Managing for sustainable development: 99% perspiration

by Brian Emmett¹

For many years, Canadians have been at the forefront of thinking about the interdependence of people and the natural environment. Canada has achieved a high level of human development and has made progress toward a healthier environment in a number of areas. But important challenges remain. A key challenge is how to turn thoughts and words into concrete action. I believe that with sound management practices we can make significant advances in protecting our environment and promoting sustainable development.

Depuis plusieurs années, les Canadiens ont été parmi les premiers à reconnaître l'interdépendance entre l'homme et son environnement naturel. Nous avons atteint un niveau élevé de développement humain et nous avons réussi à assainir notre environnement dans certains secteurs. Cependant, il nous reste encore de nombreux défis à relever, le plus important étant de joindre le geste à la parole. Je crois que nous pouvons améliorer grandement la protection de notre environnement et la promotion du développement durable en appliquant de saines pratiques de gestion à ces questions.

Introduction

In 1909, Prime Minister Wilfred Laurier established the Commission of Conservation to provide Canadian governments with up-to-date scientific advice on the conservation of human and natural resources. The Commission included federal and provincial ministers with responsibility for natural resources, and 20 other members. The Commission's work over more than a decade constituted the first large-scale survey of Canadian resources and resource problems. Topics included agriculture, forest products, water and water power, mines and minerals, fisheries and the fur trade.

Dr. Frank Adams, then dean of the Faculty of Applied Science at McGill University and president of the Royal Society of Canada, chaired one of the working committees. In his presidential address – published in 1915 as a Commission pamphlet – Dr. Adams presented an early perspective on the sustainable development challenge. He said,

We are prosperous now, but we must not forget that it is just as important that our descendants should be prosperous in their turn. Each generation is entitled to the interest on the natural capital, but the principal should be handed down unimpaired.²

Today we talk about sustainable development in much the same way. In 1987, the World Commission on Environment and Development – often referred to as the Brundtland Commission, after its chair – called for “development that meets the needs of the present without compromising the ability of future generations to meet their own needs.”³

But these two statements have more in common than a similarity of philosophy. One observer notes that while the Commission of Conservation produced a large number of books, reports and scientific papers, its public policy achievements were not as substantial. Governments were slow to accept the

Commission's advice.⁴ As for the Brundtland report, despite widespread enthusiasm it generated in Canada and internationally for the concept of sustainable development, action has failed to match the rhetoric.

I have taken the title of this article from Thomas Edison, who once described genius as one percent inspiration and 99 percent perspiration. While reasonable people can disagree about these proportions, the idea is compelling when we think about sustainable development in public policy terms. To make progress, we need to think strategically – that's the inspiration part – and to act with purpose and determination – that's where the perspiration comes in. This article will deal with both aspects.

Limits to Growth and Beyond

For most of my career I have worked on environmental and sustainable development issues, largely from an economic perspective. Many of the first economists – people like Malthus, Ricardo and Mills – saw questions of sustainability and resource use as central to their discipline. And their analysis contributed to the perception that economics was the “dismal science.”

Malthus was a founding member of the “limits to growth” school. He argued that natural resources – in particular, agricultural land – were finite and that they were absolutely necessary for production. Hence, production could not expand beyond a certain point. And needs for minimum subsistence would also limit population.

How well does this framework fit with history? The short answer is, not well. Through the use of capital and with advances in technology, the relative cost of natural resources (the way most economists think of scarcity) has declined over the past century. As a consequence, economists' initial interest in the availability of natural resources waned. They

¹Commissioner of the Environment and Sustainable Development, Canada.

²Adams, F.D (1915), *The National Domain in Canada and its Proper Conservation*, Commission of Conservation Canada, Lowe-Martin Co. Limited: Ottawa

³World Commission on Environment and Development (1987), *Our Common Future*, Oxford: Oxford University Press

⁴Smith, P. J. (1997), “Commission of Conservation”, in the 1998 Canadian and World Encyclopedia, McClelland and Stewart Inc.

no longer saw scarcity of natural resources as an important issue. They turned their attention to other things.

But an obvious truth underpinned that original thinking. And it accounts for ongoing interest in the question of what the limits to growth might be. Since we live in a finite world, it is not possible to maintain geometric growth rates indefinitely. While Malthus was particularly concerned about the availability of good agricultural land as a limiting factor, others drew a broader range of inputs into their calculations – the availability of forests, fisheries, minerals, oil, and so on.⁵

These concerns about limits imposed by availability of resources remain today and have been extended to another vital resource: the natural environment itself. People are now very much concerned with limits on the waste the environment can absorb. Issues like air and water pollution, depletion of stratospheric ozone, acid rain and climate change are examples.

A more optimistic scenario flows from a different view of the interaction of income, people and the environment. In particular, that view introduces advances in technology and knowledge into the equation. The ultimate limits, then, are less natural than they are rooted in the skills and aspirations of people themselves – their capacity to solve problems individually and collectively.⁶

One Planet, Many Worlds, Many Pressures

My own thinking on the environment and sustainable development was influenced by a politician and an astronaut whose unique experiences made them both visionaries in their own way. They are William Anders, an astronaut on Apollo 8; and Gro Harlem Brundtland, former environment minister and Prime Minister of Norway.

The experience of going into space has had a profound effect on many astronauts. And the images they have brought back have had an impact on people and how they view their home. The photograph of the Earth from space that William Anders took on Christmas Eve, 1968 illustrated dramatically the beauty of the planet, its isolation and its smallness in a vast universe. People gained from the photograph a new sense of Earth's fragility and the need to care for the environment both for ourselves and for those who will come after us.

Dr. Brundtland's gift to the world was *Our Common Future*, the report of the United Nation's Commission on Environment and Development. She added an important modifier to our realization that we share a common home when she wrote, "one planet, many worlds." That is, we live on a planet that houses many different countries at many different stages of development, with different cultural values and different economic and environmental and political goals.

Her particular concern was to reconcile the needs of the different worlds with the needs of the environment. Her answer was sustainable development – the idea that economy and environment were two sides of the same coin. To her, care for the environment was necessary for achieving the economic, social and political goals of the many worlds that share the planet.

I believe that this is a helpful and optimistic formulation of our environmental problems. It says we can have it all – growth, and high and improving levels of environmental quality – if only we are smart enough, invest in the right technology and manage our activities well with concern for the environment. But can this be true in practice?

Harmony with nature is a concept whose popularity has always waxed and waned. Canadian public interest in the environment surged in the late 1960s, as it did in many Western countries. A series of high-profile events included the discovery of the impact of DDT on wildlife, and major oil spills off the coasts of England and California.

In Canada, the Arrow oil tanker ran aground in northern Nova Scotia. Mercury contamination of waterways also led to extensive bans on fishing. Environmental groups like Greenpeace and Pollution Probe were established in the early 1970s, and older groups like the Sierra Club shifted their focus from conservation to pollution control.

Public concern translated into political action, as key pieces of environmental legislation were introduced in the early 1970s. Canada became one of the first countries to have a government department of the environment. But this first wave of environmental concern began to wane as economic conditions deteriorated.

The second wave began in the mid-1980s. Public concern was again sparked by what seemed to be an endless series of ecological disasters – Bhopal, Chernobyl, the Exxon Valdez oil spill, the discovery of the hole in the ozone layer and emerging evidence of global warming. In Canada, there was a PCB spill in Kenora and discovery of a toxic blob in the St. Clair River in 1985. Dioxins were detected in pulp mill effluent in 1987, and in 1988 there was a PCB warehouse fire at St-Basile-le-Grand. An oil spill occurred off Vancouver Island in 1989 and tire dump fires in Ontario and Quebec in 1990.

Public opinion polling clearly reflected rising concern. During 1989, the environment was identified as the most important problem facing Canada. These events set the stage for a new round of "greening" of government, including the *Canadian Environmental Protection Act* in 1988 and *Canada's Green Plan for a Healthy Environment* in 1990. But again, deteriorating economic and fiscal conditions eroded political interest in things environmental.

The current wave of interest has followed a somewhat different pattern. While the environment was not a significant issue in the 1993 Canadian election, one of eight chapters in the winning party's election platform – the Red Book – was devoted to sustainable development. In essence, the environment had become a mainstream political issue in Canada, less influenced by "off-the-top-of-the-head" public opinion. A key theme of the Red Book chapter was the need to integrate economic and environmental goals across the federal government. The creation of the position of Commissioner of the Environment and Sustainable Development is part of the Red Book legacy.

We can imagine that another tragic event like those in the late sixties and mid-1980s would focus public opinion and concern on the environment once again. But the noteworthy changes in the past 10 years have been the stuff of neither headlines nor public opinion. They are trends, not events; they are predictable, not shocking. And they are on a scale that tends to glaze even the most focussed eye.

⁵See for example Meadows, D. H.; Meadows, D. L.; Randers, J.; and Behrens, W. W., III (1972), *Limits to Growth*, New York: Potomac Association.

⁶See Simon, J. (1981), *The Ultimate Resource*, Princeton: Princeton University Press.

Try to visualize the 20 percent increase in world population over the past 10 years. That is 800 million more people – more than two and a half times the combined populations of Canada and the United States. And each new addition to the world has, like each of us, needs that the world's economies must meet. Each needs food, employment, income, health care, and social development.

In 1992, 178 nations gathered at Rio de Janeiro for the Earth Summit. The goal was to develop a plan for dealing with environment and development issues into the 21st century. It was the largest meeting of national leaders in history. They came together with high hopes and high expectations.

Five years later, in June 1997, those countries got together again at a special session of the United Nations to assess progress since the Earth Summit, and to set future priorities. The tone of that meeting was palpably different.

Analyses done for the meeting covered a wide range of sustainable development issues – poverty, consumption and production, population, forests, water, land, climate, technology transfer, to name a few. Countries acknowledged that they had made some progress in the five years since the Earth Summit. Globally, population growth was slowing, food production was rising and the majority of people were living longer and healthier lives. Environmental quality in some regions was improving.

But the countries also expressed deep concern that global trends overall had worsened since 1992, despite a proliferation of national and regional sustainable development strategies, conservation strategies and environmental action plans. Some of the indicators of unsustainable development they cited were:

- rising levels of greenhouse gas emissions, toxic pollution and solid waste;
- overuse of renewable resources, particularly water, forests, topsoil and fisheries; and
- increasing gaps between rich and poor, within and among countries.

In the face of those inexorable forces, the member states of the United Nations recognized the need to accelerate their efforts. They committed themselves to ensure that the next comprehensive review in the year 2002 – or 10 years after the Earth Summit – would demonstrate greater measurable progress toward sustainable development.

Managing for Sustainable Development

So what do we need to do to turn good will into good results? Asked to name the key sustainable development challenges we face today, most people would probably think of the things I have mentioned so far – greenhouse gas emissions, toxic pollution, poverty, and so on. And those are important issues.

But what I tend to focus on is how governments manage those issues, and the weaknesses I see:

- **Gaps between commitments made and concrete action taken.** Canadians have been at the forefront of thinking about environmental and sustainable development issues, domestically and internationally. We have been less effective at turning our thoughts and words into action –

at finishing what we start. In many areas, the federal government's performance falls well short of its stated objectives.

- **Lack of co-ordination among departments and across jurisdictions.** Some of the most pressing issues facing governments today cut across departmental mandates and political jurisdictions. Effective co-ordination is essential for meeting our sustainable development challenges – and governments are not very good at it.
- **Inadequate review of performance and provision of information to Parliament.** Good information is critical for good decisions – for setting priorities, designing policies and programs, assessing progress and reporting on accomplishments. Our current information base is not up to those tasks.

Learning From Others

Public sector organizations are not the only ones struggling with how best to build environmental and sustainable development considerations into the way they do business. Over time, the private sector has significantly changed its thinking about the relationship between business shareholder value and the environment.

In his 1997 article in the *Harvard Business Review*, "Beyond Greening: Strategies for a Sustainable World," Professor Stuart Hart put it this way:

Whereas yesterday's businesses were often oblivious to their negative impact on the environment and today's businesses strive for zero impact, tomorrow's businesses must learn to make a positive impact.

Thirty years ago, many companies were in a state of denial about their impact on the environment. Companies were simply **coping**: responding to specific environmental problems or "incidents" as they occurred. They took "damage control" strategies. Government action to protect the environment was seen as bad for business, and was to be resisted. Only in exceptional cases would one see companies taking voluntary action.

With increasing government regulation of environmental impacts, companies and their officers became concerned about their exposure to prosecution and financial liability. Many organizations adopted systems and procedures to ensure **compliance** with existing laws and regulations. These strategies often produced "end of pipe" solutions to environmental impacts. Companies saw the expense of developing solutions to meet regulatory requirements as a cost of doing business; their objective was to minimize that cost.

As companies have searched for ways to reduce these costs, many have identified opportunities to protect the environment that are also good for the bottom line. They apply lessons learned from the management of safety and quality. They develop **comprehensive approaches to environmental management** that embody pollution prevention and eco-efficiency. In doing so, they achieve significant reduction in risk and cost. Many find they are identifying new opportunities to generate revenue, business opportunities for environmentally friendly products and marketable solutions to some of the world's environmental problems.

Exhibit 1
Managing for Sustainable Development

A small but growing number of companies are going beyond comprehensive environmental management to integrate **sustainable development** into their corporate strategies. They expand their decision-making horizons by linking financial stewardship with environmental and social stewardship. They change fundamental business processes to eliminate or greatly reduce the risks to be managed. They incorporate Innovations that increase their organization's positive environmental impact. The discipline of listening to the concerns of a broad spectrum of stakeholders is embedded in formal processes and practices.

Exhibit 1 illustrates the type of model that many organizations use to manage their environmental and sustainable development agendas. Like other management models, the ISO 14001 Environmental Management System standard is based on the "plan-do-check-improve" approach to strengthening an organization's performance. People in the training field refer to the ISO standard as Management 101 applied to the environment.

ISO 14001 was adopted as an international standard in 1996, and more than 100 Canadian firms have registered so far. Many more organizations in both the private and public sectors use the standard to guide their management practices.

I believe we can make significant advances in protecting our environment and promoting sustainable development if we apply sound management practices to our efforts. The systematic approach to continual improvement that standards like ISO 14001 embody would strengthen management practices significantly – in both the public and private sectors.

Many environmental and sustainable development issues are, by their very nature, difficult to manage. They are often scientifically complex, involve long time frames and do not fit neatly within a single department's or government's mandate or jurisdiction.

Integrating economic, environmental and social considerations presents significant challenges to policy makers. Trade-offs may be required between, for example, immediate financial costs and future environmental and social benefits that are less tangible. There may be gaps in the scientific and other information needed to devise policies and programs and to monitor their progress.

Notwithstanding those difficulties, the public does expect that when policies and programs are developed and announced they will be implemented, and their intended results achieved.

Some would argue that this implementation gap, as we have called it in our reports, is simply a reflection of political will – or the lack of it. Changes in societal needs, political trends, intergovernmental relations, fiscal conditions and citizen expectations do indeed affect what is considered important at any given juncture.

But I would argue that part of the problem is systemic – that government circles pay too little attention to the management side of sustainable development. We do not define objectives, roles and responsibilities clearly, or monitor and report results reasonably. Nor do we learn from experience.

And this is something that we can control – that we can do something about. We need to ensure that the policies we develop will be purposefully implemented. We need to close the implementation gap, not by lowering our expectations but by strengthening our performance.

Environmental Progress is a Marathon

The news is not all bad. We have demonstrated that we can get things done when we want to. But in every instance, it has been a marathon race, not a sprint.

Take, for example, the amount of time and effort it took to address the issue of ozone depletion. Roughly 25 years passed between the scientific discovery of the interaction between CFCs and ozone and the achievement of a more or less CFC-free economy in Canada.

This is a real success story, both in Canada and internationally. But we will have to wait another 50 years to see the full effects of our efforts. Effective environmental policy requires that we take the long view.

So what are we to do?

I believe the important issue of the environment is one where Canadians are looking to government for imaginative leadership. It is an issue on which people deserve the highest level of professionalism from their public service. Performance matters.

As much as we ask about whether we have the right policies, we should be asking about the results. And we should be able to adjust our policies to incorporate what we learn from our experience.

Historians have said of Phillip II of Spain, "No experience of the failure of his policy could shake his belief in its essential excellence," even as the Armada sank to the bottom of the English Channel.

I sometimes wonder what the historians will write of our time, this brief window where we have the opportunity to influence the future. I hope there will be a moment when they can say, yes, we can see where they learned from their experience and so this is how they modified their next attempt.

Effective implementation – doing what you said you would do – is not characterized as glamorous. Architects become more famous than bricklayers.

The challenge is to keep the spotlight on how the government is acting on the fundamentals of sustainable development rather than reacting to the public – to resist the peaks and valleys of public attention in favour of a long-term focus on the public interest.

Conclusion

The pressures that give rise to environmental problems are relentless – population growth, economic activity, exploitation of natural resources. In some ways, it is as if we were running up the down escalator – we have to work harder and smarter over a long period of time just to stay in the same place.

Where we have moved fast and efficiently, we can see some successes – the virtual disappearance of lead from Canadian air, the reduction and elimination of substances that destroy the ozone layer in the Earth's atmosphere, and so on.

But if we slow down or become complacent, problems grow and we move backward with predictable results – rising lev-

els of greenhouse gas emissions, overuse of renewable resources and toxic substances in our air and water.

Following Thomas Edison's maxim, I have argued that we need to think strategically – that's the inspiration part – and to act strategically – that's where the perspiration comes in – to protect the environment and promote sustainable development.

Canadians need to demand a new, rigorous level of professionalism that combines strong, visionary policy leadership with the best, most innovative techniques of modern management and with the dedication and application to make them work together for the results we all want. The environment – our legacy to our children and to their children – is worth it.