – an example from South Africa. Ocean & Coastal Management, 45, 695-707.
- MacEachen, A. (1978). Canadian approaches to co-operation: The Antigonish Movement and Canada's international responsibilities. In P. Milner (Ed.), Human development through social change: Proceedings of St. Francis Xavier University's International Symposium commemoration the fiftieth anniversary of the Antigonish Movement, 1928 – 1978, (pp.11-21). Antigonish, NS: Formac Publishing.
- Mackintosh, W.A. (1923). Economic factors in Canadian history. Canadian Historical Review, 4 pp. 12-25.
- MacNeil, R. (2001). Western Valley Development Authority integrated communications strategy 2001-2002. Cornwallis, NS: WVDA.
- MacNeil, R. (2004). Information and communication technology development in Nova Scotia's western Valley: A backgrounder. Toronto: Canadian Research Alliance for Community Innovation and Networking.
- MacNeil, R. (2004). The Western Valley Development Agency: A backgrounder. Toronto: Canadian Research Alliance for Community Innovation and Networking.
- MacNeil, R. (2005). Accountability and community economic development: The funder-governed NGO. Toronto: Canadian Research Alliance for Community Innovation and Networking.

- Mansell, R. (1999). Information and communication technologies for development: Assessing the potential and the risks. Telecommunications Policy, 23, 35-50.
- Marentette, H. (1989, May). The paradoxes of the Antigonish movement: Texts and contexts. CASAE History Bulletin, pp.21-31.
- Marmulla, G. (Ed.) (2001). Dams, fish and fisheries: Opportunities, challenges and conflict resolution. [FAO Fisheries Technical Paper T419]. Rome: Food and Agriculture Organization of the United Nations. Retrieved on April 3, 2005, from <ftp://ftp.fao.org/docrep/fao/004/Y2785E/y2785e.pdf>
- Martin, M. (1997). Communication and mass media: Culture, domination and opposition. Scarborough, ON: Prentice Hall Allyn and Bacon Canada.
- Matthews, R. (1983). The creation of regional dependencies. Toronto: University of Toronto Press.
- McCall, T. (2003). Institutional design for community economic development models: Issues of opportunity and capacity. Community Development Journal, 38(2), 96-108.
- McCracken, M. (1999). Social cohesion and macroeconomic performance. Ottawa: Department of Canadian Heritage, Strategic Research and Analysis Directorate.
- McDevitt, M. & Chaffee, S. (2002). From top-down to trickle-up influence: Revisiting assumptions about the family in political socialization. Political Communication, 19(3), 281-301.
- McGrath, B. (2001). "A problem of resources": Defining rural youth encounters in education, work & housing. Journal of Rural Studies, 17, 481-195.
- McLeod, J. Daily, K., Guo, Z., Eveland, W., Bayer, J., Yang, S. & Wang, H. (1996). Community integration, local media use, and democratic processes. Communication Research, 23(2), 179-209.
- McLoughlin, C. (2000). Creating partnerships for generative learning and systemic change: Redefining academic roles and relationships in support of learning. The International Journal for Academic Development, 5(2), 116-128.
- McTavish, G. (2005, January). Farmer and Neighbour Relations Preventing and Resolving Local conflicts. [Ontario Ministry of Agriculture and Food Factsheet #720]. Toronto: Queen's Printer for Ontario. Retrieved on April 4, 2005, from www.gov.on.ca/OMAFRA/english/engineer/facts/05-001.htm
- Mellow, M. (2005). The work of rural professionals: Doing the *Gemeinschaft-Gesellschaft* gavotte. Rural sociology, 70(1), 50-69.

- Merriam-Webster Inc. (2003). Merriam-Webster's Collegiate Dictionary (11th Ed.). Springfield, MA: Author.
- Middleton, C. & Sorenson, S. (2005). How connected are Canadians? Inequities in Canadian households' internet access. Canadian Journal of Communication, 30(4), 463-483.
- Milojevic, I. (2002) Creating communication spaces for not yet so virtual people. In S. Inayatullah & S. Legget (eds.), Transforming communication: Technology, sustainability, and future generations, (pp.99-106). Westport, CT: Praeger.
- Milsom, S. (2002). CCN ten years on: A decade of difference. Coastal Communities News Magazine, 7(5), pp. 2-4.
- Milsom, S. (2003). Voices of Nova Scotia community: A written democracy. Halifax: Fernwood Publishing.
- Moore, S. (1986). Participatory communication in the development process. The Third Channel, 2(2), 587-624.
- Moy, P., McCluskey, M., McCoy, K. & Spratt, M. (2004). Political correlates of local news media use. Journal of Communication 54(3), 532-546.
- Murdoch, J. (1998). The spaces of actor-network theory. Geoforum, 29(4), 357-374.
- Murdoch, J. (2000). Networks – a new paradigm of rural development? Journal of Rural Studies, 16, 407-419.
- Murdoch, J. (2001). Ecologising sociology: Actor-network theory, co-construction and the problem of human exemptionalism. Sociology, 35(1), pp. 111-133.
- Murray, M. & Dunn, L. (1995). Capacity building for rural development in the United States. Journal of Rural Studies, 11(1), 89-97.
- Musso, J., Weare, C., & Hale, M. (2000). Designing web technologies for local governance reform: Good management or good democracy? Political Communication, 17(1), pp.1-19.
- Mutizwa-Mangiza, N. (1999). Strengthening rural-urban linkages. Habitat Debate [online] 5(1). Retrieved on March 22, 2005, from www.unhabitat.org/HD/hdv5n1/intro.htm
- National Civic League. (2003). Bridging the gap between citizens and local government with information technology: Concepts and case studies. Denver, CO: National Civic League.

- Neal, R. (1998). Brotherhood economics: Women and co-operatives in Nova Scotia. Sydney, NS: UCCB Press.
- Noronha, F. & Pratim Sarker, P. (2002). Showcasing people oriented IT practices: An alternative model in South Asia. Retrieved on September 9, 2004, from www.bytesforall.org/Egovernance/html/bytesforall_intro.pdf
- Norrie, K. & Owram, D. (1996). A history of the Canadian economy. Toronto: Harcourt Brace.
- Nova Scotia Economic Development. (2003). A discussion paper on community development. Halifax, NS: Author.
- Odasz, F. (n.d.) Community networking: Leveraging the public good electronically! Retrieved on April 10, 2004, from <http://lone-eagles.com/articles/networking.htm>
- Odasz, F. (n.d.). Realizing cultural and community sustainability through internet innovations in Alaskan native villages. Retrieved on April 10, 2004, from <http://lone-eagles.com/village-sustainability.htm>
- Ontario Ministry of Municipal Affairs and Housing. (2004, June). Growing strong rural communities: A consultation paper. [draft]. Guelph, ON: Ontario Ministry of Municipal Affairs and Housing, Rural Development Division.
- Osborne, S., Beattie, R. and Williamson, A. (2002). Community Involvement in Rural Regeneration Partnerships: Exploring the Rural Dimension Local Economy, 12(4), pp.290–295.
- Otsyina, J. & Rosenberg, D. (1997). Participation and the communication of development information: A review and reappraisal. Information Development, 13(2), pp. 89-93.
- Oxford University. (1989) Oxford English Dictionary Online. Retrieved on July 3, 2006 from <http://dictionary.oed.com.proxy.library.carleton.ca/cgi/entry/50048584>
- Page, M. & Scott, A. (2001). Change agency and women's learning: New practices in community informatics. Information, Communication & society, 4(4), 528-559.
- PanCanadian Community Futures. (n.d). Best practices: Canso Trawlermen's Co-operative. Retrieved on 3 February, 2006 from www.bestofcf.com/English/ClientStories/Story.asp?ID=298
- Park, P. (1997). Participatory research, democracy and community. Practicing Anthropology, 19(3), 8 – 13.

- Parker, F. & Sofiarini, R. (2002). Landless rural women creating sustainable futures. In S. Inayatullah & S. Legget (eds.), Transforming communication: Technology, sustainability, and future generations, (pp.134-149). Westport, CT: Praeger.
- Pattison, P. (1993). Algebraic Models for Social Networks. Cambridge, England: Cambridge University Press.
- Pauleen, D. & Yoong, P. (2004). Studying Human-Centered IT Innovation Using A Grounded Action Learning Approach. The Qualitative Report, 9(1), 137-60.
- Perroux, F. (1975). L'économie du XXe siècle. Paris : Presses universitaires de France.
- Picot, W.G. & Heath, J. (1991). Small communities in Atlantic Canada: Their industrial structure and labour market conditions in the early 1980s. [Statistics Canada Paper], Analytical Studies 40. Ottawa: Statistics Canada.
- Pictou-Antigonish Regional Library. (2004). Maireannachd – Carrying on. Report of proceedings and key findings, Pictou Innovation and National CAP Summit, November 20 – 23, 2003. Author: New Glasgow, NS.
- Pigg, K. & Crank, L. (2004) Building community social capital: The potential and promise of information and communications technologies. The Journal of Community Informatics, 1(1), pp. 58-73.
- Pigg, K. (2001). Applications of community informatics for building community and enhancing civic society. Information, Communication & Society, 4(4), 507-527.
- Pluta, L. & Kontak, W. (1976). The social economics of the Antigonish Movement. Review of Social Economy, 34(1), pp.63-70.
- Postman, N. (1992). Technopoly: the surrender of culture to technology. New York: Vintage Books.
- PRAXIS Research and Consulting. (2000). WVDA evaluation. Bedford, NS/ Cornwallis, NS: Author / Western Valley Development Authority.
- Preece, J. (2002) Supporting community and building social capital. Special edition of Communications of the ACM, 45(4), pp. 37- 39.
- Province of Nova Scotia. (2005, February 8). Hansard proceedings of Nova Scotia House of Assembly Committee on Economic Development. Retrieved on February 3, 2006 from www.gov.ns.ca/legislature/hansard/comm/ed/ed_2005feb08.htm
- Pryor, J. & Gharthey Ampiah, J. (2003). Understandings of education in an African village: The impact of information and communication technologies. Brighton,

England: Centre for International Education, University of Sussex Institute of Education.

Putnam, R. (2000). Bowling alone: The collapse and revival of American community. New York: Simon & Schuster.

Rabinovitch, J. (1999). Placing rural-urban linkages in the development debate. Habitat 5(1), Retrieved on April 15, 2005, from www.unhabitat.org/HD/hdv5n1/forum.htm#3.

Ramirez, R. (2001). A model for rural and remote information and communication technologies: A Canadian exploration. Telecommunications Policy, 25(5), 315-330.

Ramirez, R., Aitkin, H., Kora, G. & Richardson, D. (2005). Community engagement, performance measurement, and sustainability: Experiences from Canadian community-based networks. Canadian Journal of Communication, 30(2) [online]. Retrieved on April 2, 2005, from <http://www.cjc-online.ca/viewarticle.php?id=895>

Rayner, J.G. (1940). Some problems in the field of agricultural extension. Paper presented at the Canadian Society of Technical Agriculturalists convention, Winnipeg, MB.

Ritchie, M. (2000). Social capacity, sustainable development, and older people: Lessons from community-based care in southeast Asia. Development in Practice, 19(5), 638-649.

Robertson, R. (1997). Comments on the "global triad" and "glocalization." In Proceedings of the 1997 Globalization and Indigenous Culture Conference [online]. Tokyo: Institute for Japanese Culture and Classics. Kokugakuin University. Retrieved on October 3, 2006 from www2.kokugakuin.ac.jp/ijcc/wp/global/15robertson.html

Rodman, G. (2003). The net effect: The public's fear and the public sphere. In B. Kolko (Ed.), Virtual publics: Policy and community in an electronic age. New York: Columbia University Press.

Rogers, E. M. (1996). Diffusion of innovations (4th ed.). New York: Free Press.

Romanow, P. (2004). Father Jimmie would be proud: The effects of ICT use by rural Nova Scotian opinion leaders on the rural public sphere. Paper presented at the International Colloquium on Communication and Democracy: Technology and Citizen Engagement, August 6, 2004 in Fredericton, NB.

- Romanow, P. (2005). "The more things change...": Communication technologies, rurality, and national identity in Canada. Paper presented at the Canadian Communication Association Annual Conference, June 2, 2005, in London, ON.
- Rothenbuhler, E. (2001). Revising communication research for working on community. In G. Shepherd & E. Rothenbuhler (Eds.), Communication and community, (pp.159-180). Mahwah, NJ: Lawrence Erlbaum Associates Inc.
- Ruddle, K. (1987). Administration and conflict management in Japanese coastal fisheries. Rome: Food and Agriculture Organization of the United Nations. Retrieved on April 3, 2005, from www.fao.org/DOCREP/003/T0510E/T0510E00.HTM
- Ryan, B. & Gross, N.C. (1943). The diffusion of hybrid seed corn in two Iowa communities. Rural Sociology 8(1), 15-24.
- Sacouman, J. (1990). Restructuring, class conflict and class alliances: Some theoretical and practical conclusions. In B. Fairley, C. Leys & J. Sacouman (Eds.), Restructuring and resistance from Atlantic Canada (pp. 239-248). Toronto: Garamond Press.
- Sacouman, J. (2005). Capitalist restructuring on Canada's east coast. In J. Sacouman & H. Veltmeyer (Eds.), From the net to the Net: Atlantic Canada and the global economy, (pp.51-62). Aurora, ON: Garamond Press.
- Saldanha, A. (2003). Actor-network theory and critical sociology. Critical sociology, 29(3), 419 – 432.
- Saunders, S.A. (1930/1984). The economic history of the Maritime provinces. Saint John, NB: Acadiensis Press.
- Savan, B. & Sider, D. (2003). Contrasting approaches to community-based research and a case study of community sustainability in Toronto, Canada. Local Environment, 8(3), pp.303-316.
- Savoie, D. (2000). Community economic development in Atlantic Canada: False hope or panacea? Moncton, NB: The Canadian Institute for Research on Regional Development.
- Schuler, D. (1996). New community networks: Wired for change. Reading, MA: Addison-Wesley Publishing Company.
- Schuler, D. (2001). Cultivating society's civic intelligence: Patterns for a new 'world brain'. In L. Keeble & B. Loader, (Eds.), Community informatics: Shaping computer-mediated social relations. (pp. 284 – 304). London: Routledge.

- Schuler, D. (Forthcoming). Community networks and the evolution of civic intelligence. AI & Society.
- Schuller, T. (2001). The complementary roles of human and social capital. Isuma, 2(1). Retrieved on February 12, 2005, from www.isuma.net/v02n01/schuller/schuller_e.shtml
- Scrimgeour, F. & Iremonger, C. (2004). Maori sustainable economic development in New Zealand: Indigenous practices for the quadruple bottom line. Retrieved on 16 November, 2004, from www.wms-soros.mngt.waikato.ac.nz/.../Maori+Sustainable+Economic+Development+in+New+Zealand.pdf
- Seidman, S. (1989). Introduction. In S. Seidman (ed.) Jürgen Habermas on society and politics: A reader, (pp. 1-25). Boston, MA: Beacon Press.
- Selener, D. (1997). Participatory action research and social change. Ithaca, NY: Cornell Participatory Action Research Network.
- Servaes, J & Arnst, R. (1999). Principles of participatory communication research: Its strength (!) and weaknesses (?). In T. Jacobson & J. Servaes (Eds.), Theoretical approaches to participatory communication, (pp.107-130). Cresskill, NJ: Hampton Press.
- Shannon, C. (1949). The mathematical theory of communication. Urbana, IL: the University of Illinois Press.
- Shepherd, G.J. & Rothenbuhler, E. (Eds.) (2001). Communication and community. Mahwah, NJ: Lawrence Erlbaum Associates.
- Shirlow, P. & Murtagh, B. (2004). Capacity-building, representation and intracommunity conflict. Urban Studies, 41(1), 57-70.
- Shortall, S. (2004). Social of economic goals, civic inclusion or exclusion? An analysis of rural development theory and practice. Sociologia Ruralis, 44(1), 109-123.
- Silver, D. (2003). Communication, community, consumption: An ethnographic exploration of an online city. In B. Kolko (ed.), Virtual publics: Policy and community in an electronic age. (pp. 327-353). New York: Columbia University Press.
- Silverstone, R. & Haddon, L. (1996). Design and the domestication of information and communication technologies: Technical change and everyday life. In R. Mansell & R. Silverstone (Eds.), communication by design: The politics of information and communication technologies, pp. 44 – 74.

- Simpson, L. Wood, L. & Daws, L. (2003). Community capacity building: Starting with people not projects. Community Development Journal, 38(4), 277-286.
- Smith, K. (2002). From oral tradition to digital collectives: Information access and technology in contemporary Native American culture. RLG DigiNews, 6(6). Retrieved on November 8, 2004, from www.rlg.org/legacy/preserv/diginews/v6_n6_feature1.html
- Smith, L.T., Smith, G., Boler, M., Kempton, M., Ormond, A., Chueh, H. & Waetford, R. (2002). "Do you guys hate Aucklanders too?" Youth: Voicing difference from the rural heartland. Journal of Rural Studies, 18, 169-178.
- Smith, N., Littlejohns, L. & Thompson, D. (2001). Shaking out the cobwebs: Insights into community capacity and its relation to health outcomes. Community Development Journal, 36(1), pp. 30-41.
- Sobels, J., Curtis, A. & Lockie, S. (2001). The role of Landcare group networks in rural Australia: Exploring the contribution of social capital. Journal of Rural Studies, 17, 265-276.
- Spennemann, D., Birchhead, J., Green, D. & Atkinson, J. (1996, February 1). The electronic colonization of the Pacific. CMC Magazine. Retrieved on November 8, 2004, from www.december.com/cmc/mag/1996/feb/spen.html
- Stamm, K., Emig, A. & Hesse, M. (1997). The contribution of local media to community involvement. Journalism and Mass Communication Quarterly, 74(1), 97-107.
- Statistics Canada. (1999). A portrait of seniors in Canada. Ottawa: Industry Canada.
- Steward, F. (2001). Shaping technological trajectories through innovation networks and risk networks: Investigating the food sector. In O. Jones, S. Conway & F. Steward (Eds.), Social interaction and organisational change: Aston perspectives on innovation networks, pp. 193 – 216. London: Imperial College Press.
- Stöhr, W. & Taylor, F. (1981). Development from above or below?. Chichester, UK: John Wiley & sons.
- Stone, W. (2000). Social capital, social cohesion and social security. Paper presented at the Year 2000 International Research Conference on Social Security, Helsinki, 25-27 September. Retrieved on March 18, 2005, from www.issa.int/pdf/helsinki2000/topic4/2stone.pdf
- Surnam, M. & Reilly, K. (2003). Appropriating the internet for social change: Towards the strategic use of networked technologies by transnational civil society organizations. Retrieved on July 1, 2004, from

- Tacoli, C. (1998). Rural-urban interactions: A guide to the literature. Environment and Urbanization, 10(1), 147-166.
- Tamura, N. (1984). Rural communication in Japan. Media Asia, 11(4), 190-193.
- Tarde, G. (1903). The Laws of Imitation. (E.C. Parsons, trans.) New York: Henry, Holt & Co.
- Tatnall, A. & Lepa, J. (2003). The internet, e-commerce and older people: An actor-network approach to researching reasons for adoption and use. Logistics Information Management, 16(1), pp. 56-63.
- Tharp, K. Taylor, W. & Lloyd, S. (2003). The promise of wireless enabled electronic community networking: Background and early lessons in a regional area in Queensland. Retrieved on July 1, 2004, from www.fis.utoronto.ca/research/iprp/c3n/CI/Tharp_Taylor_Lloyd.htm
- The internet makes good neighbours, according to a recent study. (2004, September 13). The Toronto Star. Retrieved on September 15, 2004 from CRACIN-discussion listserve
- Tufte, T. (2004). Communication for social change: Struggles for visibility and voice, culture and diversity. Keynote presentation presented to the Communication and Cultural Diversity Conference, Forum Barcelona, Barcelona, Spain on 24 May, 2004.
- University of Northern British Columbia. (1999). Retrieved on 5 May, 2002, from www.unbc.ca/ruralhealth/summit_2.html
- Valentine, G. & Holloway, S. (2001). A window on the wider world? Rural children's use of information and communication technologies. Journal of Rural Studies, 17, 383-394.
- Van Kemenade, S. (2003). Social capital as a health determinant: How is it measured?. Ottawa: Health Canada.
- Veltmeyer, H. (1990). The restructuring of capital and the regional problem. In B. Fairley, C. Leys & J. Sacouman (Eds.), Restructuring and resistance from Atlantic Canada (pp. 79-104). Toronto: Garamond Press.
- Veltmeyer, H. (2005). Rethinking underdevelopment in Atlantic Canada. In J. Sacouman & H. Veltmeyer (Eds.), From the net to the Net: Atlantic Canada and the global economy, (pp.7 – 24). Aurora, ON: Garamond Press.

- Wakeham, S. Silva, M & Bracewell, B. (1998, November). Evaluating learning technologies for Northern communities: Final report. McGill University: Department of Educational and Counselling Psychology.
- Walter, G.R. (2003). A process-discursive approach to community economic development. Community Development Journal, 38(2), 109-119.
- Watkins, M. (1977). The staples theory revisited. Journal of Canadian Studies, 12, pp.83-95.
- Webb, P. (2002). Factors which influence the successful implementation of digital technology in Aboriginal communities. Retrieved on November 8, 2004, from www.vala.org.au/vala2002/2002pdf/47Webb.pdf
- Weliwita, A. & Okpala, D. (2003.) Promoting positive rural-urban linkages for sustainable development. Retrieved on April 3, 2005, from <http://www.cin.gov.cn/habitat/en/whd/day003.htm>
- Wellman, B. (1999). Networks in the Global Village. Boulder, CO: Westview Press.
- Wellman, B., Quan Hasse, A., Witte, J. & Hampton, K. (2001). Does the internet increase, decrease, or supplement social capital? Social networks, participation, and community commitment. American Behavioral Scientist, 45(3), 436-455.
- Welton, M. (1995). "Bolsheviks of a better sort"; Jimmy Tompkins and the struggle for a people's Catholicism, 1908 – 1928. AERC Proceedings, Edmonton, AB.
- Welton, M. (1996). Carrying the university to the people of Saskatchewan. Unpublished manuscript, Mount Saint Vincent University, Halifax, NS.
- Welton, M. (1996). Workshop seven: "Real adult education springs from the heart and pains of the people": The origins of the Antigonish Movement. [Course notes]. Historical Perspectives in Adult Education. Halifax: Dept. of Education, Mount Saint Vincent University.
- Welton, M. (2000). A new and disturbing presence: Father Moses Michael Coady and the United Maritime Fishermen. In B. Fairbairn, I. MacPherson & N. Russell (Eds.), Canadian Co-operatives in the year 2000: Memory, mutual aid and the millennium (pp.97-106). Saskatoon, SK: Centre for the Study of Co-operatives.
- Wescott, G. (2002). Partnerships for capacity building: Community, governments and universities working together. Ocean & Coastal Management, 45, 549-571.
- Westerik, H. (2001). Community integration and the use of local media: A critical review. Communications, 26(2), 197-209.

- White, R. (2004). Is “empowerment” the answer? Current theory and research on development communication. Gazette, 66(1), pp. 7-24.
- White, S., Nair, K. & Ascroft, J. (Eds.) (1994). Participatory communication: Working for change and development. New Delhi: Sage.
- Wilkins, L., Swatman, P. & Castleman, T. (2004). Faster, Richer, Better: Rapid Appraisal Techniques for the Study of IS Implementation in Virtual Communities. The Qualitative Report, 9(1), 161-175.
- Wilkinson, P. & Quarter, J. (1996). Building a community-controlled economy: The Evangeline Co-operative experience. Toronto: University of Toronto Press.
- Williams, C. (2004). Community capacity building: A critical evaluation of the Third Sector Approach. Review of Policy Research, 21(5), 729-739.
- Williamson, A. (2003). Shifting the centre: The internet as a tool for community activism. ITiRA conference 2003 Proceedings, pp. 149-155. Retrieved on March 3, 2005, from www.dec.uwi.edu/smarshall/itira/2003/proceedings.htm
- Winseck, D. (2002). Illusions of perfect information and fantasies of control in the information society. New Media & Society, 4(1), pp. 93-122.
- Woloschuk, W., Crutcher, R. & Szafran, O. (2005). Preparedness for rural community leadership and its impact on practice location of family medicine graduates Australian Journal of Rural Health, 13(1), pp.3-7.
- Workman, T. (2005). The decaying social compact in Atlantic Canada. In J. Sacouman & H. Veltmeyer (Eds.), From the net to the Net: Atlantic Canada and the global economy, (pp.85 - 98). Aurora, ON: Garamond Press.