DRAFT

BUILDING MOMENTUM

SUSTAINABLE DEVELOPMENT IN CANADA

Stakeholder report
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February 13, 1997

INTRODUCTION

In the twenty-five years since the United Nations Conference on the Human Environment in Stockholm much has changed in Canada and the world. A wide range of trends has affected the lives of people and environments since 1972, the year the environment first became a major international concern.

At that time, most Canadians' views of environmental issues focused on specific challenges and straightforward solutions. For example, concerns about acid rain from smokestack emissions first led to building larger smokestacks so pollutants would be dispersed over much larger areas. After more research and experience, laws, regulations and government-industry-community cooperation began to target reductions in many pollutants. Later, international cooperation was employed to reduce the cross-border impacts of known pollutants.

Those experiences, advances in knowledge in the natural and social sciences, and increased public awareness have changed how people perceive and approach issues. We now appreciate the connections among what once seemed like discrete environmental, economic and social issues. We now see these as the three pillars of sustainable development, a term that did not even exist until the 1980s.

Canada's first place ranking in the United Nations Human Development Index in 1996 is a matter of striking a balance between those environmental, economic and social pillars. We know that community decisions to improve health or education can create positive economic impacts in the future. We know that a sound economy allows us to fund those health and education investments. A degraded natural environment can lead to increased poverty and social instability, while one that is treated with respect can provide a range of economic and social benefits.

Since the Stockholm Conference in 1972 we have learned a great deal about the environment and the pressures on it. We have benefited from new ways of thinking and understanding a complex world. We have begun to develop new forms of governance to address the priorities of sustainable development and recognize our common responsibility for decisions and actions.

People have also come to recognize the gap that exists between the increasing pressure from human activities on the carrying capacity of our environment and our ability and willingness to change. Bridging that gap is the essence of the sustainable development challenge. It calls for innovative responses in governance, the integration of environmental, social, economic considerations; science and technology; and building partnerships between governments, within governments, and with communities.

This report outlines how Canadians have built momentum over the past twenty-five years toward a more sustainable future. It highlights each pillar of sustainable development:

- building natural capital by investing in conservation and protection of the environment;
- maintaining and improving Canadians' economic quality of life and standard of living; and
- strengthening human and social capital in Canadian life

This report offers some indicators of how Canada has addressed certain aspects of sustainable development, but it is not a comprehensive scorecard. It emphasizes how our priorities, our thinking and our approaches to governance have changed during a dynamic quarter century. It identifies the challenges that lie ahead.

GROWING APPRECIATION FOR AN ENVIRONMENT UNDER STRESS

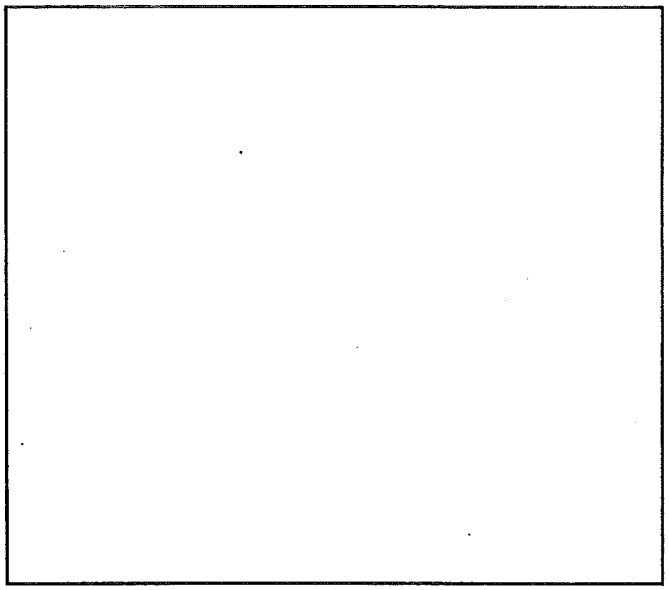
During the past twenty-five years, environmental conservation and protection has grown in sophistication and priority. In the early years of this period, we saw a predominant public focus on preservation of single, high profile species. This has evolved into an awareness of the need to protect whole habitats and all species through ecosystem approaches.

Similarly, there has been a progressive realization of the transboundary aspects of air and water pollution. We recognize that pollution crosses boundaries and that we must work together to develop solutions. As awareness of global environmental issues increases, Canadians want their country to set an example and provide leadership.

Sound environmental management is a prerequisite for sustainable development - continued well-being and economic development rely on a healthy natural resource base. We are taking steps to further integrate environmental considerations into decision-making, recognize the value of nature and build the necessary partnerships and support to pursue sound policies. These factors are increasingly reflected in the way we invest in natural capital and define approaches for governance.

<u>Investing in our Natural Capital</u>

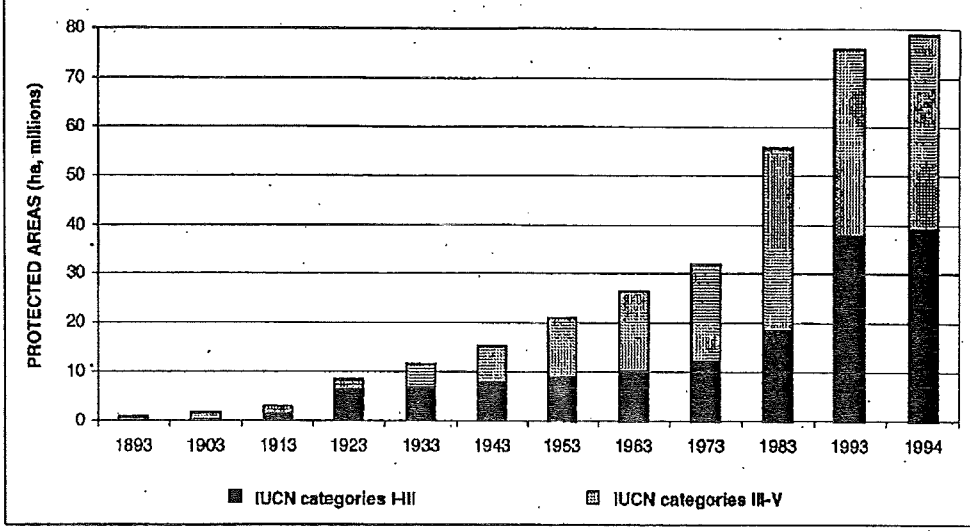
People have come to appreciate that environmental resources including our wildlife, forests and freshwater are assets. This has been linked to the notion of natural capital which is composed of the assets in our environment that provide both market benefits such as to the forest industry, and non-market benefits such as the role that trees play in trapping carbon. The appreciation of natural capital values has been a factor in global initiatives to conserve biological diversity and managing climate change. It has also led to new approaches to policy and practice in key sectors of the Canadian economy such as agriculture, forestry and fisheries. Beyond those market values, we are becoming increasingly aware that indicators for the health of the environment can serve as an early warning system for humans. This



Protecting species such as the endangered Peary Caribou in Canada's High Arctic involves many approaches.

is particularly evident in Canada's North.

Growth in the establishment of protected areas in Canada



Note:
(1) Strictly protected areas include nature reserves, wilderness areas, national parks, many provincial and natural monuments.

(2) Other protected areas include habitat/species management areas, protected landscapes or seasca and managed resource areas.

Source: The State of Canada's Environment. 1996. Chapter 14 - Biodiversity Change.

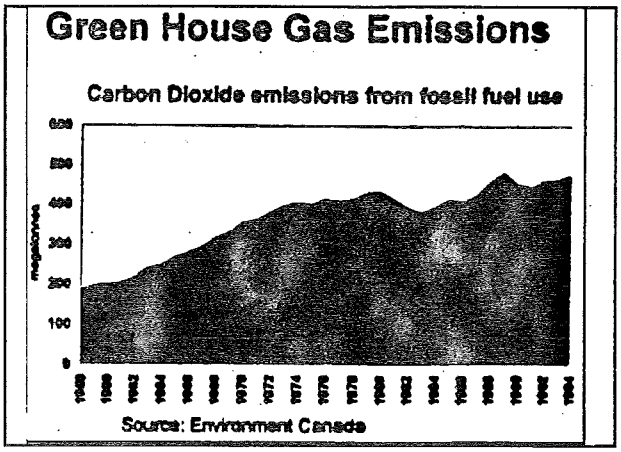
Increasing the number of protected areas in Canada has been one way to address the stress on endangered and threatened species and to preserve the biodiversity of special and representative ecosystems.

Over recent years the loss of natural capital represented by **biological diversity** has become a major international issue based on the concern over what scientists believe to be an unprecedented rate of species extinction as a result of human activity. The federal, provincial and territorial governments of Canada responded to the United Nations Convention on Biological Diversity of 1992 with the Canadian Biodiversity Strategy in 1995. The Strategy drew on contribution from all sectors of Canadian society with a cohesive policy framework for conserving biodiversity and sustainably using biological resources.

Governments have already begun to report on their actions. The federal report will include plans aimed at completing the national parks system. In 1970, 20 parks made up the Canadian national parks system. Since then, 18 more have been added. The federal government has also introduced its first endangered species legislation. In

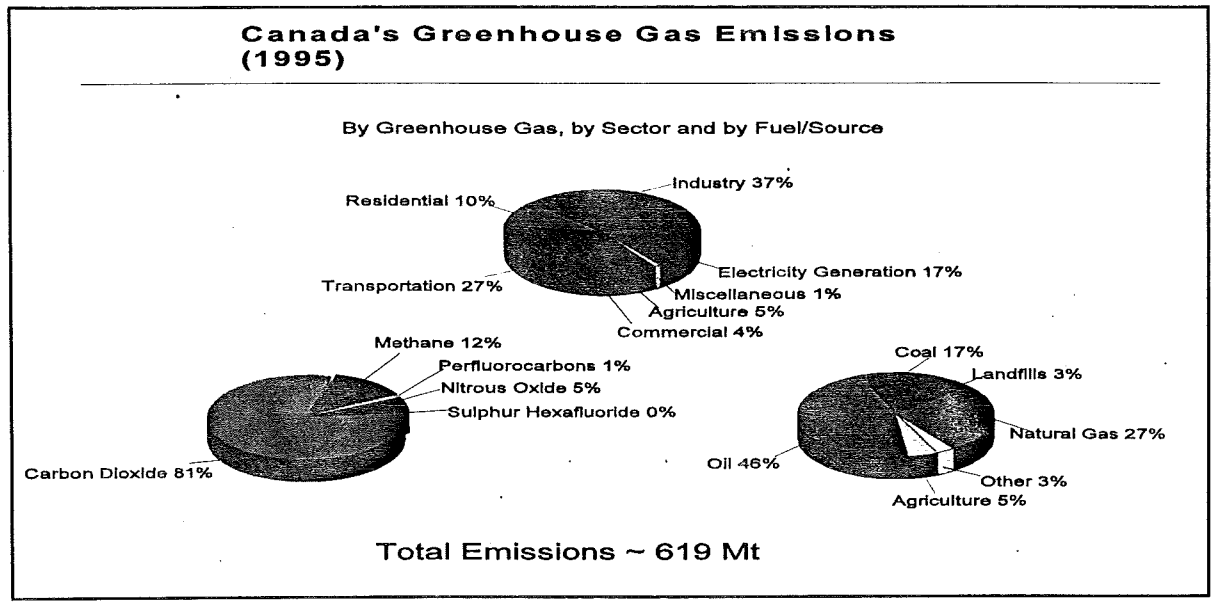
1978, 17 species were listed as being vulnerable or threatened to some degree. By 1996 that number had climbed to 276, in part, a reflection of an increase in the number of species being studied, although only a small percentage of species are evaluated each year.

Climate change has become another focus of attention since the Intergovernmental Panel on Climate Change estimated that global temperatures could rise somewhere between 1.0°C and 3.5°C due to a range of human activities. In Canada that could lead to natural capital impacts such as increased coastal and shoreline flooding, more frequent droughts in some regions and the loss of important boreal forests.



A series of successful programs have only slowed the growth in Canada's greenhouse gas emissions . . .

The last 25 years have witnessed a steady rise in greenhouse gases and global average temperature associated with climate change. In Canada, approximately 76 percent of total emissions come from fossil fuel combustion. More of these come from industrial activities than any other source, but the transportation sector has presented the most severe challenges because of increases in the number, size and distance travelled by vehicles. This has led to initiatives such as the 1992 United Nations Framework Convention on Climate Change. However, even with a wide range of activities to date, emission levels in Canada and many other developed countries have continued to rise. Many governments have conceded that they will not meet their goal of stabilizing greenhouse gases at 1990 levels by the year 2000.



... because these gases are the product of many of the most common activities in lives and economy of Canadians.

Agriculture depends on the quality of soils and water. Between 1971 and 1991, the total area of farmland remained relatively constant while its productivity increased. Over time, Canadian farmers have begun to adopt more sustainable land management practices. One example, is the growth in use of methods of tilling fields that reduce soil erosion. Between 1981 and 1991 use of these methods rose from almost none to reach about one-third of Canada's cultivated land.

Forests cover about 45 percent of Canada and contribute significantly to Canada's economy. Major efforts have been made to bring about sustainable development in the forest industry. For example, between 1975 and 1993, although the area harvested increased by 42 percent, the area planted or seeded increased by 228 percent. Pollution from pulp and paper mills has decreased. Toxic discharges of dioxins and furans were cut by 98.4 percent from 1988 to 1993. In addition, the amount of recycled material for pulp and paper production has tripled since 1980. The industry has seen large declines in the use of chemical pesticides with more expected with increasing use of biological insecticides.

Fisheries provide important social and economic benefits to coastal provinces and northern communities. Events over the last decade have provided stark evidence of the role of sustainable development in ensuring the ongoing economic benefits of the fisheries. Many groundfish stocks in the northwest Atlantic and some salmon stocks on the Pacific coast have been overharvested. That fact, along with other natural

influences on stock levels have led to the closure or restriction of some fisheries. These conditions have led to changes in fisheries management. Governments, the fishing industry and communities are taking part in many initiatives designed to bring about more sustainable fisheries for the future.

The **health of the environment** is increasingly being linked to impacts on human health. Two of every three Canadians believe that environmental deterioration has affected their health. Given the increased exposure of many species to certain substances and their greater vulnerability to some health effects, species of flora and fauna may serve as an early warning system, «the canary in the coal mine.» For example, evidence suggests that frog populations that are more sensitive to UV-B radiation are declining, with potential impacts on the migratory birds and other species that depend on them for food. This underlines both the impact of a thinning ozone layer on UV-B radiation levels and its potential effects on people.

Canada's North represents 40 percent of the country's land mass and is a storehouse of natural capital. Surrounded by two thirds of Canada's marine coastline, it contains some of the largest river systems, extensive forested areas, open tundra and unspoiled wilderness. The past twenty-five years have revealed a range of pressing environmental issues in the region and sparked efforts to respond. Much has been accomplished but key issues of concern to northern peoples still need to be addressed. These include dealing with toxic contaminants, the potential impacts of atmospheric change, protection of northern biodiversity and of traditional Aboriginal lifestyles, and the inclusion of environmental and social considerations in economic development.

? what?

Trends in Governance

As our understanding of the environment has changed so have our approaches to governance. Across Canada the past twenty-five years have seen a shift to more integrated approaches to economic, environmental and social considerations. Our decision-making processes beginning to better reflect the value that we place on nature. We have broadened the scope of environmental legislation and developed a range of tools to achieve our objectives. We recognize the importance of partnerships to bring about change, nationally and internationally. Nevertheless, it is clear that the stresses that we are placing on the environment are exceeding its carrying capacity. We need to find and use innovative approaches in governance, science and partnerships to bridge that gap.

Better **tools to assess the value and uses of natural capital** are key to managing environmental resources sustainably because many resources, such as water, air and wildlife, do not usually lend themselves to traditional economic markets. Overuse is common, as Canadian and global fisheries have experienced. Even when pricing mechanisms have been used, such as in the sale of municipal and industrial water

services, pricing has not come close to full cost.

Eco-tourism has become an important tourism niche and birdwatching is a growing hobby. A 1991 survey found that 19 million Canadians and two million American visitors took part in a wide range of fish or wildlife-related recreational activities in this country. These activities were worth $11 billion to Canada's economy. The growing realization that the genes and genetic resources of other species may offer answers to human medical or scientific questions emphasizes the value of preserving species and the ecosystems they need.

Canadians have integrated environmental factors into **decision-making** venues. In 1971, Canada became the world's second country to create a distinct environment ministry, and eventually all provincial and territorial governments followed suit. Moreover, recognizing the far-reaching nature of sustainable development, legislation now requires federal government departments to pursue sustainable development strategies and report on progress to Parliament.

Environmental legislation and management practices have also evolved in recent decades. Where laws once focused on clean-up and abatement, more recent legislation has emphasized pollution prevention. Governments in this federal state have taken significant steps toward coordinating their efforts in fields such as endangered species protection.

Canada has seen all sectors of society take much greater responsibility for their actions over time. **Communities**, governments and industry have worked together through processes that bring all stakeholders together to resolve issues. Individuals are recognizing the impacts of their actions on the environment and realizing that they are able to effect changes though community action and as part of larger processes. Multistakeholder processes have been used to reach agreement on land use policies and choices, competing resource use pressures and environmental conservation and protection concerns in specific areas such as Atlantic Canada, the St. Lawrence and Fraser River basins and the Great Lakes. These initiatives also build social capital in the communities that are involved in these processes.

Related **international trends** have been the emergence of multilateral agreements and the reform of multilateral institutions. Canada has played a major role in support of many regional and global agreements in the past 25 years. We have recognized that environmental decisions in one country can often have impacts thousands of kilometres away. These agreements reflect the importance of a consistent international response to shared concerns, the need for solutions that respect environmental, social and economic considerations and the need for cooperation between developed and developing countries. Moreover, Canada has been an active player in the international dialogue on the reform of multilateral institutions by encouraging them to adopt more

integrated approaches to effective environmental management.

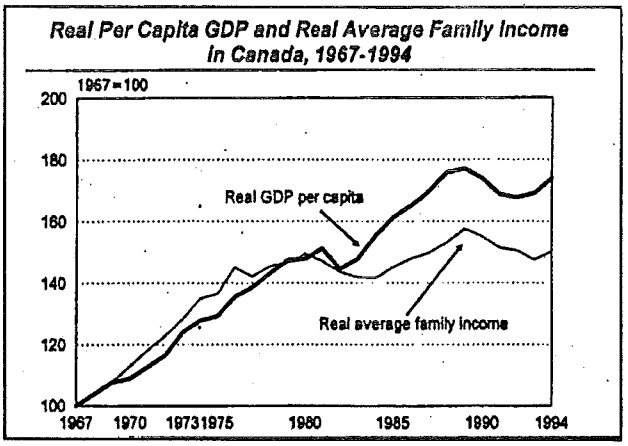
The overall **challenge** is in understanding and responding to the needs of our environment. New models offer different perspectives on these challenges. One example is the notion of an "ecological footprint," developed at the University of British Columbia. This model assesses the capacity of the environment in a particular area to provide enough resources and assimilate enough waste to secure good living conditions for all residents indefinitely. The model was tested in various regions across Canada. Researchers found that Canadian communities routinely exceed the carrying capacity of their area, with the excess being drawn from other regions. This kind of perspective on the environmental impact of human activities has helped to underline the gap that must be bridged between the carrying capacity of the environment and the stresses we place on it.

MAINTAINING AND IMPROVING CANADIANS' QUALITY OF LIFE AND STANDARD OF LIVING

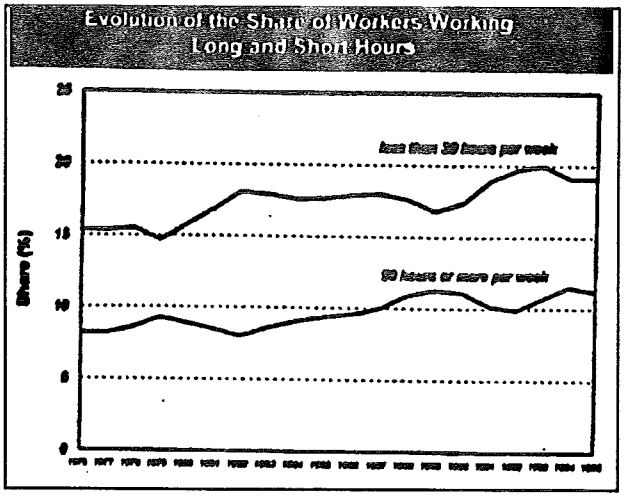
One central lesson of the past 25 years has been greater understanding of the links between the environment and economy. Just as resource industries depend on a productive natural base for their ongoing success, we need a productive, innovative economy to meet many of our environmental priorities. Indeed, one success of the past quarter-century has been the rapid emergence of technologies and processes that have permitted economic growth at far less relative cost to the environment than before.

We have also begun to find more sophisticated tools to help us understand the full impact of economic activity. For example, many analysts criticize the use of the Gross Domestic Product as the major measure of national economic health. The GDP counts money changing hands but not the impacts of the loss of natural or social capital. In fact, the GDP rises when people use resources at unsustainable rates or buy services to deal with social decline such as rising crime or family breakdown.

Agencies such as the World Bank and Statistics Canada have carried out work on



Most Canadians are seeing relatively flat income growth, despite continued growth in the Gross Domestic Product . . .



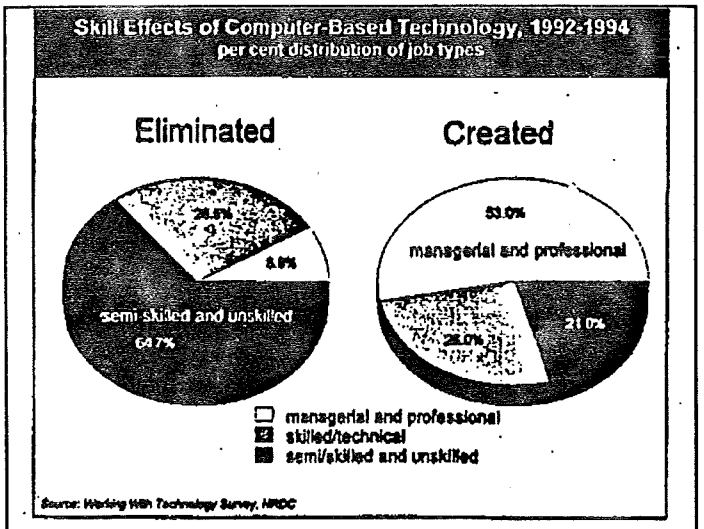
. . . and a lot of the income growth is because people are working more . . .

measures of the long-term wealth of nations. This has involved a more sophisticated approach to economic exchanges and their integration with other factors, consistent with sustainable development thinking. In the study for the World Bank, the authors suggested that capital exists in four types. The first is natural capital, such as resources and the environment. The second is human capital, such as the value of the education and health that people have. The third is social capital, which includes our social institutions and the ways that society operates. The final form is produced capital such as machinery and infrastructure.

Countries that have a lot of resources, that protect their environments, and that encourage and enable their citizens to invest in themselves and to gain the essentials of skills and health, are countries that can be expected to perform well - as societies and economies.

Economic issues, however defined, are important to sustainable development trends. The past twenty-five years have marked a dramatic turn in the economy of Canada and other industrialized states from the quarter-century that preceded it. After a period of significant growth, low unemployment and relatively stable prices, the period from 1972 to the present has been far more volatile.

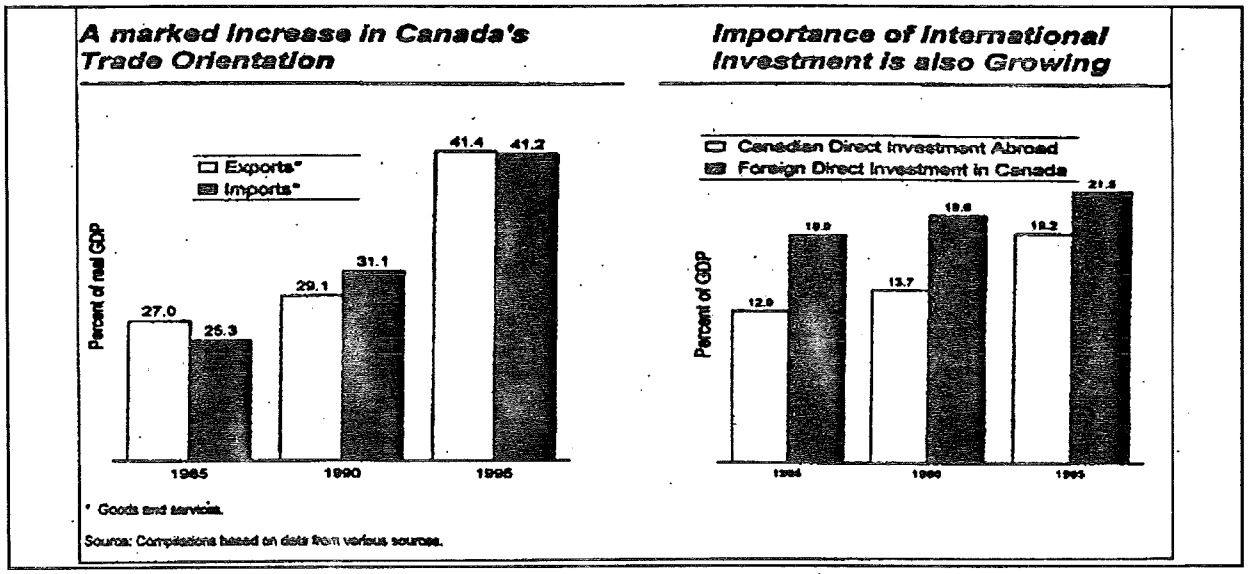
Economic growth rates in Canada and all industrialized states weakened after the early 1970s. The past 25 years have been a time of both boom and recession. Cyclical peaks and valleys in unemployment have been sharper. Canada's labour market has shifted dramatically. The economy has continued its long-term shift to services, at the expense of manufacturing and natural resource-related jobs. Technological change and competition have cost many jobs, particularly those with relatively lower skills. Those same forces have helped to generate many other positions, often with much higher skill and education requirements. The increasing skill demands of the economy help explain why disparities in employment income are growing. Lower-skilled, younger people, especially males have had a steady decline in wages and income. People with strong skills and continued learning opportunities are generally working relatively long hours and earning relatively higher incomes.



. . . in a world where advanced technology is automating unskilled and semi-skilled jobs, while increasing the demand for people with higher skills

Governments have been restricted in their ability to respond to sluggish economic growth and earned income disparity. Factors such as globalization, public sector debt

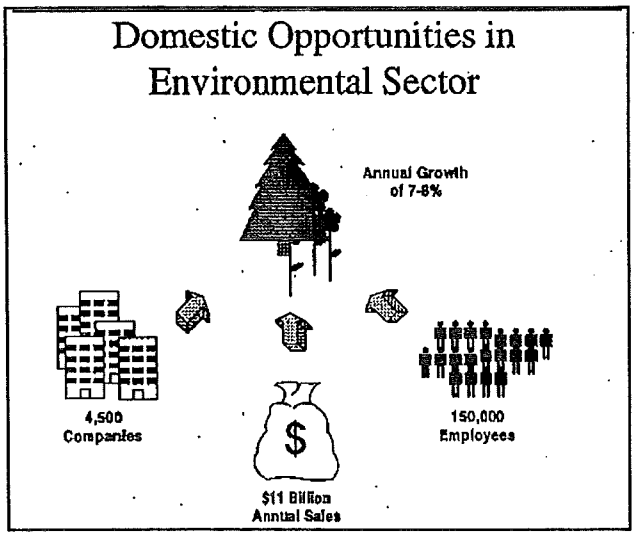
and questions about the value of many traditional solutions have led to an emphasis on creating the conditions for private sector growth in a competitive world and highly targeted support aimed at assisting people to gain jobs in a changing economy. This direction is consistent with the increasingly open economy that Canada has adopted



Canada has always been a trading economy, but that is growing significantly as world markets open...

since the late 1980s. Foreign direct investment and international trade have expanded during the 1990s.

Canada is developing a knowledge-based economy. Emerging industries in the new economy, such as information technology, often have positive impacts on the environment. The products and services of these new industries also change the economic and environmental performance of existing industries. Traditional resource, processing and manufacturing industries are using knowledge tools to perform better and more efficiently. For example, the forest industry uses more of the wood fibre harvested due to more efficient computerized processing. New technologies allow industries to respond effectively to goals such as



...with environmental industries becoming an expanding sector at home and internationally

«virtual elimination» or «zero discharge» policies in the pulp and paper sector.

These economic trends complement the growing desire for sustainable development among Canadians. Surveys over time have shown that

Canadians expect economic development to occur with environmental conservation and protection. Other polling has consistently shown support for strict enforcement of environmental regulations.

This expectation has helped spur the development of a growing environmental industries sector in Canada. These companies and institutions meet the growing demand for more eco-efficient processes and technologies. They also provide «end-of-pipe» solutions and clean up old, polluted sites. Environmental industries are one of Canada's fastest growing sectors with estimated revenues of $11 billion a year, much of that from exports.

Not all emerging environmental solutions are based on new technologies. There has been growing interest in traditional Aboriginal knowledge. This involves documenting the knowledge of species and environments that Aboriginal peoples have gathered over time and translating that understanding into responses to current needs. As Aboriginal people gain greater control over natural resources in many parts of Canada, they are applying traditional knowledge to issues such as wildlife management.

The development of the environmental industries sector and increasing awareness of traditional knowledge comes at a pivotal time in global sustainable development. Rapid economic growth is taking place in many countries, yet production and consumption patterns are not changing significantly. The transfer of environmental technologies, traditional knowledge and effective linkages between trade and the environment are important elements in ensuring that global growth is sustainable.

SOCIAL TRENDS IN CANADIAN SUSTAINABLE DEVELOPMENT

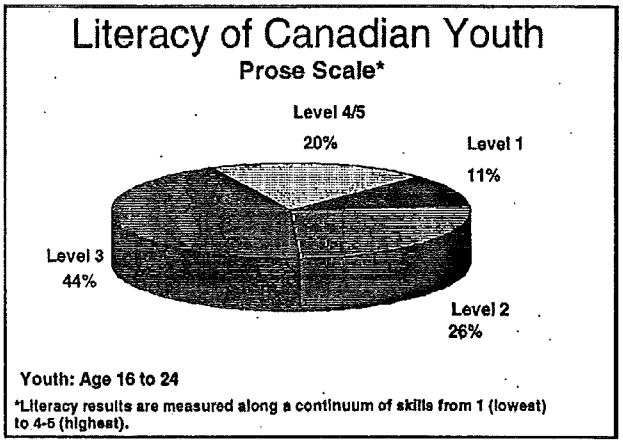
Social factors are increasingly understood as the third pillar of sustainable development. Those factors take many forms but largely relate to the notions of human and social capital.

Human Capital

The notion of human capital refers to the skills and capacities that people have. It seems clear that countries in which people have higher, more flexible skills are better equipped to deal with a rapidly changing world. These are countries that should be more capable of addressing the challenges of sustainable development. They should be better able to ensure the ongoing well-being of their citizens.

Canada has made strides in developing the human capital of its citizens over the past 25 years. Recent work through the International Adult Literacy Survey has shown that Canada has 23 percent of its people at the highest levels of a range of literacy scales. However, 43 percent of Canadians have limited skills or even great difficulty reading and writing. Studies show that education is an important base for literacy, but over time literacy levels are influenced greatly by practice on the job and in the home.

Canada has invested heavily in post-secondary education. As a result, it has one of the best educated populations in the world. Young people are staying in school longer largely because the economic value of education is becoming more pronounced. Moreover, we see a trend to lifelong learning. This is particularly strong among people who are already relatively well-educated.



Canada's investments in education have produced a generation of young people with fairly strong literacy skills.

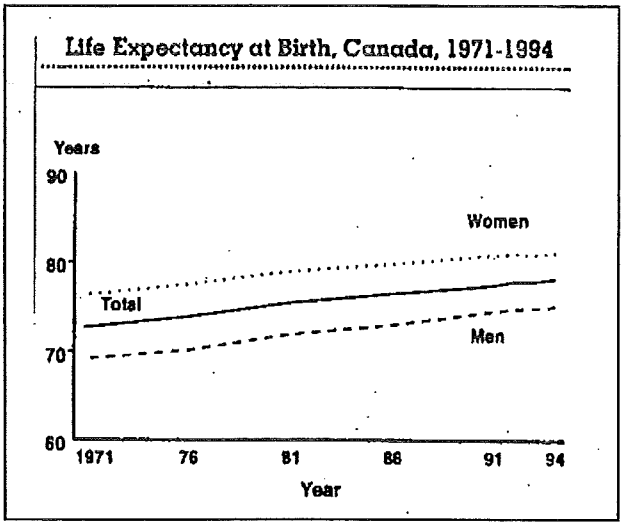
Health and nutrition are other factors in human capital. It is a basic personal need and a factor in sustainable development. Governments in Canada have used this country's economic strength to invest heavily in health care and in measures that promote and protect health. Links between the environment and human health have helped motivate Canadians to expect and support stronger environmental conservation and protection measures. In turn, health improvements contribute to a more productive workforce.

The past twenty-five years have seen a steady improvement in most Canadian health

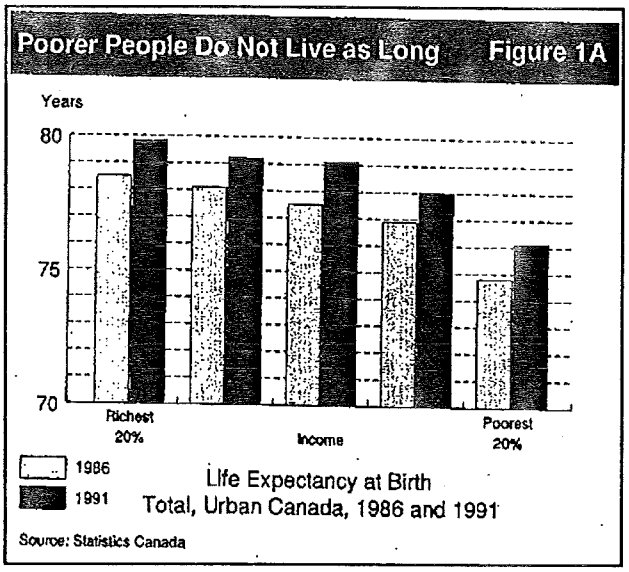
indicators. For example, Canadians live longer. In 1961 Canadians aged 65 or older represented 8 percent of the population. By 1991, they were 12 percent. Moreover, the percentage of Canadians, particularly those over 65, who report that they are limited in their daily activities has dropped steadily. Our infant mortality rate is 6.2 per 1,000 live births, down about 75 percent over the last 30 years. Canada has cut early deaths due to heart disease and injuries.

Some health trends are negative and may reflect long-term factors. Tobacco-related deaths, especially among women, have risen as the long-term result of smoking habits that may have begun 30 or 40 years earlier. Moreover, health results for different segmentNEXTRECORD the population are different. People with low incomes and Aboriginal people tend to live shorter and less healthy lives.

The beginning of this twenty-five year time



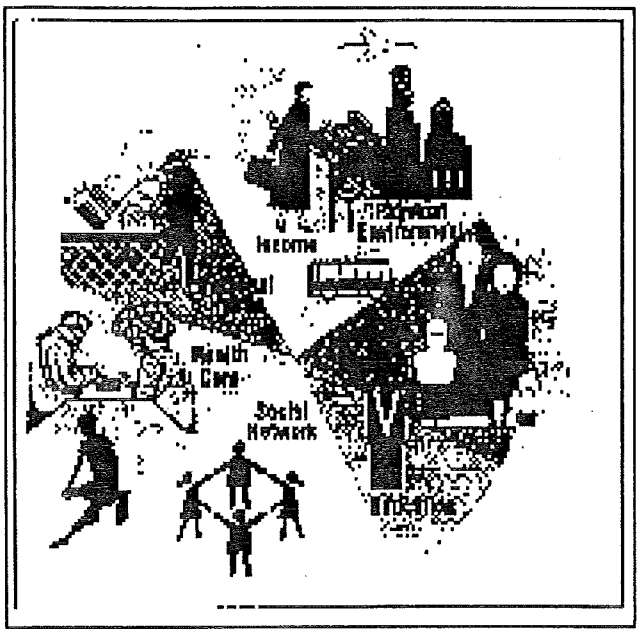
Canadians live longer... but lifespan is stil linked to income



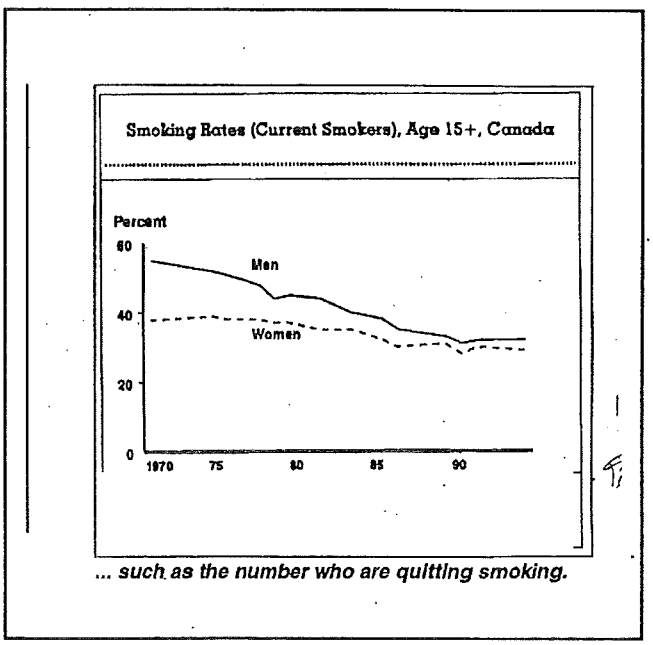
frame saw two major developments that have affected both health results and health policy choices in Canada. The first was the achievement of a universal medicare system in 1972. By that year, all provinces and territories had public insurance systems to cover the costs of physician and hospital services. This established a comprehensive, accessible, health care system for all Canadians.

Medicare helped Canada achieve better health results. It also produced economic results by controlling costs of care. One study found that lower administrative costs accounted for half the difference in spending between Canada and the United States.

The second major development in health policy was «A New Perspective on the Health of Canadians» (the Lalonde report) of 1974. It recognized that a population health



... and to many other factors that influence the health of Canadians...



... such as the number who are quitting smoking.

... such as the number who are quitting smoking.

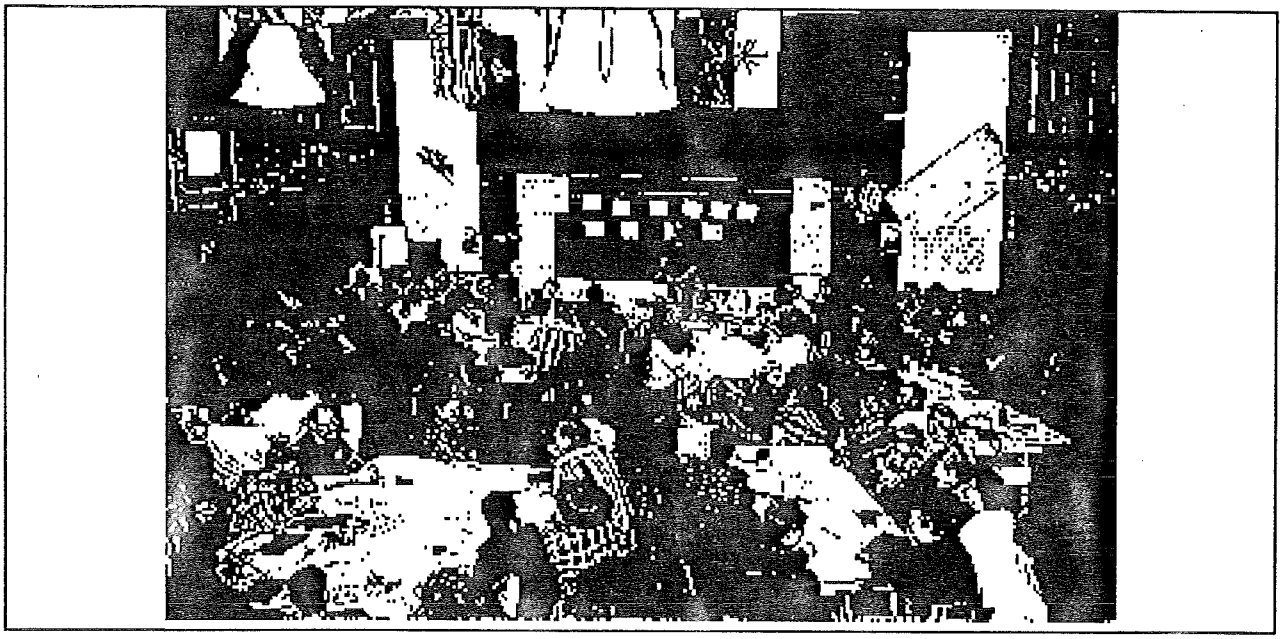
model that included social, economic, environmental and other factors contributed more than health care to the health status of individuals. As with other aspects of sustainable development, this report emphasized the need for comprehensive approaches to improving the health of Canadians, and recognized the impact of health on other aspects of Canadian life.

Since the mid-1970s Canada's governments have emphasized strategies that address the determinants of health. They have launched efforts to deal with the health needs of segments of society such people with low incomes, Aboriginal people and women. They also have focused on individual health decisions such as levels of exercise, quality of diet and the use of tobacco, alcohol and drugs. These have had varying levels of success, for while smoking rates have generally declined over time, the proportion of Canadians who are overweight is higher now than in the 1970s. There are still significant disparities in health status between different segments of Canadian society.

Social Capital

Social capital reflects the belief that people who get to know one another through social networks and civic institutions build a form of trust that allows them to see beyond immediate individual interests. It encourages economic strength because people can assume a stable, orderly environment to take actions that may only pay off over time. It encourages social strength because people can work together for common goals.

Sustainable development is built on the notion that a generation ought to act as a steward of resources for future generations. A society that functions with a greater



Social capital is generated when people come together to resolve issues such as the health of the Salmon River watershed . . .

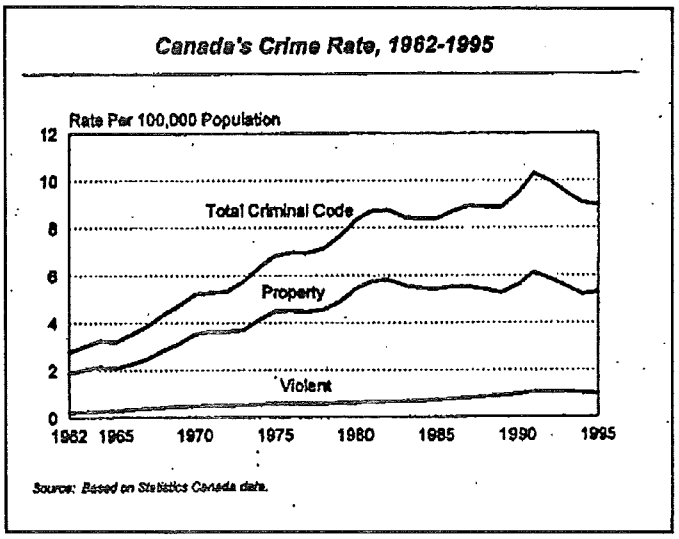
degree of harmony and in which there is a stronger collective sense of shared direction and values is one that seems to be better able to adapt to change.

There are many ways to indicate the extent of social capital in a community. They include measures of community involvement by individuals and factors that demonstrate the extent to which people are able to take a full part in the life of their society, without discrimination. Change in the percentage of eligible individuals who vote or who donate money, goods or time to charitable and community organizations might each help demonstrate shifts in social capital.

Others measures help demonstrate the erosion of social capital such as a rise in crime levels. People who lose a sense of personal safety also lose a sense of trust in their society and those around them. Recent years have seen stability or declines in many crime rates, after a long period of steady increases.

Broader equity factors are important elements in building social capital. During the past twenty-five years Canada has become more aware of equity issues and has seen substantial action. The creation of a constitutional Charter of Rights in 1982 was linked to both increased awareness and concern about individual rights in the face of growing government authority, and to the work of activists on behalf of groups within Canadian society who had been marginalized, such as women, Aboriginal people, visible minorities and persons with disabilities.

Governance trends in Canadian sustainable development over the past 25 years have reinforced the value of social capital. There has been a steady shift to community-based solutions. Many programs draw on the commitment of local people to identify, take ownership of and act on solutions. Efforts to draw the full range of stakeholders together to resolve differences and achieve consensus build social capital in that people are encouraged to break down misunderstanding and barriers that prevent them from cooperating toward success.



... and when declining crime rates encourage people to feel more safe in their communities.

Social capital in these and other forms has an important role in the overall move toward sustainable development. A number of analysts have begun to conclude that development in a country depends on more than the presence of skills or resources. It also requires a sense of confidence and mutual trust within a society. That creates the climate that allows a people to set a direction with the belief that all will benefit. It makes it more likely that people will take long-term perspectives and ones that reflect the needs of people other than themselves or their immediate circles. These are the kinds of attitudes that are fundamental to sustainable development.

CONCLUSION - THE PATH FROM HERE

The past twenty-five years have been a time of change in Canada. People are increasingly aware of the connections between themselves and the world that is their habitat. Our economy has changed with global competition and knowledge-based workplaces that requires different skills, greater adaptability and higher productivity. We see a growing commitment to equity for all citizens and a renewed appreciation for the value of strong communities.

We have achieved a great deal. We have begun to understand the comprehensive nature of sustainable development. We are resolving perceived conflicts between environmental, economic and social objectives. We have achieved some success in responding to issues such as acid rain, endangered species and the need for new governance frameworks. We appear to have broken the link that made rising pollution levels an automatic and equivalent outcome of rising economic growth.

The past path from here is challenging. Many trends still give cause for concern. During the past twenty-five years, the world population rose by 2 billion. The world now adds the population of three Canada's to its total each year. If current trends continue, our current global population of 5.7 billion could rise to almost 8 billion 25 years from now. Combined with increasing economic development around the world and no significant change in consumption and production patterns, we can expect much more stress on the environment. This would include more pressure on natural habitats, impacts on biodiversity and continued growth in greenhouse gases and global warming. All could carry social and economic costs.

A first step in developing permanent solutions may be in rethinking how we see the world and our place in it. The growing interest in moving beyond perspectives based solely on economics to find more comprehensive views is a positive sign. Concepts such as natural and social capital, the ecological footprint and traditional Aboriginal knowledge broaden the information we use to understand the world. They can help us improve decision-making at the personal, community, corporate, government and international levels.

New thinking could help us find ways to bridge the gap between the carrying capacity of the environment and the growing stresses we place on it. Scientific and technological responses can address this gap to a certain extent. However, individuals must look at their own actions. Societies need to find innovative mechanisms that integrate environmental, economic and social concerns, that build partnerships and improve governance in support of sustainability.

These types of initiatives emphasize the importance of sharing information and building our knowledge base. They may provide the basis for breakthroughs that are necessary to meet the challenges in our environment, economy and society. They improve the ability of individuals, communities and nations to make the informed choices that are

ultimately at the heart of sustainable development.

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