Policy Research / Recherche sur les politiques

POLICY RESEARCH INITIATIVE

HORIZONS

Volume 4 Number 3

July 2001

EMERGING DEVELOPMENTS AND KNOWLEDGE IN PUBLIC POLICY RESEARCH

In this issue

Managing for Sustainable Development

Welcome!

How do we ensure that we meet today's needs without compromising the ability of future generations to meet their own? Adopting **sustainable development** as an integrated management and governance framework may offer some solutions. However, achieving sustainable development goals remains a complex problem and poses a major challenge for Canadian researchers and decision makers.

This issue of *Horizons* is devoted to the management challenges that must be overcome in order to make sustainable development a reality in Canada. The issue deals with the social management of environmental problems, various management models and concepts that may help institutions respond more effectively to emerging challenges to sustainable development, and existing gaps and recent progress in the area of strategic research on sustainable development.

The Human Imperative of the 21st Century

"The central assumption of my story is that the implementation of sustainable development is the human imperative of the twenty-first century, requiring strong leadership by local, regional and national governments, and that governments must move beyond simply being governments to governance, actively engaging all sectors of society in its implementation. How? Through reconciliation and dialogue. Sustainable development can be regarded as a process involving the reconciliation of three imperatives: 1) the ecological imperative to live within global biophysical carrying capacity and to maintain biodiversity; 2) the social imperative to ensure the development of democratic systems of governance that can effectively propagate and sustain the values by which people wish to live; and 3) the economic imperative to ensure that basic needs are met worldwide."

For more information, see Dale, Ann. *At the Edge: Sustainable Development in the 21st Century.* Vancouver: UBC Press, 2001.

Policy Reflections

"Policies are experiments; learn from them"

– Kai N. Lee

Compass and Gyroscope

Next Up!!!

Developing and understanding Canadian public policy in a North American context is a significant challenge. In recent years, implementation of the North American Free Trade Agreement (NAFTA) has strengthened Canada-Mexico relations considerably. However, the economy and commerce are only two areas of wealth available through enhanced relations and trade with Mexico. The next issue of *Horizons* will take a look at the social, cultural, political and economic ties uniting our two countries and their impact on policy development in Canada. If you know of any research work or programs that may be of interest to readers, please e-mail us at horizons@prs-srp.gc.ca or call us at (613) 947-1956.

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Executive Brief

Finding a Balance

Striking a balance has evolved into the central challenge of our busy lives. We want to achieve more in our careers but we also feel the need to spend time with our families, reconnect with nature and explore our world. Sometimes the goals of productivity and happiness are easily reconcilable – at other times they conflict. Research in psychology and sociology has shown that sustained imbalances – such as overwork – can result in a decline in productivity, poor health and family breakdown and even premature death.

Thinking about the need to manage the varied and growing demands on our scarcest of resources – time – is an instructive way to think about sustainable development. It was mounting evidence of global imbalances that prompted the creation of the *World Commission on Environment and Development* chaired by Gro Harlem Brundtland in the 1980's. Against the backdrop of a severe and extended famine in Africa and a world still shaken by the discovery of a massive hole in the ozone layer, the Brundtland commission outlined a new approach to human affairs that was both a moral philosophy and an agenda for action. In a very real sense the challenge that sustainable development sets before us is to strike a balance among our goals of economic growth, social equality and ecological health. It sets this challenge at the individual and community level, as well as the societal and global levels.

The challenge of sustainable development is large and living up to the ideal has proven difficult to achieve. Yet this does not diminish it as a continuing priority of public policy – indeed it only underlines the need for increasing our efforts. The frequently observed implementation gap (the difference between the aspirations of policy and the realities of achievement) should not inspire cynicism but rather focus our task.

In a very real sense the challenge that sustainable development sets before us is to strike a balance among our goals of economic growth, social equality and ecological health.

WHY HAS THE IMPLEMENTATION GAP EMERGED?

We have been hesitant to integrate sustainable development into the centre of our decision-making structures in government and the private sector. In the private sector, it has proven difficult to reconcile the legitimate competitiveness concerns of firms with the expected eco-efficiency gains of whole systems or life-cycle approaches. In government, the challenges of implementing sustainable development are wrapped up with the complexities of our federal system and the well documented challenges of horizontal management. In both cases the results are predictable - small celebrated improvements which, however loudly proclaimed, are soon drowned out.

Where successes have been more pronounced is at the community level. An impressive evidence base is emerging to support the hypothesis that communities are an optimal point for implementing sustainable development. The community in which we live is the most tangible reference point for measuring the quality of our lives. The steady rise in GDP may give us comfort at some level but the livability of our community impinges on every aspect of our lives: from the length of our commute, to the safety of our water, to the cleanliness of the air we breathe, to our proximity to natural spaces. Increasingly, we look to communities for answers to the puzzle of the implementation gap and for directions to the path forward. A key issue here is the scalability of findings.

In short, there can be no one answer to the implementation gap and consequently, we need to proceed in multiple directions. The design of a robust, horizontal,

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forward-looking – and above all – policy relevant research agenda can be a central part of the solution.

The Sustainable Development Research Project is the Policy Research Initiative's effort to strengthen our policy research capacity in this critical area. Under the leadership of Wayne Wouters (Deputy Minister of Fisheries and Oceans Canada) and Brian Emmett (Vice President-Policy of Canadian International Development Agency) and in collaboration with many other partners, we are working to design an integrated research program to fill key knowledge gaps. In keeping with the scope of sustainable development research we have woven a large net. Four research themes have been selected: governance, effective management, environmental innovation and the social dimension of sustainable development.

The stakes are high and the need for balance acute. At a recent PRI event, a distinguished researcher spoke in terms of a "pending planetary emergency." While many would still disagree with this view and the dire need to move collectively toward sustainable development – their ranks are thinning.

Laura A. Chapman
Executive Director,
Policy Research Initiative

Upcoming Events

Date	Events
Aug. 19-23, 2001	***Putting People at the Centre: Voluntary Action Shaping Social and Economic Change*** http://www.civicusassembly.org Vancouver The 2001 CIVICUS World Assembly's theme of volunteerism is an essential element to the creation of a healthy civil society and is reflected by the support of many volunteers in the planning and implementation of the assembly. We believe that our thematic streams of "Citizen Action and Volunteering: Building a Movement for Social and Economic Change" and "Cross Sectoral Collaboration to Promote Sustainable Change" will provide participants with an extremely positive and dynamic experience; an experience of great learning and sharing across cultural, economic, and political lines. More information about the conference is accessible through http://www.civicusassembly.org.
Aug. 27-29, 2001	***Canada in International Perspective – The Human Capital Paradigm*** http://www.qiisp.com/qstart1.htm Kingston Many of the OECD countries, especially Canada and the United States, have in recent years adopted an approach to social policy that emphasizes building the capacity of individuals to adapt to economic change and to grasp with the opportunities of a "new economy." Canadian polices in education, training, income security, labour, health and justice are being adjusted to a human capital perspective. This summer institute presents an intensive program which reviews the human capital approach from the perspective of Canadian social objectives, considers the experience of other countries and explores the limits of the human capital approach and the broader focus needed to achieve Canadian social objectives. For more details or to register for the institute, please visit http://www.qiisp.com/qstart1.htm.
Sept. 17-19, 2001	***International Conference On Cultural Industries and Cultural Exchanges Between American Peoples*** http://www.er.uqam.ca/nobel/gricis/index.html Montreal This event will look at the relationship between the economy and culture and at the development of cultural exchanges between American peoples. It will bring together researchers, industry leaders and representatives from the culture and communication sectors from the United States, Latin America and Canada. The program is organized around five themes: 1) The State and Cultural Diversity; 2) Language and Cultural Exchanges; 3) Economy and Culture; 4) Cultural Exchanges and Democracy; and 5) First Nations' Participation in Cultural Exchanges. For more information please contact Gaëtan Tremblay at tremblay.gaetan@uqam.ca.
Sept. 25, 2001	***Government On-line – Are we Ready?*** http://ccmd-ccg.gc.ca/events/special/GOL/index_e.html Montreal What impact will GOL have on our organizational dynamics, human resource strategies and service delivery models? Do we have the capability to meet the expectations of Canadians? Do we have the technology and infrastructure to implement what we have only dreamed of to date? These are the questions that will be debated at the Canadian Centre for Management Development's national discussion series. For more information, please visit http://ccmd-ccg.gc.ca/events/special/GOL/index_e.html.

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Feature Columnist

Environmental Challenges and Innovative Management Solutions

As co-lead of the Policy Research Initiative (PRI)'s Sustainable Development Project, I am pleased with the publication of this issue of *Horizons* on management for sustainable development. It reinforces and contributes to one of the Canadian government's three medium term research priorities as identified by Deputy Ministers in the summer of 2000.

SUSTAINABLE DEVELOPMENT: A DIFFICULT ROAD

Let me begin by saying that I remain optimistic about the future of sustainable development. It is not the easy optimism that swept through policy circles following the release of *Our Common Future* (1987) and the *Earth Summit* in 1992. During those years we forgot that Rome was not build in a day and that fundamental transformations in our thinking and behaviour are neither readily achieved nor easily sustained.

Today it is apparent that we need sustainable development more then ever. This is clear from any number of reports that suggest that the global environmental pressures that affect our quality of life are becoming more acute. It is equally clear in the concurrent – and linked – paralysis of our international trade and environment agendas. Less well remarked is the fact that from a global perspective what happens in the developing world in the next twenty years will determine our future. Sustainable development is the only way to reconcile these pressures.

THINK GLOBALLY, ACT LOCALLY

One of the most influential ideas to emerge from the environmental movement has been the maxim "think globally, act locally." Unpacking it helps us to better understand sustainable development. First, it underlines the importance of individual and collective local action. It is at the level of the community that the linkages between individual and social behaviour and environmental benefits are most clear. Next, it calls for both reflection and action. I would emphasize the focus on action and suggest that we need more at all levels. Finally, it does not identify an end-point but rather suggests the need for continuous effort.

ROLE OF COMMUNITIES

Canadian communities may offer the best examples on how to implement sustainable development. Areas which had, for example, been dependent on fish or forest resources have had to confront the social and economic consequences of disappearing traditional resource bases. They have become isolated examples of what many contend could happen on a global scale.

The PRI Sustainable Development Research Project is looking at what lessons these communities have for the policy community. Many of them are at the forefront of developing innovative, community-based institutions to manage their social, economic and environmental priorities. Research and workshops are taking place in Clayoquot Sound, on the East Coast and in the North.

TOWARD MORE EFFECTIVE MANAGEMENT

At the heart of the sustainable development challenge for government is the need to adopt more effective management practices which are tailored to the challenges of complex systems and large knowledge gaps. We can be easily surprised, as the discovery of the hole in the ozone layer demonstrated. Both the focus on caution – for example the precautionary approach – and the focus on innovation in federal policy are efforts to get a handle on the issue of increasing complexity. Effective management must foster continuous learning and support adjustments to policy in respnse to new knowledge. In short, we need to view management for sustainable development as a form of experimentation.

This will work only under certain conditions. First of all, there must be incentives for risk-taking. Second, there must be a tolerance for mistakes (not least among the public) and a culture that enables us to learn from them. Finally, there must be feedback loops that enable policy adjustments. I would point out that these conditions are currently more in evidence in the private sector.

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LINKING VISION AND ACTION

I would like to conclude with a philosophical reference. The Stoics had a notion of the "thinking fire" that directed the affairs of the world. Those charged with the responsibility of governing were considered by the Stoics to be servants of the thinking fire, meant to maintain order on Earth, while living in harmony with the elements of nature. This image of the fire of thought combines the two essential elements for building sustainable development at all levels – thinking or vision, and fire or action.

Achieving sustainable development will require striking this balance between thinking and action. This is why we have identified research to support effective management on sustainable development as a priority for the SD project.

Brian Emmett
Vice-President,
Policy Branch
Canadian International Development Agency

Primer

In recent years, innovative concepts have been employed to reflect new ways of looking at sustainable development. By familiarizing ourselves with the concepts of adaptive management, resilience or sustainable communities, we gain a better understanding of the environmental issues facing us today and of the need to implement sound public policy.

ADAPTIVE MANAGEMENT

Adaptive management is a systematic process for continually improving management policies and practices by learning from the outcomes of operational programs.

Nyberg, J.B. "Statistics and the Practice of Adaptive Management." Chapter 1 in V. Sit and B. Taylor *Statistical Methods for Adaptive Management Studies,* 1998.

Adaptive management is the concept of applying "experimentation" to the design and implementation of natural-resource and environmental management policies.

Halbert, Cindy. "How Adaptive is Adaptive Management: Implementing Adaptive Management in Washington State and British Columbia." *Reviews in Fisheries Science,* 1(3): 261-283, 1993.

SOCIAL LEARNING

Social learning is the combination of two elements: the recognition that economic uses of nature are experiments from which we have to learn continuously (adaptive management) and the change in institutions that will allow human beings to resolve fruitfully conflictual issues.

Adapted from Lee, Kai N. *Compass and Gyroscope: Integrating Science and Politics for the Environment.* Washington: Island Press, 1993.

RESILIENCE

Ability of a system to maintain its structure and patterns of behaviour in the face of disturbance. Size of the stability domain of resilience, strength of the repulsive forces at the boundary, and resistance of the domain to contraction are all distinct measures of resilience.

Holling, C. S. "The Resilience of Ecosystems; Local Surprise and Global Change." *Sustainable Development of the Biosphere,* W. C. Clark and R. E. Munn (Ed), Cambridge: Cambridge University Press, 1986.

SOCIAL CARRYING CAPACITY

Refers to the maximuim human population size that a given social system can sustain, with particular reference to associated patterns of resource consumption.

Daily and Ehrlich. "Socio-economic equity, Sustainability, and Earth's Carrying Capacity." *Ecological Applications,* 6 (4),1996.

SUSTAINABLE COMMUNITY

A community that uses its resources to meet current needs while ensuring that adequate resources are available for future generations. It seeks a better quality of life for all its residents while maintaining nature's ability to function over time.

Roseland, Mark. *Towards Sustainable Communities: Resources for Citizens and their Governments.* New Society Publishers, 1998.

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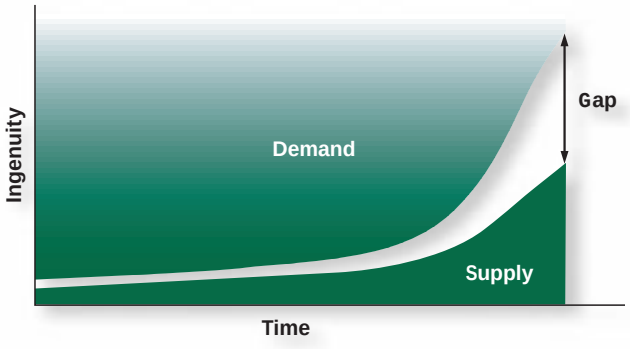
Eyewitness

The Ingenuity Gap

The challenges facing our societies, whether they are in the form of climate change or market fluctuations and their impact on domestic economies, are often beyond our understanding. Has the world that we have created, with its fast-paced changes, become too complex for us to manage? Are we prepared to resolve the problems that will arise in the future? These were the questions Thomas Homer-Dixon, Director of the Peace and Conflict Studies Program and Professor in the Department of Political Science at the University of Toronto, raised on June 27 in Ottawa, during a lecture organized by the Policy Research Initiative and the National Round Table on the Environment and the Economy.

Homer-Dixon indicated that these questions affect us at three complementary levels: the global level (climate change, chronic anarchy in some developing regions, economic crises, etc.), the societal level (crisis in the health care network, growing disparity between the rich and the poor, etc.) and the individual level (the information overload affecting our daily lives). He maintained that these phenomena and their interrelationships clearly indicate the increasing complexity of the challenges facing us. Consequently, a new demand for ingenuity (i.e. "a set of instructions that tell us how to arrange the constituent parts of our physical and social worlds in ways that help us achieve our goals") has therefore arisen in order to find and apply solutions to emerging challenges.

Figure 1
Ingenuity Gap



Professor Homer-Dixon pointed out that today's complexity requires more ingenuity than we can produce, a fact which he described as the ingenuity gap (Figure 1). Despite a steadily increasing ingenuity rate and humankind's impressive adaptability, the gap continues to widen.

> *Ingenuity is a set of instructions that tell us how to arrange the constituent parts of our physical and social worlds in ways that help us achieve our goals.*

Homer-Dixon believes several factors can account for this greater demand in ingenuity, particularly demographic growth and density, ever-increasing consumption of resources and technological development. These factors, which contribute to the complexity of systems in the same way that social values and political pressure do, increase not only the level of interaction among individuals, but our level of interaction with the environment as well.

One characteristic of complex systems is that they follow a non-linear pattern; that is, they are subject to abrupt and unexpected changes. One need only to look at the current and anticipated impact of climate change or, worse yet, CO_2 gas emissions projections that portend to grow exponentially, to grasp the extent of the problems facing us. In light of this, it is only prudent to ask whether we are capable of producing sufficient ingenuity to find answers to these questions.

According to Homer-Dixon, there are two ways to look at the problem. One is from the perspective of unsustainable development, which characterizes the approach we use today, where decisions are taken based on short-term objectives. In this view, at some point the system will collapse due to a sudden rupture or abrupt change in the natural order of things. In other words, it is a situation where we

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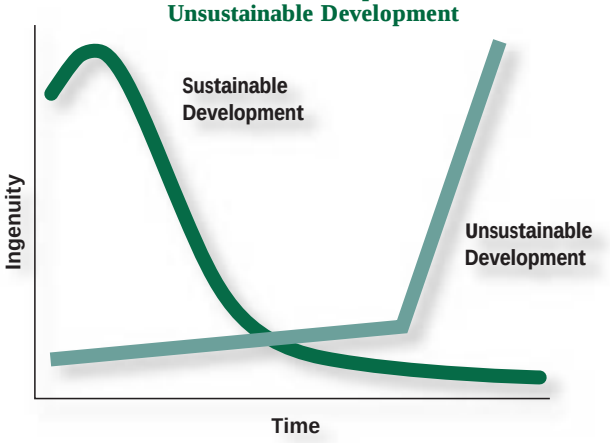
Figure 2
Sustainable Development vs. Unsustainable Development



cannot meet the strong demand for ingenuity (Figure 2) — an ingenuity shortfall thus occurs. A second approach to the problem is that of sustainable development, which focuses on long-term considerations instead. This approach requires initially a strong increase in ingenuity to implement immediate changes, which, in turn, become an investment for the benefit of posterity.

The social, economic and environmental challenges that lie ahead of us are substantial. In Homer-Dixon's opinion, decision takers and policy makers will have their work cut out implementing sustainable development objectives, especially since they themselves are affected by the growing complexity. For instance, he indicated that technological progress in communications makes it increasingly difficult for them to extract useful information from the flood of information they receive daily. Managing this information is an arduous process, leaving little time for reflection. In addition, people's expectations are increasing, which leads Homer-Dixon to assert that the way we currently deal with things is having a detrimental effect on the ability of institutions to meet social, economic and environmental needs.

What can we do in light of all this? Homer-Dixon suggests there is no single answer. On the contrary, we need new entities capable of solving problems. Furthermore, we must allow them to associate freely while giving them the necessary autonomy to find appropriate solutions. In his opinion, this involves making profound changes to organizational culture and management.

We must make the shift from top-down management to a more flexible management matrix that is better adapted to risk-taking. We must also recognize that an experimental model based on a risk-taking approach invariably involves a margin of error. With this in mind, Homer-Dixon stressed the importance of developing a culture tolerant to risk-taking and errors, both in the public administration as well as among the civilian population. In conclusion, he pointed out that education is the key to succeeding and implementing sustainable development objectives.

For more information, see: Homer-Dixon, Thomas. *The Ingenuity Gap.* Knopf, 2000, 480 p.

Aiming at Sustainable Communities

Sustainable communities will not come easily, says Mark Roseland. They require significant change in our structures, attitudes, and values. The key to a sustainable future, he says, lies not in making us more competitive, but in making us more perceptive, more able to realize what we have, what we need and what are the long-term consequences of the short-term choices we are making. By adopting a synergic approach that would combine the efficient use of urban space, the minimizing of our consumption of essential natural resources, and the mobilization of citizens and their government, sustainable communities will not merely *sustain* the quality of our lives – they will dramatically *improve* it.

For more information, see: Roseland, Mark. *Toward Sustainable Communities: Resources for Citizens and Their Governments.* New Society Publishers, 1998.

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PRI Update

Sustainable Development Research Project — Summer 2001

The Sustainable Development Project, launched under the leadership of Wayne Wouters (Deputy Minister of Fisheries and Oceans) and Brian Emmett (Vice President of the Canadian International Development Agency), is an effort to develop a research program that helps to focus policy discussions on national and international sustainable development issues, in a way that is useful to policy practitioners.

The Sustainable Development Project, [...] is an effort to develop a research program that helps to focus policy discussions on national and international sustainable development issues, in a way that is useful to policy practitioners.

The research project will build on the work of the PRI Sustainability Project, which reported in 2000. This first stage of research provided initial scoping of five issues: environmental indicators, eco-efficiency, sustainable communities, the global dimension of sustainable development and ethical investments. As the research note on eco-efficiency in this issue of *Horizons* demonstrates (page 23) the PRI will continue to disseminate research from the Sustainability Project.

The project also continues to explore directions identified through the pioneering research of the PRI Trends Research Project on environmental governance, led by Edward Parson (Associate Professor, Kennedy School of Government). In his article on page 15, Professor Parson asks what general lessons for environmental management we can derive from international experience with the Montreal Protocol.

The design of the Sustainable Development Project includes next steps on a number of these issues. Under the leadership of the co-chairs, the PRI is carrying out extensive consultations on federal sustainable development research priorities. To help initiate this discussion, the Policy Research Initiative prepared a framework paper on potential research themes (available at http://policyresearch.gc.ca/HorizontalResearch/SD/SD-e.htm). An interdepartmental consensus has emerged in support of activities under four broad research themes: effective management; governance; environmental innovation; and the social dimension of sustainable development. These themes are anchored in a common concern with how to implement sustainable development policies under conditions characterized by extreme complexity and the dire need for ingenuity.

The initial feedback from departments has been extremely positive and yielded an impressive array of potential research questions under the four themes. From this list, and in consultation with departments, the co-chairs have identified four new and immediate research priorities to be initiated by fall.

- Research on the progress made by the Canadian International Development Agency in moving the department's Sustainable Development Strategy to the center of its management of policies and operations. A focus will be on distilling lessons learned and best practices for the federal community
- Research on the international and especially the Canadian experience with models of Corporate Social Responsibility (CSR). CSR represents a new model for ensuring private sector accountability on social and environmental issues. The focus will be on establishing an evidence base to allow decision makers (and citizens) to more objectively evaluate the effectiveness and limitations of CSR.

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- Research on the critical question of how to better ensure that sustainable development considerations are included in the development of federal policy. The focus here will be to assess how integrated decision making can be achieved through the assessment of efforts to date in Canada and evidence from the experiences of other nations.
- Research to determine how variance in national environmental regimes has affected firm-level and national competitiveness in the context of the North American Free Trade Agreement. A focus will be to gather together the evidence collected to date and to identify the most significant research gaps.

In addition to these research activities the SD Project will continue to build on the experience of its recent workshop in Clayoquot Sound (see article below). Departments have indicated that achieving a better understanding of how sustainable development is being implemented at the local level is a growing priority. Community level workshops contribute to learning across the four SD project themes and also contribute directly to the concerns of the Social Cohesion Project. Potential future workshops are being planned for Canada's North and Mexico.

These activities will form the bulk of the work under the SD Project for the next year. However, on a second track the PRI will be preparing a more comprehensive and longer-term research design for consideration by Deputy Ministers in the fall of 2001. To this end, the SD project team will continue to meet with departments, academics and other external researchers working on sustainable development issues.

For more information on the Sustainable Development Research Project, please see: http://policyresearch.gc.ca/HorizontalResearch/SD/SD-e.htm.

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Soon Available

Horizons – Special Issue - Innovations in Clayoquot Sound

In 1993 almost 900 people were arrested in Clayoquot Sound in the largest act of civil disobedience in Canada. A community of only 5000 people had become the focus of international attention as a result of concerns over logging the old growth forests on Meares Island. Together with legal action on the part of the First Nations this protest led to a complete halt in logging within Clayoquot Sound. In 1998 fishing in the region came to the same misfortune after the declaration of a "zero mortality" policy to protect endangered coho stocks. The convergence of these issues created a crisis, which brought about community driven innovations in decision making and management of natural resources in Clayoquot Sound. These innovative organizations for managing resources have clearly identified the need to have respect for economic, social and environmental values, while recognizing that all three values are interconnected.

In May of 2001 a workshop was held entitled "Adaptive Management and Community Sustainability" to investigate the innovations in Clayoquot. This upcoming *Horizons Special Issue* describes innovations that have taken place in Clayoquot Sound, which are clearly working toward a more sustainable development. The discussion of these innovations was framed around a management technique known as adaptive management.

The report will be available on the SD project web site soon (http://policyresearch.gc.ca/HorizontalResearch/SD/SD-e.htm).

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Eyewitness

Adaptive Management and Sustainable Communities

Sustainable development constitutes one of the greatest challenges facing our society today. The stakes are enormous, and the complexity of the problems dictates particularly innovative solutions. No approach can ignore the fact that the issues raised by sustainable development are as much global as they are national and local. At a time when the debate on globalization is dominating all forums, we need to ask ourselves: what is a sustainable community and how do we get there?

To examine this question, the Policy Research Initiative, in collaboration with the Department of Fisheries and Oceans Canada, the Environmental Studies Association of Canada, and the Canadian Political Science Association held a symposium entitled *Sustainable Communities: Policy Options and Emerging Challenges* on May 22, 2001 at Laval University. As part of the symposium, the Department of Fisheries and Oceans Canada sponsored a panel discussion on Adaptive Management. The panel included three distinguished academics: Dr. Art Hanson, Distinguished Fellow and Senior Scientist at the International Institute for Sustainable Development; Dr. John Fitzgibbon, School of Rural Planning and Development at the University of Guelph; and Dr. Alison Evans, Director of the Integrated Coastal Planning Project for the Bay of Fundy.

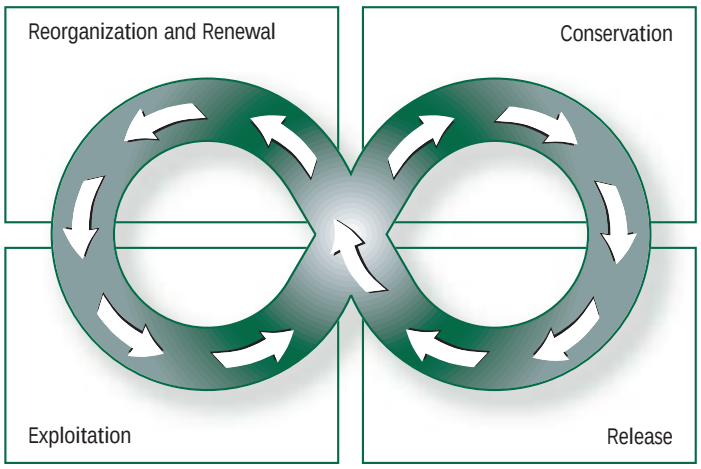
The session focused on the contribution of adaptive management to building sustainable communities. Adaptive management seeks to achieve sustainability by enhancing the ability of management systems to address surprises associated with change. Adaptive management uses multi-stakeholder approaches to encourage dialogue and experimentation to challenge present patterns of behavior and thinking. It is an ecosystems approach that builds networks to establish common ground among communities and other stakeholders. Adaptive management supports local action within a framework that draws upon global experience.

At the Symposium, Dr. Art Hanson outlined a model of adaptive management. The model defines a four phase adaptive cycle as outlined in Figure 1. The cycle draws parallels between the behaviour of human and natural systems. It is founded on an ecological principle of chaos emerging from order, and order emerging from chaos. In the Exploitation phase new plans and policies create new relationships and opportunities for action. This is followed by a Conservation phase in which institutions and patterns of interaction mature and solidify, creating barriers to further experimentation and new development. The gradual accumulation of adverse conditions and inadequate decision making invites a catalyst that sparks a Release phase. Innovation capacities then build a Reorganization and Renewal phase that enables further Exploitation.

Hanson suggests that when addressing any resource issue, it is important to know where the issue stands in light of this cycle. When a society's collective capacity to organize and use new and traditional knowledge falls behind the need, society experiences what Thomas Homer-Dixon refers to as the "Ingenuity Gap." In order to overcome ingenuity gaps, adaptive management supports "learning by

Figure 1
The Adaptive Cycle

(After Gunderson et al., 1995; Light and Blann, 2000; and others)



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doing" through experimentation within operational programs and management of resource conflicts.

Alison Evans highlighted the importance of recognizing adaptive management as a set of processes. Effective forms of community-based planning and integrated management are inherently adaptive. These processes involve frequent public discussions, comprehensive planning and infrastructures that are capable of accommodating the varied interests and ideas of local individuals, groups and governments. In addition, Evans sees the benefit of redundancy within an adaptive, community and management organization. Redundancy is seen as a fundamental need, allowing for the percolation of information and ideas through the organization. Redundancy is a necessary quality to allow adaptable management of social organizations.

In order to overcome ingenuity gaps, adaptive management supports "learning by doing" through experimentation within operational programs and management of resource conflicts.

Evans notes that at a federal level, natural resource and environmental management favours conservative behaviour over experimentation. While local catalysts force communities to evolve, governments tend to cling to top-down, one-size-fits all policies and plans. The result is often an inability to learn and realize new opportunities. Adaptive management, according to Evans, addresses this by directly utilizing management experience at the community level.

Communities are not monolithic, but rather should be approached as diverse and dynamic. Some communities have a higher capacity for adaptive management than others. Through observation of community-based stewardship of river corridors, John Fitzgibbon suggests that management objectives of a given community may not be compatible with regional or global interests. In order to realize local action within global thinking, management solutions in a given community must meet certain preconditions. First, the community management structure should be representative of the interests of all groups within that community. This is achieved through planning and establishing networks to promote social capital. Second, communities should develop dialogues and relations with regional, national and international representatives. This challenge of capacity building is as much based on social experience as on the development of social capital. Third, ideals of shared vision, joint commitment, trust and reciprocity are practical necessities for this level of collaboration.

The Department of Fisheries and Oceans is engaged in adaptive management through "learning-by-doing" pilot projects in support of Oceans Act responsibilities. These initiatives include the creation of Integrated Management projects and the establishment of Marine Protected Areas at the local and regional levels. They will be supported by a national strategy for oceans management founded on collaboration with other federal departments, provincial and territorial governments, affected Aboriginal organizations and coastal communities. The ideas and experiences presented in the panel discussion at the symposium will assist in further refining the Department's approach to supporting this new way of building strong sustainable communities.

Policy Research Group
Economic and Policy Analysis,
Department of Fisheries and Oceans Canada

For further information on the panel on adaptive management, please contact Michelle LaForge at (613) 993-3768 or laforgem@dfo-mpo.gc.ca.

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POLICY RESEARCH INITIATIVE
HORIZONS
EMERGING DEVELOPMENTS AND KNOWLEDGE IN PUBLIC POLICY RESEARCH

Feature Columnist

Adaptive Management – *Moving from Theory to Practice*

For nearly thirty years, adaptive management has been lauded as an innovative way to improve resource management. After so many years the term has become part of the lexicon of fisheries, conservation biology, forestry, agriculture, and water management. But has its promise been fulfilled? Many of its proponents, including such leaders in the field as Carl Walters of the University of British Columbia, suggest it has not. In this article I describe four reasons why adaptive management has not had the impact that it could have had and offer brief suggestions for how to make it a more meaningful part of sustainable development in Canada.

Defining Adaptive Management

First, adaptive management has suffered from lack of a consistent and terse definition. As a result, interpretations of what it means run all over the map. A general sense of the concept can be conveyed by popular catch phrases such as the US Forest Service's "Learning to manage by managing to learn" or Kai Lee's "Adaptive management…embodies a simple imperative: policies are experiments; *learn from them*." But many people who are interested in the concept have never studied it enough to gain a deeper understanding, and thus have little idea how to make it work in practice.

I favour a short definition for adaptive management that emphasizes key elements of its theory and practice. The one we have used in recent years in the BC Forest Service's adaptive management initiative is this: "Adaptive management is a systematic process for improving policies and practices by learning from the outcomes of operational programs." This highlights the fact that adaptive management is a process to which some rigour needs to be applied; it emphasizes learning as a key goal; and it stresses that operational-scale management activities, not scientific research, are the main means by which new knowledge is to be gained.

There are various ways to describe this process of adaptive management, but a six-step sequence works well enough (Figure 1). One starts the sequence by assessing the problem or opportunity (how to improve riparian management along small streams, for example), then proceeds to design a management plan that will test the success of one or more approaches in practice; implement the plan in operational management; monitor the actual results; evaluate these results to determine what can be learned from them; and adapt management policies or practices in future to incorporate the new knowledge thus gained.

More than a Monitoring System

A second impediment to wider use of adaptive management is the widely held belief that tacking on a monitoring component to almost any existing project will lead to valuable new insights and so-called "adaptive management," by which people often mean revisions to policies or practices in future. As noted above, monitoring system responses and adapting decisions are only part of adaptive management. When adaptive management is thought of as something to be done **after** a policy or program is implemented, it becomes little more than a recognition that once something breaks it needs to be fixed. This is hardly a startling innovation.

True adaptive management requires commitment to deliberate, **designed management experiments,** with monitoring built into the management plan from the start. The adaptive management process should start long before an operational project is implemented, to ensure that implementation leads to learning about the key uncertainties the manager or policy maker faces.

One Size Does not Always Fit All

Adaptive management runs into trouble in a third way when people assume that the same approach will suit all situations. There are cases, for example, where much time and attention must be spent in building a multi-stakeholder project team, defining questions to be investigated, and putting in place all the organiza-

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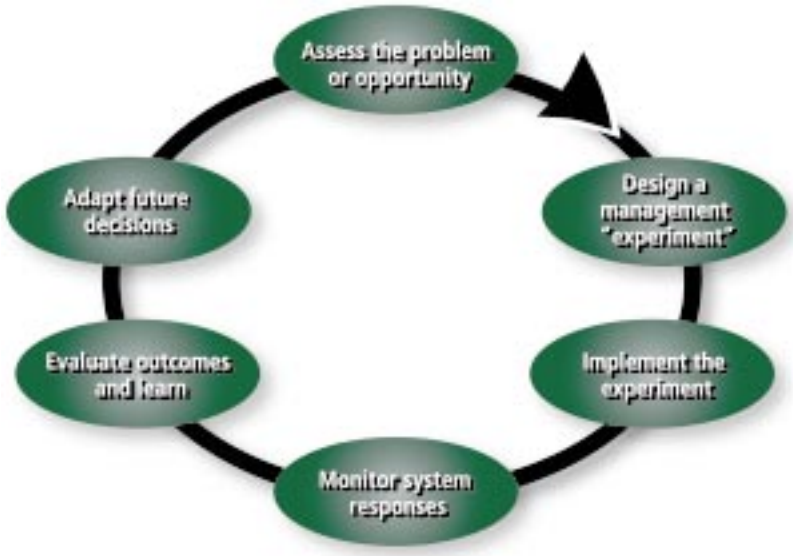
Figure 1
The Process of Adaptive Management



tional and institutional arrangements that will allow powerful groups who distrust each other to work together. Such cases are often found where resource crises of regional or provincial scales are being tackled. Many other cases suitable for adaptive management, though, concern relatively small issues that can be addressed by local project teams which can work well together without extensive consultation and consensus building up front.

Similarly, there are issues that require extensive exploration with computer simulation modelling, to reveal interactions between elements of the managed system or explore predicted outcomes of policy alternatives. Many of the best known examples of adaptive management that are described in the literature included a lengthy modelling stage. Modelling can, however, be prohibitively expensive and can come to seem the end rather than a means. I suggest viewing computer modelling as an heuristic tool that will help in designing the upcoming management experiment, rather than a milestone achievement in its own right. A simulation model's greatest value may lie in its ability to provide specific forecasts of the expected outcomes of management, against which actual results can later be compared. Alternatives to complex computer simulation models, such as simple "box and arrow" charts of causes and effects, will be adequate and practical for many applications of adaptive management, but they will not directly yield quantitative forecasts of outcomes of management.

Doing "Active" Adaptive Management

For those who accept the importance of experimentation through management as the key step toward learning how to improve decisions in future, a fourth issue often arises. Many struggle to find a way to do "active" adaptive management, in which two or more policy alternatives are compared by applying each in different areas. If they have been well trained in the principles of good experimental design, they may fret about the difficulty of providing for randomisation and replication of policies in operational management settings. Ultimately, if active adaptive management proves impossible they may throw up their hands and give up on the notion of using adaptive management altogether. In many cases this is an over-reaction, however, as even a single policy can be viewed as an experiment and can lead to learning if it is applied using the adaptive management process.

Canada's resource managers and stakeholders can find ways around, over, or through all these obstacles if we work away at them persistently and effectively. Successful adaptive management programs in Canada demonstrate that it can be done at reasonable cost and in various institutional settings.

Adaptive management is not a panacea for all disputes and all

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sustainable development programs. There are times when it will work and times when it will not. To move forward in applying it more widely, we should look first for the "easy sales," the places where the people and the time are right for making it work. Success stories from these cases will then become catalysts to which others will react when they see the results and hear of the benefits to improving resource management and sustainable development.

Brian Nyberg
Manager, Wildlife Policy and Adaptive Management
Forest Practices Branch
BC Forest Service

Research Brief

Adaptive Management: *Opportunities and Constraints*

The need for adaptive approaches to policy planning and development in support of sustainability has been well argued in recent years. At the core of the adaptive approach is a simple, but heretical, recognition that planning and management cannot control complex and dynamic systems. Thus, conceptualizing interventions as design, or experiment, and expecting to modify them based on knowledge gained and changing events is central. Adaptive management encourages planners and decision makers to approach their work and make decisions with the expectation that they may be incorrect, but that the experience and lessons gained from 'lesser successes' can allow them to benefit and improve future policies and practices.

The indicators of a successful application of adaptive management include (1) a more integrated analysis; (2) clarification of the significant issues; (3) an evaluation of alternative options; (4) a prescriptive rather than a descriptive or reactive approach; (5) a coordinated, open decision-making process with continuity from start to finish; and (6) an iterative process demonstrating that the decision maker(s) is open to new insights and can adapt and learn as the planning progresses. In the end, however, perhaps the most important measure of success of an adaptive approach is whether the actual objective of the undertaking was achieved. In other words, integrated and coordinated approaches are perhaps secondary benefits of a well-developed adaptive policy and planning approach.

Notwithstanding the advantages of an adaptive approach, it is not *always* necessarily the most desirable approach to sustainable development. An adaptive approach may prove problematic when the situation is unique and experience is lacking. If lessons from lesser successes are not transferable, then an adaptive approach is less instructive. When a one-time remedy is feasible, the benefits of an adaptive approach are reduced. In terms of sustainability, an adaptive approach calls for an experimental approach; however, an experimental approach may sometimes be too risky, as unexpected impacts can produce extreme system responses that detract from sustainability. Finally, and perhaps the most important obstacle that must be overcome, an adaptive approach does not facilitate learning in cases where the decision maker(s) is held accountable for lesser successes.

From the initial stages of policy planning, through policy assessment and post-approval monitoring and regulation, the adaptive approach provides a set of tools to facilitate problem identification, communications and decision making in support of sustainable development. The widespread adoption of an adaptive approach will only proceed, however, when policy and decision makers are able to acknowledge their mistakes, learn from them, and make the appropriate adjustments.

For more information, see: Noble, B.F. "Strengthening EIA through adaptive management: a systems perspective." *Environmental Impact Assessment Review.* 20: 97-111, 2000, or contact bnoble@thezone.net Department of Geography, Memorial University of Newfoundland.

Bookmark

The Ozone Layer: *Insights for Other Global Environmental Issues*

The Montreal Protocol, an international treaty adopted in 1987, protects the stratospheric ozone layer by restricting a few dozen ozone-depleting chemicals. Under this regime, worldwide production of ozone-depleting chemicals has fallen nearly 90 percent since the late 1980s, bringing early signs of recovery of the stratosphere. The regime enjoys nearly universal participation, and has directed substantial assistance to help developing countries make the transition from ozone-depleting chemicals. And this has all been achieved at very modest cost.

This remarkable achievement did not come easily. Developing the ozone regime took more than a decade of sustained efforts. This history offers unique insights into the forces shaping international environmental cooperation. These are of three types.

First, the ozone issue illustrates the fundamental need for environmental policy and institutions to be able to adapt to changes in scientific knowledge and technological and economic capabilities. The controls in the original Protocol made only minimal progress toward solving the ozone-depletion problem. But the original Protocol also created a set of procedural requirements, institutions, and incentives that made it possible to rapidly tighten and expand controls over the next decade, as new information became available.

Second, the ozone issue illustrates how policy processes can interact most constructively with evolving scientific knowledge. Policy advocates nearly always framed their arguments as disagreements over scientific evidence of the reality and severity of the ozone-depletion risk. But beyond the crucial step of putting the issue onto policy agendas in the first place, scientific results exercised extremely limited influence. Rather, the contributions of science to policy always came through the vehicle of official scientific assessments. After many unsuccessful attempts, scientific advisors in the mid-1980s developed a strategy for conducting atmospheric-science assessments that ranked high in both scientific credibility and policy relevance. This strongly influenced policy debates by limiting the range of policy proposals that could be defensibly grounded in scientific claims. More than any other factor – including the Antarctic ozone hole – this contribution was crucial in promoting rapid negotiation of the ozone regime in 1986-1988 after a decade of deadlock.

Finally, the ozone issue illustrates how a regulatory regime can interact adaptively with industry strategy and technological change. After the formation of the regime, the most important factor in its subsequent adaptation was its ability to promote rapid development and adoption of technologies to reduce use of ozone-depleting chemicals. This progress was principally driven by a set of interactions between the protocol's requirement for periodic renegotiation of control measures, its technology assessment bodies, and industry's strategic choices. The protocol's independent technical assessment bodies succeeded in entraining industry experts to support rapid emission reductions and open sharing of information about how to do so, by coupling these public benefits to firms' private interests in managing the risks they faced from existing and potential regulations. This coupling of private and public benefits in regime adaptation was perhaps the most important and novel innovation of the ozone regime, whose lessons have not been adequately taken up in current attempts to manage climate change or other global environmental issues.

Edward Parson
Associate Professor,
Harvard University

Edward Parson's book, *Protecting the Ozone Layer: Science, Strategy, and Negotiation in the Making of a Global Environmental Regime,* will appear in 2002.

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Canadian Connections

The British Columbia Forest Service (Ministry of Forests) is exploring how adaptive management can help to continuously improve forestry practices throughout the province. The BC Forest Service adaptive management initiative includes several components, such as educational materials for its staff and others, training programs, advice and support for various project teams, and development of a set of "pilot" or demonstration projects where adaptive management is being applied to local issues. Links to current information on these topics are provided at http://www.for.gov.bc.ca/hfp/amhome/amhome.htm.

The Leslie M. Frost Natural Resources Centre, located in Minden, Ontario held the Adaptive Management Forum, a two-day conference that brought together policy makers and leading scholars of the environmental domain from across Canada and the United States. They reflected on the ways to link management and science to bring ecological sustainability. Summaries of their presentations as well as background papers on adaptive management can be found at http://www.mnr.gov.on.ca/MNR/arm98/amfdet.html.

The Sustainable Development Research Institute (SDRI) fosters policy-relevant, interdisciplinary, multisectoral research on sustainable development. The Institute seeks ways to integrate the environment, the economy and social institutions and develops research "tools" that provide users with the capability to make up their own minds about the complex issues surrounding sustainable development. It fosters multi-stakeholder and collaborative research processes and workshops to put current understanding from the research community in the hands of the user community. Visit http://www.sdri. ubc.ca to access *Quest* scenario projection software and other research tools and products.

Sustainable Toronto is a partnership of the Environmental Studies Program, University of Toronto and York University's Centre for Applied Sustainability with the City of Toronto; the Canadian Institute for Environmental Law and Policy, the Toronto Environmental Alliance and several community groups working to promote community sustainability. Visit http://www.sustainable-toronto.ca to learn of new ways of thinking about our relations with other people in our own community and in others, about our jobs, about our natural environment and the human needs it serves, about the future of our children and their children, and about the governance of our communities on every scale.

CanExplore is the one-stop-shop for federal information resources in the area of science and technology for sustainable development. Developed through a cooperative agreement between Agriculture and Agri-food Canada, Environment Canada, Fisheries and Oceans Canada, and Natural Resources Canada, *CanExplore*, located at http://canexplore.gc.ca, currently indexes more than 200,000 documents in order to provide integrated access to information related to the sustainable use of natural resources. Users of *CanExplore* can search the resources of one specific or all four natural resource-based departments.

KP

The Social Dimension of Sustainable Development

"The social dimension of sustainable development is concerned primarily with poverty reduction, social investment and the building of safe and caring communities.

In addition to clear goals, sustainable development provides guidance as to possible means. A wide range of resources should be harnessed in the achievement of these objectives. Complex problems are best tackled through multisectoral solutions."

For more information, see: Torjman, Sherri. *The Social Dimension of Sustainable Development.* Ottawa: Caledon Institute of Social Policy, 2000.

From the Cyberzone

http://www.iisd.org

The mission of the **International Institute for Sustainable Development** (IISD) is to champion innovation, enabling societies to live sustainably. It seeks to demonstrate how human ingenuity can be applied to improve the well-being of the environment, economy and society through policy research, information exchange, collaborative projects with global partners, analysis and advocacy. IISD advances policy recommendations on international trade and investment, economic policy, climate change, measurement and indicators and natural resource management to make development sustainable.

http://www.iatp.org/AEAM/describe.htm

The **Adaptive Management Network** (AMN) - Facilitating Better Management through Peer Mentoring and Dialogue is a collaborative effort among practitioners engaged in regional resource management efforts. The goal of the AMN is to transform resource management by building internal and external capacity for effective implementation of adaptive ecosystem management. To do this it supports communication and coordination among practitioners and scientists across disciplinary, organizational, institutional, and geographic boundaries. Work to date has focused on large river systems with some discussion of "open spaces."

http://nrm.massey.ac.nz/changelinks/co_man.html

True participatory projects are those which build local skills, interests and capacities that continue after the project ends. There are major social, cultural, institutional and technical constraints to overcome to ensure this continuity. **Changelinks.net** seeks to overcome these constraints by providing information to those working with communities to identify and adopt more sustainable natural resource management practices. Links and on-site material provide approaches to, information on and theories of sustainable development, adaptive management, collaborative learning, participatory monitoring and evaluation, action research, facilitation, conflict resolution and information systems design.

http://www.bsponline.org/issues/3rd_level/adaptive.html

The **Biodiversity Support Program** (BSP) is a consortium of World Wildlife Fund (WWF), The Nature Conservancy (TNC), and World Resources Institute (WRI). BSP's mission is to promote conservation of the world's biological diversity and it has conducted hundreds of conservation projects in more than 50 countries around the world. The web site offers information on adaptive management projects conducted in Africa, Asia and Latin America.

KP

Environmental Outlook

The OECD Environmental Outlook provides economy-based projections of environmental pressures and changes in the state of the environment to 2020. Drawing on an analysis of the economic, social and technological forces driving environmental change, this report provides projections to 2020 of environmental pressures from key economic sectors (agriculture, forestry, fishery, transport, energy and selected industry sectors) and changes in the state of the environment for selected environmental issues (freshwater, biodiversity, climate change, air quality and waste). Cross-sectoral issues are also examined, such as human health and the environment, the social and environmental interface and resource efficiency. Finally, the OECD Environmental Outlook assesses the underlying institutional frameworks for the environment and identifies and examines the economic and environmental effects of concrete policy packages to address the main problems identified.

For more information, see: OECD. *OECD Environmental Outlook.* OECD, 2001, available at http://www.oecd.org/publications/e-book/9701011e.pdf.

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Research Brief

Green Corridors Linking North America

The emergence of North American trade and transportation corridors is an observable fact of the last decade and a harbinger of future trends. Rapid expansion of north–south movement through highways and railways is being chronicled in terms of growing traffic volume, economic development and national incomes.

At the same time, environmental aspects of corridors have only begun to attract attention and analysis. The impact from the standpoint of air quality, urban sprawl, traffic congestion, wildlife migration and human health is being recognized as a cause for concern.

The Project

One of Canada's most innovative contributions to applied research and environmental programs in this field has been through the Green Corridors Project.

Established in January 1999, the Green Corridors Project grew out of a federal government advisory group's explanation that corridors involve more than transportation infrastructure and trade tonnage. The group suggested that there are crucial, but less visible, factors that symbolize corridors and signify their value to the North American Community.

The Green Corridors Project was funded primarily by the federal government through a cooperative program with the Government of Manitoba and City of Winnipeg. Its mandate was to examine and test environmental concepts related to trade and transportation corridors, particularly across the mid-continent region through the central US states and into Mexico.

The initial report in November 1999 explained its dual purpose in studying issues and initiating creative and practical projects associated with bi-national and tri-national environmental programs and partnerships. It addressed alternative fuel systems, intermodal transportation and trucking efficiency. It also dealt with matters not traditionally associated with trade and transportation, such as eco-tourism, knowledge networks, conservation management and environmental internships.

The Outcomes

One tangible result was the Transportation Knowledge Network, connecting a group of universities and transportation institutes across all three countries, to share data and course development in sustainable transportation, particularly through the mid-continent region. Based at the University of Manitoba, the network focuses on corridor issues for its joint and coordinated research programs.

Another result was the initiation of internships for recent Canadian graduates to work on environmental and corridor projects in Mexico. Through on-site research in Mexico's environmental needs, this undertaking resulted in the personal contacts and a knowledge base that have enabled Canadian companies, NGOs and government agencies to work more effectively with their Mexican counterparts.

A third primary outcome of the Green Corridors Project was an initiative to protect monarch butterflies during their migration across North America. A pan-continental, shared interest led to the establishment of school programs across the three countries, as well as funding for habitat protection training and infrastructure in Mexico where the monarchs spend the winter. This initiative provided conservation solutions and contributed to building the North American community links that are central to corridor concepts. Furthermore, it illustrated the need for consistency of laws and regulations for protection of the communities, not only for the commercial transportation sector.

It is important to note that this is not an isolated Canadian effort. The Government of Canada has corridor-related initiatives in several departments. The Environmentally Sustainable Transportation initiative in Environment Canada is providing sound, fact-based criteria for future government strategies. Transport Canada's corridor reports and its Moving on Sustainable Transportation program provide valuable contributions in information, ideas and funding. As well, Foreign Affairs' efforts to incorporate environmental issues in its trade policies and

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activities are advancing Canada's position as the principal corridor innovator in North America.

Interest in the environmental aspects of corridors at senior governmental levels has helped position the issue for further study and investment in programs. The Green Corridors Project's information and analysis demonstrate how the three national governments are constrained by their mandates and legislated limits in many efforts to work across borders on environmental or other matters of common interest. They need environmental NGOs and international organizations and flexible new institutions to act with them where international treaties may not be in place but where there is a common interest to be served.

Additional Perspectives and Directions

Since issuing its initial report, the Green Corridors Project has been investigating other initiatives, including exchanges of fire training and conservation resources, implementation of the Clean Cities program, another round of environmental internships in Mexico and expansion of regional ecotourism related to corridors. Current research priorities concern air quality and the business case for conversion to alternative fuels.

A March 2001 workshop sponsored by the North American Commission for Environmental Co-operation, and organized by the Green Corridors Project, in Winnipeg, looked at corridors and their environmental best practices. A workshop discussion paper by ICF Consulting, entitled "North American Trade and Transportation Corridors: Environmental Impacts and Mitigation Strategies," put forward several controversial findings, including the declining environmental advantage of railways. It also provided a detailed account of how NAFTA contributes to air pollution in the major north–south corridors.

Trade and transportation corridors are more than roads and rail lines. Their significance is beyond the transportation equipment and tonnage of products being moved. And, the corridors have greater weight than the financial measurement of the expansion of trade, however impressive that progress has been in economic terms.

The Green Corridors Project provides convincing examples of how trade and transportation figure in the common interests, geography and environmental issues that are shared across North America's borders.

Terry Duguid
Chair of the Manitoba Clean Environment Commission

Kenneth Beeson
Public Policy Management

Bookmark

North American Trade and Transportation Corridors

Trade among Canada, the United States and Mexico has grown rapidly since the implementation of the North American Free Trade Agreement (NAFTA). The study, *North American Trade and Transportation Corridors*, examines the environmental impacts of that trade on five bi-national segments of three primary NAFTA trade corridors, with a particular focus on air pollution emissions. The corridor segments selected for the analysis are Vancouver–Seattle, Winnipeg–Fargo, Toronto–Detroit, San Antonio–Monterrey and Tucson–Hermosillo. This study determines current and future commodity flows, freight vehicle traffic volumes and emissions in each of these corridor segments. The impacts of several mitigation strategies are also explored.

For more information, see: *North American Trade and Transportation Corridors: Environmental Impacts and Mitigation Strategies.* North American Commission for Environmental Cooperation, 2001, available at http://www.cec.org/programs_projects/pollutants_health/trinational/corridors-e.pdf.

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Feature Columnist

Social Management of the Environment

In the context of its mandate in the area of sustainable development research and education, the UNESCO-Laval University Chair on Sustainable Development has initiated a research program on the social management of environmental problems. The essence of the program is rooted in the concept that ecological problems are everyone's business, and that all partners – whether social, private or public, local or international – may have to respond to problems by modifying their established practices in ways that include institutional changes.

"Constructing" Ecological Problems

Our research looked first at how social partners become aware of ecological problems. This is not an automatic process. In fact, ecological problems are constructed from information that is usually scientific in nature and that describes and measures the impact of a practice, an activity or a decision on a given natural environment. Such data often have associated uncertainties. But it is from the complexity of these uncertainties that social partners derive their positions. In fact, because a problem normally demands a solution, and the solution may challenge social and economic practices and habits, the partners involved – particularly those who will be affected by a position – tend to be critical of the information supplied and to demand additional proof. However, in keeping with the precautionary principle, institutions and organizations responsible for managing the environment are increasingly inclined to take a preventive approach, emphasizing the soundness of a decision whenever damage to the environment may be severe or irreversible, even where definitive scientific proof is lacking.

A decision on the environment is rarely final and must be regularly revisited in light of new knowledge. In this respect, environmental management must be adaptive in nature because, like human activities, ecosystems are always changing.

In order to understand an environmental problem, social partners must be on the lookout for high quality information that is up-to-date and couched in operational terms, even where uncertainties exist. A decision on the environment is rarely final and must be regularly revisited in light of new knowledge. In this respect, environmental management must be adaptive in nature because, like human activities, ecosystems are always changing.

After becoming aware of the problems confronting them, partners then construct solutions. But partners differ widely. Their interests, resources and knowledge are not the same, and consensus is not necessarily a foregone conclusion. Moreover, both the solutions arrived at and the institutions that will implement them are products of this mixed group of partners, with their unequal resources and powers.

Our projects have focused on understanding and measuring this diversity and using it to explain environmental policy. However, diversity and the conflict that it often brings are not the only features of environmental management. If several environment-related problems conflict, a conflict-cooperation dynamic can develop: the initial conflict is transformed into a cooperation rooted in acceptance of a plurality of interests and visions that partners come to respect. From this perspective, environmental management represents an ongoing adaptation to this reality.

Environmental Issues

Our work has focused on environmental issues of importance to Quebec. The first project is related to the concentration of swine production in rural areas of Quebec and the resulting socio-environmental conflicts. After comparing the reactions of various rural communities to this

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concentrated production, the authors suggest that conflicts observed between producers and residents are not simply the result of odour and of soil and water pollution caused by manure spreading, but also reflect opposing visions of rural life and agricultural production. Rural areas are no longer inhabited solely by agricultural producers, and ecological values and standards are being adopted by an increasingly broad sector of society. Conflict is therefore indicative of new attitudes regarding the environment and rural areas. The aim of the research is to understand the origin and evolution of such conflict, and to ascertain to what extent it is the product of a multiplicity of sometimes opposing views of rural life, the environment and farming.

The second research project concerns a pilot experiment in Quebec involving management by drainage basin. COBARIC, a basin committee set up by the Quebec government, seeks to bring together in a single institution the local and regional partners responsible for water management and, in a broader sense, for activities that have or could have an impact on water quality. The approach in this case is different: the author has gambled on an interactive and dynamic management of water and the environment. In fact COBARIC seeks to unite partners and decision-makers in a coordination, information and consultation structure aimed at bringing about an awareness of the necessity for regional water management. Through this structure, local and regional decision-makers are called upon to construct for themselves the principles and rules of a coordinated management approach that will eventually lead to a common policy or to the improved coordination of decision-making. The author attaches a great deal of importance to interactions and negotiations among partners, individuals and communities, and seeks to account for how partners work together to construct a regionalized environmental "plan" that enables them to deal with common environmental and management problems.

A third research project focusses on the lower St. Lawrence model forest experiment in Quebec. From the point of view of sustainable forest management, the model forest of eastern Quebec is interesting in several respects. Firstly, it represents a multiple-use, ecological forest experiment. The experiment has also given rise to original forms of land tenure. The authors set out to assess the impact of these new developments on forest use and on neighbouring forestry communities. They also look at conditions under which the experiment could be applied in other forest regions of Quebec. Finally, with the population of eastern Quebec decreasing and the entire region experiencing recurrent economic problems, the authors attempt to assess how a model forest experiment can spur regional development.

Finally, almost all the questions tackled by our research are related to land-use management. In the Quebec context, land-use management is governed by a wide range of practices, policies and organizations. Urban and regional development is the responsibility of municipal governments. Forests and agriculture are under the direct authority of government departments. And coordination of these activities is not always a straightforward matter. In the context of Canada's signature of the *Convention on Biological Diversity*, one might wonder how the directions and practices of land-use management, in all its variations, will be required to adjust in order to protect, restore or even enhance biodiversity. This major challenge will soon confront social partners and institutions, including those at the local level. Although this project is only in its initial stages, the objective is to provide an understanding of the degree to which biodiversity protection is and can be integrated into territorial development practices and decisions.

Adaptation and Conflict Resolution

To conclude, we have designed our research to take a broader approach to the social management of environmental problems.

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This brings in a diverse assemblage of the partners who are called upon to negotiate solutions – including institutional-based solutions – in order to solve ecological problems. We have observed that this diversity of partners and interests generates conflict. We focus on how such conflicts are dealt with, including the standards, rules and institutions that partners construct in order to resolve them. Adaptation takes place on two fronts: an adaptation in response to the emergence of environmental problems that force changes in practices, and a social adaptation as a result of the involvement of a diverse range of partners who must learn how to negotiate with each other. The final, cognitive adaptation: information on the quality of natural environments and on the environmental impact of human activities is a critical variable in environmental decision making that must be taken into account by partners.

Louis Guay
Professor, Department of Sociology, and
Director, UNESCO-Laval University Chair on Sustainable Development
Laval University

For additional information, consult the web site of the UNESCO-Laval University Chair on Sustainable Development at http://www.ulaval.ca/vrr/rech/Regr/00133.html.

Looking Outward

The World Business Council for Sustainable Development

Currently celebrating its tenth anniversary, the World Business Council for Sustainable Development (WBCSD) has as its mission "to provide business leadership as a catalyst for change toward sustainable development, and to promote eco-efficiency, innovation and responsible entrepreneurship." The 150 international companies who form the coalition illustrate that it is possible (and profitable) to manage for sustainable development.

The council undertakes its work on four fronts: business leadership (advocacy); policy development (engagement with government); best practice (demonstration that businesses can be competitive while contributing to sustainable development); and global outreach (working with developing nations and nations in transition)

A recent publication of the Council, *Sustainability Through the Market*, offers the keys for how businesses can manage for sustainable development while remaining competitive. It illustrates examples of eco-efficiency where waste products are now being used as inputs in production processes – eliminating the need for land-filling and saving natural resources. It highlights the particular role of innovation in helping companies remain competitive, while being committed to a triple bottom line. Another key is product information; encouraging companies to communicate information on product inputs, outputs and processes. This gives consumers more information and works to market sustainably produced goods.

The publication details other "keys to success." It effectively illustrates that major multi-nationals can and are changing their business practices in ways that maintain profitability and which contribute to sustainable development.

Business is often viewed as the laggard (at best) or villain (at worst) in the movement toward sustainable development. The members of the World Business Council on Sustainable Development are showing that environmentally and socially responsible business practices are both profitable and perhaps more importantly, contribute to future competitiveness.

The Council's web site (http://www.wbcsd.ch) offers case studies and best practices on how business can incorporate sustainable development principles.

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Research Brief

Eco-efficiency – *Synergizing Government & Industry Initiatives*

The business climate of the 21st century is characterized by increasing globalization, revolutions in information technology, rapid process and product innovations and chaotic marketplace demands. All this on a planet believed to be reaching ecological limits in critical areas such as ozone layer depletion, species biodiversity, water quality and climate change. The challenge – rethinking business strategies to focus on delivering higher value products and services to customers and increasing resource productivity. An integral part of making this shift is the need to develop materials, products and industrial processes and services that are more eco-efficient.

Learning from Leaders

Eco-efficiency can be broadly defined as the production, delivery, and use of competitively priced goods and services, coupled with advancing environmental and social goals. The study, *The Role of Eco-Efficiency: Global Challenges and Opportunities for the 21st Century,* represents a substantive piece of policy research which has helped identify the business case for eco-efficiency. The study, which was led by Natural Resources Canada in partnership with Environment Canada, Transport Canada, Industry Canada, Agriculture and Agri-Food Canada, and the Department of Finance, was conducted under the Policy Research Initiative's Sustainability Project.

The study defined eco-efficiency in the context of sustainable development, identified and explained the economic and ecological drivers for eco-efficiency, provided industry examples of best practices, and examined the role of governments in promoting eco-efficiency.

Inherent in the concept of eco-efficiency is a strong linkage between environmental performance and shareholder value. The case studies indicate that the practice of eco-efficiency ranges from simple and somewhat standard industrial practices related to improving resource and energy efficiency to highly innovative product and process redesign initiatives.

The companies studied recognize that the use of a variety of eco-efficiency tools can lead to improvements in productivity and competitive advantage. These tools include: management systems, life cycle tools, supplier management programs, design for environment and corporate environmental reporting and communication. Other activities included training and awareness raising, eco-labeling, greenhouse gas trading pilots, forest certification programs, auditing and assurance programs.

The Role for Government

The results of the study have contributed to the policy process in a number of direct ways. Several federal departments have identified specific actions focusing on eco-efficiency in their sustainable development strategies. Eco-efficiency has also formed an important component in the proposed Innovation Agenda for the federal government.

The study provides necessary information to help business adopt eco-efficiency practices and identifies the challenges. By understanding the challenges, the federal government is better positioned to guide policy and program development that will enhance the ability of business to further advance sustainable development through eco-efficiency. The study has helped to provide the evidence, proving that eco-efficiency is not sector specific and is being adopted by many successful Canadian companies.

The report has been published in CD-Rom format and an outreach package is being developed for key stakeholders. As part of the outreach package, the National Round Table on the Environment and the Economy is working with federal departments responsible for the research to develop a training package for firms of varying size from a range of industrial sectors.

For further information on the study or to obtain a copy of the CD, please contact Ramona Baksh at rbaksh@nrcan.gc.ca or (613) 947-5210.

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POLICY RESEARCH INITIATIVE
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Interesting Faces

An Interview with Robert Slater

Robert Slater has dedicated his career in public service to Environment Canada. In this time he has served in numerous capacities including Regional Director General for Ontario and Assistant Deputy Minister for three of the Department's four current branches. He is currently the Department's Senior Assistant Deputy Minister.

Why did you join the public service of Canada? Why did you elect to spend your career with Environment Canada?

I was an environmental consultant when I joined the public service in the early 1970's. I joined with the intent of staying only long enough only to improve my ability to serve my clients – I've stayed a bit longer then I had originally intended. The decision to spend my career with Environment Canada happened only gradually and it was nothing I planned. The issues changed enough that I have always been challenged with what I was doing.

It does make a certain sense. The life span of short-term environmental issues is about 25 years. For long-term issues, such as climate change the time horizon is at least a century. For example, I started my involvement on the issue of acid rain in 1974 by contributing to a technical report but it wasn't until 1991 that the Canada-US Air Quality Agreement was signed. This is a seventeen-year involvement – from scientific observation to policy implementation.

How has the sensitivity and response to environmental problems evolved since the nineteen seventies?

The 1970s was the hey-day of command-and-control approaches. Environmental problems at the time were highly visible. Black smoke and raw sewage tend to focus public attention. The problems were so severe they could not be ignored. The "death" of Lake Erie was associated with rotting fish and algae on the shores which produced hydrogen sulphide in such concentrations that it lead painted lakefront cottages. We responded to these types of very visible problems by going upstream or up wind, locating the source and plugging it up. We called this approach "react and cure" but we quickly learned that the cure wasn't working.

Over time environmental problems have become more insidious and more pervasive. At the same time, the highly visible problems are still with us. What has changed is that we now recognize that proceeding pollutant by pollutant (or pipe by pipe) is akin to trying to go up the down escalator. You never get anywhere.

What has been the contribution of the Report of the World Commission on the Environment and Development (Our Common Future)?

What Brundtland did was show on a global scale that we were heading in the wrong direction. *Our Common Future* made two huge contributions to our thinking. First, we had to come to terms with the fact that our "react and cure" approach was actually an environmental degradation strategy. Second, the Commission made a persuasive case that we needed to move toward an "anticipate and prevent approach." Moreover, it packaged and marketed these ideas to world leaders with unprecedented speed and success.

Our Common Future is an amalgam of macro-economics, social and moral philosophy and environmental science. It is a very radical document, which essentially said the way we had been thinking about the world was upside down. Up until then it was common sense to imagine that the environment was an element of the economy. The report reversed this and said "you are running an economy within an environmental system with fixed limits." Moreover, it linked our actions today to the well being of future generations. Finally, it provided a counterpoint to those who argued that environmental progress could only be achieved through the distribution of pain. In contrast to this less constructive puritan approach, *Our Common Future* showed how sustainable development was an opportunities agenda.

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2002 is the 10th year anniversary of the Earth Summit. What is the legacy of Rio? What are your expectations for the upcoming World Summit on Sustainable Development?

Rio was a very political event – the largest assembly of Heads of State in human history. Looking back you discover that people's views and expectations were extremely varied. I think Canada was very influential in raising expectations. My view is that the business sector and communities have exceeded most expectations and that national governments and the international community have not.

At the present we view the 2002 World Summit only 'through a glass darkly.' Much is not clear. There is a keen interest to make this the first global conference on sustainable development as opposed to two parallel global dialogues on the environment and development (which the Earth Summit was). A second difference is obviously that we want to move from declarations to a more results oriented approach. Finally, we need to recruit a new generation of leaders to sustainable development.

Is there an answer to critics who point to conceptual problems with sustainable development?

Sustainable development was a quantum leap in our thinking about the world and our place in it. We've had less than a generation to work on it and so some ambiguity is natural. This is not dissimilar to the constructive ambiguity around other large public ideas such as innovation – which is the current big, nebulous idea which government is trying to get a handle on. If we consider that sustainable development forces us to think very hard about our values – as citizens as well as public officials – then I think this public debate could be better construed as a sign of a healthy, lively and necessary public discourse.

PH

Did You Know?

Environmental Groups Working with Businesses

The Markets Initiative is a coalition of four environmental non-profit organizations in British Columbia. The Forest Action Network, Friends of Clayoquot Sound, Greenpeace Canada and the Sierra Club of B.C. are working to promote a sustainable economy. This marketing, facilitation and education initiative seeks "…to reduce the Canadian consumption of ancient forests, and create economic and political leverage for their protection, by working with the Canadian business sector to alter that purchasing and investment practices in wood and paper products."

The Markets Initiatives works with businesses to help them go "old growth free," by linking them with wood product suppliers who produce commodities such as paper products, building materials and packaging that contains no fibre from old growth forests. This creates markets for companies producing wood products from sustainably harvested forests. It is also serves as a tool for companies seeking to demonstrate environmental responsibility. Companies currently committed to using old growth free paper products include many leading multinationals.

The Markets Initiative also works with companies that want to move beyond going old growth free by facilitating connections to companies producing wood products from recycled fibre and working with companies to save them money by reducing paper consumption generally. Other projects include sourcing commodities such as paper that are produced using non-wood fibre (for example, hemp).

The Markets Initiative shows how by working cooperatively, environmental groups and business can facilitate sustainable development.

For more information on this project visit: http://www.oldgrowthfree.com.

DM

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POLICY RESEARCH INITIATIVE
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Research Brief

Prerequisites for Sustainable Forestry in the Yukon

Forest management in the Yukon Territory, like provincial neighbours to the south, has based management decisions upon sustainable-yield policies and provisions of non-declining and even-flow of timber reserves. While accommodating the goals of industry and public-sector resource agencies, this approach operates under significant limitations, specifically when viewed from an Aboriginal rights perspective.

Lacking accurate forest inventories, the allocation of commercial timber in the Yukon Territory is based upon "management assumptions" and harvest ceilings estimated by the Department of Indian Affairs and Northern Development (DIAND). DIAND has noted its commitment to consult with First Nations, as well as encourage the involvement of all community members prior to the awarding of Timber Harvest Agreements (THAs). However, two areas of concern have been identified. First, the process may be seen as little more than a process of rationalization used to substantiate management decisions that have already been made and often implemented. Second, as the existing consultation process operates through a formal public participation review, First Nation involvement may be structured as in internal-external conflict relationship in which the attitudes of both government and First Nations can become competitive rather than collaborative when centered around the allocation of fixed, and to date an unknown, amount of forest resources.

It is against this backdrop that the Central Yukon First Nations have identified two prerequisites for sustainable forest management. They include DIAND's completion of an accurate bio-physical inventory of forest resources in the central Yukon Territory. The necessity of this inventory cannot be overstated if we are to move to a more informed and sustainable approach to forest management. In addition, owing to the social, cultural and economic role of forest resources to Yukon communities, an accurate assessment of local use is required if forest policy is to reflect the future needs of Yukon residents.

These prerequisites, however, should not be seen as standing in opposition to industrial forestry. Rather, industrial forestry, when conducted in a sustainable manner, is considered a sound and viable economic opportunity for the Yukon. That said, the growth of industrial forestry in the Yukon Territory must be guided by sound, well-informed management decisions that foremost respects the rights and long-term interests of First Nation peoples.

For the past eighteen months, the Central Yukon First Nations of Nacho Nyak Dun, Tr'ondek Hwech'in, Little Salmon Carmacks, and Selkirk have been collaborating efforts to build capacity for environmental and natural resources management and in particular forestry. The primary vehicle for coordinating the collaborative efforts of the four Central Yukon First Nations has been the Central Yukon Sustainable Communities Initiative (CYSCI). A community designed, developed, and delivered project that coordinates certain activities and develops program and partnerships to advance the collective efforts of the Central Yukon First Nations.

The purpose of the Natural Resources Canada's Sustainable Communities Initiative is to build or strengthen the capacity of Canadian communities who wish to obtain, generate, use and discuss relevant information on the Information Highway, so as to improve their ability to plan and make decisions. The program concentrates on natural resources, the environment, and non-confidential social, economic, and health information on the scale of the community, region and nationally.

The Central Yukon projects are a practical example of the synergy that can be achieved between policy and practical developments at the community level.

Mr. Doug VanBibber
Coordinator,
Central Yukon Sustainable Communities Initiative
and
David Natcher
Sustainable Forest Management Network,
University of Alberta

Eyewitness

The Citizens' Forum on Clean Air

What happens when a randomly selected group of Canadians is asked to devote a summer weekend to deliberating a major public policy issue? On June 2 & 3 the Public Policy Forum explored an innovative approach to citizen engagement at the Citizens' Forum on Clean Air in Vancouver.

First, 300 British Columbians were surveyed regarding air quality issues. The survey respondents were then invited to participate in a weekend-long deliberation on air quality. Sixty-eight people of all ages and from all walks of life accepted that invitation.

Prior to the Citizens' Forum, participants received information on the quality of air in British Columbia and across Canada. The material also outlined four possible courses of action to address air quality concerns.

On the first day, citizens learned about and discussed the facts on air quality and deliberated on the four courses of action in small groups. Two panels of experts were available to answer their questions. The next day, participants met in the same small groups to consider the four courses of action as a whole.

At the final plenary session participants stated what actions they would be willing to take themselves and where they believe that greater government, community and business action is required. The federal Minister of the Environment, David Anderson, and North Vancouver Mayor Barbara Sharp listened to and learned from the participants.

Minister Anderson was appreciative of how seriously participants had considered the issues. "You clearly considered [air quality] a major issue …I certainly heard that loud and clear." Mayor Sharp commented on the importance of consumers taking action and letting companies know why they are choosing to buy or avoid specific products: "The individual consumer is really powerful. That's how we'll really change all of these air quality problems."

Participants were enthusiastic about the process and became deeply engaged in their deliberations. Many expressed a sense of "empowerment" at being involved in policy discussions and having the opportunity to share their views with elected officials. Participants agreed that they lacked the knowledge they needed to make better choices day-to-day with regard to factors that impact air quality, and that they would be willing to modify their behaviour if they had more information.

At the end of the weekend, the participants responded to the initial survey a second time. A comparison of the survey results provides insights into how citizens' views can evolve as a result of informed deliberation. Significant shifts occurred in a number of areas. After the Forum, citizens were more likely to acknowledge the important role that individuals play in both causing and reducing air pollution. They were also more supportive of taking personal actions such as driving their cars less and taking public transit more and of government initiatives such as tax incentives to support changes in behaviour.

In six months, both the participants at the Citizens' Forum and a control group of individuals who took the original survey will be re-surveyed in order to gauge the longer-term impact of the Citizens' Forum.

The Public Policy Forum will prepare an outcomes report summarizing the quantitative and qualitative results of the deliberations that took place at the Citizens' Forum, as well as a case study to share the learnings about this new form of citizen engagement. The Public Policy Forum also hopes to conduct up to three additional Citizens' Forums on Clean Air across Canada.

Beth Everson and **David Brook**
Public Policy Forum

Additional information is available on the Public Policy Forum web site at www.ppforum.ca.

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Research Brief

Measuring Up: *Quality of Life in Canadian Communities*

In 1996, the Federation of Canadian Municipalities (FCM) launched a project to monitor the quality of life in Canadian communities. Marking the first time that municipal governments have collaborated to develop a national monitoring program, the FCM Quality of Life Reporting System is now used across Canada to help shape public policy. The project is heralded for its unique contribution in providing a nationally consistent time-series of municipal quality of life measures. By March 2001, the second of two monitoring reports had been released.

The Quality of Life project was initially conceived as a way to measure how changes to the funding structure of federal transfer payments would affect municipal governments. FCM agreed with its members that a systematic approach to measuring changes to quality of life in communities was warranted. In partnership with 16 municipalities, FCM developed the Quality of Life Reporting System as a tool to:

- identify and promote awareness of issues affecting quality of life in Canadian communities;
- better target policies and resources aimed at improving quality of life;
- support collaborative efforts to improve quality of life;
- establish municipal governments as a strong and legitimate partner in public policy debates in Canada.

Eighteen communities across Canada now form part of FCM's Quality of Life team, under the leadership of FCM Board member Michael Phair, Edmonton City Councillor.

Like its predecessor, the March 2001 Report provides data and analysis for each participating community, relying on eight sets of indicators supported by 41 measures. Indicators include:

- **population resource** - a profile of population characteristics relating to: education and literacy levels, cultural diversity, age structure, immigration and levels of growth;
- **community affordability** - measures to indicate cost of living relative to average incomes in the community;
- **quality of employment** - measures of employment levels, distribution, equity, full-time vs. part-time employment;
- **quality of housing** - measures of adequacy, affordability and availability of housing;
- **community stress** - a bundle of social and economic measures to capture the incidence of stress among vulnerable populations, such as low-income and lone-parent households;
- **health of community** - measures indicating physical health in the community, such as birth weights and workdays lost due to illness;
- **community safety** - measures of crime and violence and personal injuries;
- **community participation** - measures to reflect citizen involvement, such as voter participation, charitable giving and others.

What have we learned after two rounds of Quality of Life reporting? In 1999, the first report emphasized the income disparities in Canada's urban communities, noting the gap was larger than either the national or provincial averages. By 2001, the gap had widened, despite the strong turnaround in the economy during the preceding two years, and despite the fact that family incomes, **on average,** had risen. Other findings highlighted by the March 2001 report present a mixed picture of good and bad news for Canada's urban communities:

- Employment and unemployment rates improved for all age groups;
- In most, but not all communities, families at all income levels experienced increases in real income;
- The proportion of families relying on Employment Insurance and Social Assistance declined (for a variety of reasons, including changes in eligibility);

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Research Brief

Connecting Frontline Experience and Government Policy Design

St. Christopher House staff and volunteers have been increasingly concerned with the inadequacy of social programs and policies delivered by various levels of government. The neighbourhood served by St. Chris in west downtown Toronto faces growing homelessness as well as multiple poverty traps affecting diverse individuals and families.

Concerned about the gap between the experiences of frontline service providers and policy makers, St. Christopher House began the Community Undertaking Social Policy (CUSP) project in the fall of 2000. Community Undertaking Social Policy (CUSP) offers a policy expert the opportunity to work in St. Christopher House and with the community served by the agency. The goal is to ground current social policy work in our community: creating an informed dialogue between policy makers and affected community members.

Dr. Richard Shillington was the first CUSP policy expert who spent eight weeks in St. Christopher House. Shillington's focus was examining the cumulative impacts of various income policies on lower-income people. Shillington found a number of income policy problems that create negative consequences for low-income people.

One example illustrates the "stacking effect" of cumulative income assistance programs, taxation and subsidy programs and policies. A senior, "Mrs. Apple", receives Old Age Security and Canada Pension Plan. Because her income is still low, she also receives the Guaranteed Income Supplement (GIS). Her problems begin if/when she receives income from other sources. For every $1.00 of extra income she receives from other sources:

- Her GIS is reduced by 50 cents;
- About a third of seniors on GIS also pay income tax – Mrs. Apple is one of them so for every extra dollar she receives she also pays 25 cents in income tax;
- Her GST credit will be reduced by 5 cents for that extra dollar of income;
- Her rent-geared-to-income social housing subsidy will be reduced by 30 cents;
- Her Home Help and Meals on Wheels subsidies would each be reduced by 30 cents if she received these supports from agencies that use sliding scale fees depending on income.

Mrs. Apple, in other words, would lose up to $1.70 for every dollar she receives above her OAS, CPP and GIS income. Another way to think of this is that Mrs. Apple has a marginal effective tax rate of 170%.

Shillington attributes these policy flaws to several factors. First, a lack of coordination between levels of government results in policies and programs interacting in an unplanned way; with negative impacts on lower-income individuals. Sometimes policies cancel out the benefits of other programs unintentionally. Other times, one level of government is exploiting opportunities to have another level of government pay for services. These jurisdictional disputes have often hurt people most dependent upon government services: the poor.

Secondly, policy design flaws occur when there is an extreme socio-economic distance between policy makers and lower-income people. When poverty is a concept and not a daily crisis, policy makers are susceptible to making assumptions that reflect their reality more than the reality of the poor. For example, many government policy makers have pension plans. The policy for determining childcare subsidy levels is based on definitions of income and assets that give preferential status to pensions. Specifically, assets are defined to include savings for retirement via RRSP's. However, saving for retirement via an employer pension plan is not counted as an asset for childcare subsidy. The inequity of this seems obvious to people who are poor and to frontline workers.

Thirdly, policy makers do not have accountability to the people who are most affected by their policies. There is insufficient

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Eyewitness

Social Cohesion and the Politics of Identity

On June 1, The Policy Research Initiative, Canadian Heritage and Indian and Northern Affairs Canada hosted a workshop entitled "Social Cohesion and the Politics of Identity" the second in the Social Cohesion Network's 2001 Workshop series. It featured presentations by demographer **Eric Guimond** of INAC, anthropologist **Dr. Dhooleka S. Raj** of Radcliffe College, Harvard University, with **Marc Fonda** of the Social Sciences and Humanities Research Council as discussant and **Dan Beavon** of INAC as chair.

In "The Demographic Explosion of Aboriginal Populations" **Guimond** used data from the 1986 and 1996 Censuses and the 1991 Aboriginal Peoples Survey. He noted an increase of 252% in the number of individuals identifying themselves as of Aboriginal origin between 1971 and 1996, triple the average increase in the general population. After discussing natural increase and variation in quality of enumerations as possible explanations for this increase, Guimond suggests that ethnic mobility must be responsible.

Ethnic mobility is "the phenomenon by which individuals change their ethnic affiliation." During 1986 and 1991 substantial ethnic mobility is observed in all Aboriginal populations with the exception of the Inuit. Guimond also suggests that since it is unlikely that people on reservations will change their ethnic identity, we can presume that ethnic mobility is taking place outside of the reserves and is occurring in urban centres.

Guimond concluded by arguing that in order to better our understanding of demographic change and improve the population projection model for planning and programming purposes, we need to study the reproduction of Aboriginal groups, as it exists in a three-stage process; targeting intermarriage, natality and ethnic mobility. A better understanding of the factors associated with Aboriginal affiliation of children in mixed marriages is also needed.

Raj used three comparative examples to structure her presentation, "How do we Imagine Co-Existence: Multiculturalism and the Politics of Identity."

How we understand identity in terms of lived experiences. In examining social cohesion from everyday life, Raj began by analyzing the common question of "Where are you from?" determining if this question is deemed to be friendly or offensive. She portrayed this question as an act of identification, pointing out that it raises a question mark about co-existence as it highlights the issue of difference and belonging.

Policy and social cohesion in Britain as a cross-cultural comparison. As Britain moves away from its tradition of peerage, devolves politically and moves into the EU, citizenship is emerging as a key concept. Equality, diversity and tolerance are its defining factors, yet she notes, that there is no agreed upon definition of what tolerance means.

The "dilemma of difference" for policy makers. Raj questioned whether or not policy was creating difference by asking how does policy itself foster specific lived experiences of diversity. She pointed out that it's how we treat this difference that creates a dilemma. Raj then questioned whether or not we see diversity in Canada as a fault line or national asset, stressing her belief that diversity is not a fault line.

Raj concluded by identifying three methods of imagining coexistence:

- Emphasize heritage, recognize the value that diversity brings to a nation.
- Use social cohesion research but look beyond the numbers, stressing the importance of considering how people actually live with diversity so that we have an understanding of everyday life.
- Promote a clear message of diversity, ensuring that policy makers maintain consistency in this message.

Fonda positioned identity in the context of the nation state. National identities were constructed to create political unity through the work of intellectuals, artists and writers, the development of national languages, the creation of national histories as a common narrative, educational

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institutions, the media and a leading role given to popular traditions in the process of forming national identities.

Multiculturalism has been put forward as a model but it imposes a strict hierarchy of identity-based allegiances and may be seen as both non-respectful of local cultures and non-inclusive of immigrant cultures.

The challenge is building a new model of identity that will be a combination of individual and collective identities. Fonda looked at emerging models such as Multi-Centred Identity, which will accommodate group distinctiveness within a flexible common project. He believes it will be interesting to observe how government policy will deal with the notion of multi-centred identity especially given the influence of Christianity on our government and its bias towards a singular identity.

For more information on the presentation "The Demographic Explosion of Aboriginal Populations" please contact Eric Guimond at guimonde@inac.gc.ca.

KP & JC

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- The average increases in incomes in the bottom 30 percent of the population income scale were lower in the QOL urban communities than in Canada as a whole;
- Explosive population growth in some communities, such as Calgary, York and Peel Regions, has placed increasing pressure on community and physical infrastructure. Housing starts are up, but vacancy rates are down, leading to rising rental rates and decreasing housing choices for low-income households;
- Crime rates are down, as are mortality rates due to injuries and poisonings; declining rates are more pronounced in the QOL communities than in Canada as a whole;

FCM and its partners are committed to continuous improvement of the Quality of Life Reporting System to ensure it remains relevant, reliable, and effective. During the upcoming year, two new sets of indicators with supporting measures will be finalized in time for the 2003 Report: 1) quality of the environment; and 2) community and cultural infrastructure. The Quality of Life Team additionally recognizes the need to document the effectiveness of the reporting system and is committed to an evaluation of the program, with regard to both the products (data, reports) and processes (methodology, communication) involved. The outcome of the evaluation should signal the future direction of the project and assist in setting priorities for strengthening an already well-established tool in public policy making.

Marni Cappe
Senior Policy Advisor,
Federation of Canadian Municipalities

For more information, the full report is available at http://www.fcm.ca/english/communications/qol2001-e.PDF.

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economic and financial analysis in frontline agencies and in the social services sector in general. Lower-income Canadians do not have adequately resourced "watchdogs" to ensure that the concerns of lower-income people have the weight with government policy makers as, for example, the financial services lobby.

St. Christopher House and Shillington are working with volunteer technical experts on solutions to some of the income policy problems identified during this project. St. Christopher House is also committed to building more awareness about these income policy problems with lower-income people, within the social services sector and with the broader public.

For more information, please contact: Maureen Fair, Director of Community Response and Advocacy, St. Christopher House (416) 504-3535 x233.

St. Christopher House is a not-for-profit, non-religious neighbourhood centre serving west downtown Toronto. As a multi-service agency, St. Christopher House works with diverse low-income people of all ages. The Community Undertaking Social Policy (CUSP) project was supported by Massey College and funded by the Atkinson Foundation.

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Across Canada

The Pembina Institute

Building sustainable communities that think creatively about how to preserve the natural environment. This is what drives the Pembina Institute for Appropriate Development in their mission toward holistic and practical solutions for a sustainable world.

The citizen-based Pembina Institute is celebrating 15 years in their commitment to protecting the environment and to develop environmentally sound solutions to meet human needs. Pembina's interest areas include: energy and the environment; environmental economics; and sustainable resource management stems a number of forward-thinking programs.

Pembina's **Climate Change Program,** monitors and publicizes Canada's progress in addressing climate change and reviews corporate greenhouse gas emission trends, releasing report cards assessing the climate change performance of federal and provincial governments and corporations in Canada's gas and electric utility sectors.

An **Environmental Education Program** has enabled Pembina to advocate the concerns of climate change to the next generation with environmental education materials and support services.

The **Eco-Efficient Technologies Program** focuses on the assessment of various renewable energy options and other sustainable development opportunities, enabling the development of comprehensive community energy plans.

The Institute monitors the sources and impacts of pollutants and advocates for practices and policies that minimize the environmental and human health impacts and risks associated with the emissions through the **Energy Watch Program.** Through this program, they intervene in regulatory reviews of major oil and gas projects, and participate in stakeholder forums. The program provides advice and support to communities concerned about the potential impacts of oil and gas development.

Through its **Green Economics Program,** Pembina aims to facilitate, empower and redirect the economy toward a genuinely sustainable future. In this effort, Pembina has developed the world's first total well-being accounting systems with a set of indicators and full cost-benefit accounts to track and measure economic, social and environmental sustainability.

The Institute's **Corporate Eco-Efficiency** Services provides a range of practical and strategic environmental and eco-efficiency consulting services to private sector corporations. The Corporate Eco-efficiency Services also provides contract research and project development services.

Pembina's research and analysis integrates expertise from a number of disciplines, including engineering, economics, ecological science, politics and education. Pembina's approach is not only multidisciplinary, it is flexible and based on solid research. This approach has helped Pembina meet its goals toward effectiveness as a stakeholder, advocate, consultant and facilitator. As such, the institute is well positioned to catalyze action by bringing together key players and driving for creative solutions.

For further information on the Pembina Institute for Appropriate Development, view their web site at www.pembina.org.

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