

SUMMIT OR PLUMMET?

A Call for CANADIAN LEADERSHIP Ten Years after Rio



A Canadian Civil Society Assessment on the Road to Johannesburg

Produced by the Canadian Environmental Network's Forum
on the World Summit for Sustainable Development (WSSD).

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The Canadian Environmental Network

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A Canadian civil society assessment on the road to the World Summit
for Sustainable Development in Johannesburg.

May 2002

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PREAMBLE

Ten years ago, in June 1992, the largest gathering of heads of state in history met in Rio de Janeiro, Brazil. Preparatory meetings for the United Nations Commission on Environment and Development (UNCED) began in 1990, coinciding with the beginning of the "Turnaround Decade". The conference had been the most specific recommendation of the wide ranging 1987 report of the World Commission on Environment and Development (also known as "the Brundtland Commission"). In its report, **Our Common Future**, the Brundtland Commission called on the United Nations to organize a major United Nations General Assembly gathering in 1992, to mark the twentieth anniversary of the first U.N. Conference on Environment and Development, which had taken place in Stockholm in 1972. The Brundtland Commission had identified three global interlocking crises -- environment, development and militarism. The General Assembly accepted the recommendation, omitting militarism, and proceeded to pursue an ambitious agenda for the Rio "Earth Summit."

Emerging from Rio, were a disappointing cluster of treaties, lacking deadlines and targets. Efforts to negotiate an Earth Charter and a treaty to protect the world's forests derailed before the Earth Summit. Minimally, the highest levels of government did acknowledge the threat of rapid loss of species and ecosystems, through the Convention on Biological Diversity, and of human interference in the climate system, through the Framework Convention on Climate Change. Non-binding agreements accepted at Rio included the Statement of Principles and the encyclopaedic Agenda 21. Agenda 21 was seen to be part of the "Rio Bargain" between industrialized North and the impoverished South. In exchange for environmental protection measures, the North would increase the transfer of resources and technology from North to South.

CANADA, A LEADER AT RIO

Throughout the Rio process, Canada played a leadership role. Canada, not the United States, provided substantial financial assistance to the World Commission on Environment and Development. A prominent Canadian, former Deputy Minister, Jim MacNeill, served as Secretary General to the Brundtland Commission and was the primary author of

Our Common Future. Canada was an early supporter of the Commission's call for a 1992 Earth Summit, and even offered to host the gathering. Canadian Maurice Strong, who had been Secretary General of the Stockholm Summit, also took the helm for the Rio process. The Canadian government was a strong and consistent supporter of NGO participation rights through the Rio process. In fact, Canada's Environmental Ambassador, the late Arthur Campeau, brought negotiations to a halt by refusing to participate in negotiations at the first preparatory meeting in August 1990, until rights of NGO observer participation were confirmed. The Canadian Government ensured that key stakeholder groups had funding to participate effectively in the preparatory work and the conference itself. At Rio, Canada exerted pressure to save the Biodiversity Convention once President George Bush announced the U.S. opposed the treaty. Canada embraced Agenda 21 as a plan of action -- a way forward in a world of colliding values and eroding foundations.

THE WORLD TODAY

In the ten years since Rio, the world has changed dramatically. The Berlin Wall has fallen. The U.S.S.R. no longer exists, but the long-awaited "peace dividend" never materialized. The World Trade Organization was created and Canada came under the North American Free Trade Agreement. Industrialized country governments largely abandoned the "Rio Bargain." Overseas Development Assistance, promised at Rio to rise to 0.7% of GDP, fell everywhere, except a handful of countries. Commitments to reduce greenhouse gases and protect biodiversity were honoured more in the breach than in the implementation. The opportunities created by the vast wealth of the marketplace in the 1990s were squandered. Equity and social justice were ignored. The rising tides of global affluence lifted all yachts; not all boats. Arguably, September 11th was the result. Now the world is consumed with security concerns.

As a result, we are more insecure than at any time in nearly two decades. The world is wracked by conflicts in the Middle East and Africa. We face the collapse of natural ecosystems beyond what could have been imagined in 1992. Global efforts to address issues, such as climate change, have been dangerously forestalled. It is time to take stock, to look back in order to go forwards.

A LOST DECADE?

Why have we failed to develop sustainably? What part has Canada played or not played? For seven years during the turnaround decade Canada enjoyed the highest quality of life on the United Nations index. If any country should have contributed, should have succeeded to meet the challenges of Agenda 21 it should have been our “true North strong and free”. Not only did we fail ourselves, we failed the many nations with whom we share this fragile planet.

The youth of Canada are demanding to know when our promises to protect the planet will be met. Canada’s leaders are at centre stage in global politics with our Prime Minister the chair of the G-8 and our Federal Environment Minister at the helm of the Governing Council of the United Nations Environment Program. How will Canada’s leaders exert their considerable influence at the coming political gatherings at Kananaskis and Johannesburg?

WHERE TO GO FROM HERE? AN NGO ASSESSMENT

This report examines failures and points out our successes. It is a response by Canadians coast-to-coast to official government positions and posturing. We have compiled the most comprehensive listing of sustainable development indicator subjects based on the United Nations’ own work, as well as the natural structures and taxonomy of environment and development work in Canada. We believe it to be the most comprehensive list of headings possible given the parameters. Each writer was asked to examine their subject area according to one simple indicator to mark the general trend over the last ten years. They were asked to summarize where we stand today in the challenging journey toward sustainable development and exactly what we need to do to get where we want to go in the next ten years. This report is not about reinventing the wheel or negotiating basic visions or principles. That point in history was made a decade ago. We have not asked for primary research or suggested that the principles of Agenda 21 are open to debate. The writers were asked to summarize existing work in their field within the established spirit of the chapters of Agenda 21. This report is about scoring ourselves in a frank way so that we can implement targets, timetables and results oriented action plans in the coming years based on a realistic assessment of how we have been doing so far.

There is a common theme. We have not been doing enough. The required benchmark is much higher. To confirm this consensus each writer was asked to peer review their work. The result is a broad based report that outlines not only where we have been and where we are but also where we need to go. The report is not a consensus document so much as an edited compilation of summaries. Those organizations who participated did so clearly within the boundaries of their own subject matter and may or may not agree with other sections of the report. Those organizations and individuals who wish to endorse the complete report have signed off on the listing of endorsements. We believe this list speaks for itself.

WSSD – A CHANCE TO MOVE FORWARD

The world will meet again in August 2002 in South Africa at the World Summit on Sustainable Development. Our hope is that this report will help Canadians to understand the ground on which we stand when we gather with other nations. No one can now doubt the difficulty of our challenges, the need to look forward positively and to take action with hope. The members of the Canadian Environmental Network Forum on the WSSD hope this report will help us move forward with a determined step, an informed resolve, a greater sense of urgency and a deeper conviction.

The Steering Committee of the CEN Forum for the WSSD:

**Lara Ellis,
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**Angela Rickman,
Sierra Club of Canada**

**Clarisse Kehler Siebert,
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ENDORSEMENTS

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Canadian Institute for Environmental Law and Policy
Youth Summit Team
One Sky - The Canadian Institute of Sustainable Living
Democracy Watch
Falls Brook Centre
GAIA Project
Lifecycles
Alternatives
Turtle Island Earth Stewards
Citizens' Network on Waste Management
Forest Futures
Ontario Toxic Waste Research Coalition
Nappan Project Association
Interchurch Uranium Committee Educational Cooperative
Partnership Africa Canada
Northwest Institute for Bioregional Studies
Eulachon Conservation Society
Vegetarians of Alberta Association
Campaign for Pesticide Reduction - New Brunswick
Crooked Creek Conservancy Society
Sierra Youth Coalition
Forestry Stewarts Co-op of PEI
Toxics Watch Society of Alberta
Healthy Food Choices Co-op - NFLD
Alberta Green Party
Edmonton Friends of the North Environmental Society
Nova Scotia Allergy & Environmental Health Association
Superior Northwest Public Interest Research Group (SNOW-PIRG)
Regional Environmental Action Committee High Prairie - Alberta
Humber Environment Action Group
Bow Valley Grizzly Bear Alliance
Rescue Mission/Mission Terre Canada
Citizens' Stewardship Coalition - Port Alberni
Canadian Center for Sustainable Agriculture Inc, Saskatoon

Parkland Sierra Group
The Gaia Group
Sustainability Project
Poetical Asylum
Edmonton Friends of the North Environmental Society
Comité Vertige
Great Lakes United Canada / Union Saint-Laurent, Grands Lacs
SOS Elms Inc.
Alberta Wilderness Association
Friends of the Oldman River
Temiskaming Environmental Action Committee
Bert Riggall Environmental Foundation
Castle-Crown Wilderness Coalition
Canadian Parks and Wilderness Society
Citizens Environment Alliance
New Brunswick Partners in Agriculture
Coalition on the Niagara Escarpment
Tusket River Environmental Protection Association
RiverSides
Corporation Saint Laurent
Conservation Council of New Brunswick
People Against Nuclear Energy
Evergreen
Nova Scotia Allergy and Environmental Health Association
Albertans for a Wild Chinchaga
Saskatchewan Environmental Society
Atlantic Council for International Cooperation
Centre for Longterm Environmental Action in Nf/Ld
Ottawa Public Interest Research Group
Bow Valley Naturalists
East Kootenay Environmental Society
Action Canada for Population and Development / Action Canada pour la Population et le déé

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SUMMIT OR PLUMMET?

A CALL FOR CANADIAN LEADERSHIP 10 YEARS AFTER RIO.

The 1992 United Nations Conference on Environment and Development in Rio marked the beginning of the “turnaround” decade which established the international goal of achieving sustainable development. A spirit of cooperation and a great deal of enthusiasm emerged from the conference along with international commitments to the Biodiversity Convention, the Framework Convention on Climate Change, the Rio Declaration and Agenda 21. As we approach the tenth anniversary of Rio, we are a long way from our optimistic aspirations of environmental sustainability and a world free of poverty. Trends toward increasing pressure on our planet’s resources and ever widening gaps between rich and poor have not been turned around. In Johannesburg in August 2002, nations will meet again at the World Summit on Sustainable Development (WSSD). It is an opportunity to address the failures of the last ten years and move towards ecological integrity and social equity. In essence, it’s a chance to either “summit” or “plummet”.

Canada, rated at the top of the UN quality of life index for most of the last decade, was in an excellent position to move forward on a sustainable path. The Canadian Environmental Network’s report assesses Canada’s progress and failures since the Earth Summit in 1992. The Forum for the WSSD chose topics based on Agenda 21 and sustainable development work and structures in Canada, and asked experts from civil society to write brief assessments of Canada’s trends over time. The 39 contributors were asked to pick an indicator, illustrate where we were in 1992 and today, make recommendations for targets and strategies for 2012, and illustrate where Canada sits in the global context. The report is about scoring ourselves and making concrete recommendations for action. The common theme is that we have not done enough in the last ten years.

Section I: Social Dimensions

We need to understand both the impacts humans have on the environment and how the earth affects humans. Increasing populations do not necessarily

cause environmental degradation, however the latter can affect the health of populations. As Canadians we need to decrease our ecological footprint and, on an international level, help meet the basic needs of individuals and advance gender equality to achieve sustainable development. Equity, education, access to health care and a clean environment not only help stabilize population growth but also improve human security. Canada not only needs to promote healthier living, but address key environmental health issues such as polluted air and water.

Section II: Conservation and Management of Resources

With Canada still predominantly a resource-based economy, we are largely failing to conserve and manage our resources so as not to “compromise the needs of future generations”. Forestry practices are unsustainable, greenhouse gases are 15% above 1990 levels, poor air quality is an increasing health and environmental problem, species are becoming extinct, the health of fresh water ecosystems is declining, and high-paced industrial development in marine waters threatens both ecosystem and human livelihoods. Organic agriculture accounts for less than 2% of Canadian farms and we continue to release and commercialize genetically modified organisms (GMOs). Despite agreeing to a 50% reduction in hazardous wastes, Canada has made substantial increases. Canada is also the largest exporter of uranium and Saskatchewan the single-biggest contributor to alpha-emitting radioactive wastes globally.

Over and over again the contributors to this section call on Canada to ratify and implement the Kyoto Protocol, the Convention on Biological Diversity and the Cartagena Protocol on Biosafety, and uphold its Rio commitment to the precautionary approach. In addition to international agreements, Canada must harmonize federal and provincial legislation and standards. Finally, in order to monitor and make informed decisions we also need a renewed commitment to environmental reporting and the establishment of national inventories.

Section III: Strengthening of Major Groups

Agenda 21 identified nine major groups as essential participants in achieving sustainability. Canada has varying records in engaging the various groups in policy making and implementation, and in developing mechanisms and distributing resources for groups to help implement Agenda 21. For example, a few communities have successfully adopted the Agenda 21 framework, yet Canada still lags far behind internationally. In the mid-1990s, cut-backs wiped out federal support to community sustainability initiatives and federal involvement with municipalities. Non-governmental organizations are increasingly being recognized for their role in promoting sustainable development. Canada has been a promoter of youth inclusion in policy and decision-making and promotes gender equity, however it is a long way from settling treaties and land-use management plans with aboriginal peoples, and does little to support small farmers. Some companies have taken initiatives around corporate social responsibility, but numbers will remain few until Canada develops a standardized set of indicators that can be tracked, monitored and reported on in a systematic and reliable way. Legislation around pollution prevention in workplaces is also needed to protect workers and the environment.

Section IV: Means of Implementation

Part of why Canada has not developed sustainably is that it has not adequately planned or used the tools necessary to implement Agenda 21 and the multi-lateral environmental agreements to which it is a party. Although it committed to do so, Canada has yet to develop a national sustainable development plan with clear objectives, goals and means to measure progress. Unlike many European countries, Canada has few examples of ecological fiscal reform or redesigning taxation and expenditure programs to create incentives and support in the shift to sustainable development. To improve our record we must also harmonize legislation upwards to the highest standard. For the private sector, Canadians want enforceable legislation to ensure environmental compliance and social responsibility, not voluntary measures. We need improvements on environmental assessment requirements. On the international level, Canada has failed to reach the target of 0.7% of GNP for overseas development assistance. As one of the world's largest consumers, we have a

responsibility to provide resources towards environmental sustainability and the elimination of poverty. In order to affect change at all levels, education regarding environment and sustainability needs to be implemented.

Conclusion

Several contributors recognized our high standard of living as impetus to take a leadership position toward change and environmental and social accountability. The demands are clear: what we need is leadership at the highest levels and the political will to change Canada's course toward a more sustainable future.

SECTION 1:
SOCIAL AND ECONOMIC DIMENSIONS



POPULATION AND SUSTAINABLE DEVELOPMENT IN CANADA

By Angela Rickman, Sierra Club of Canada

INDICATOR

International commitment to fund global programs that support the empowerment of women and their reproductive health and sustainable development

In Chapter 5 of Agenda 21, the following programme areas specific to population and sustainable development are addressed:

- a. Developing and disseminating knowledge concerning the links between demographic trends and factors, and sustainable development;
- b. Formulating integrated national policies for environment and development, taking into account demographic trends and factors;
- c. Implementing integrated environment and development programmes at the local level, taking into account demographic trends and factors.

The rationale was that changing populations and sustainable development were inextricably linked. Therefore, in an effort to address issues such as growing consumption rates of growing populations and the increased pressure on our already threatened ecological systems, demographic trends must be considered when planning for sustainability.

A recent report discussion document prepared by the World Bank, the European Commission, the UNDP and DFID discusses an improved understanding of poverty-environment interactions in an effort to clear up misconception and oversimplifications concerning the poor and their relationship to the environment. The following was highlighted:

Population growth does not necessarily lead to increased degradation. This statement needs to be treated with care as the situation is not straightforward. While increasing population

undoubtedly places greater pressure on productive land and resources, it is not necessarily population per se that causes the damage. The complex of locally-specific social, economic, environmental and governance circumstances in which increasing population takes place, which in turn can be strongly influenced by external policy and institutional factors, are the driving forces behind poverty interactions. Indeed, conventional economic theory would suggest that as population increases and land becomes scarcer, the land should increase in value and merit greater care and investment. Research in Kenya has documented cases where - even in the face of increasing population pressures - farmers have managed semi-arid, degraded, unproductive lands in a manner that has rehabilitated them and made them profitable (Tiffin et al., 1994). A wider review shows that for population growth to lead to improved soil and water investments, market access and attractive producer prices are essential, as is social and economic support to prevent the collapse of social structures (Boyd and Slaymaker, 2000).

In addition, the effect of environmental degradation on human population must also be addressed. Factors such as air quality, toxic contamination, and sea level rise - all results of unsustainable development - affect population health and influence development decisions.

Understanding the ways in which population and environment are linked requires detailed consideration of the way in which factors interrelate, including affluence, consumption, technology and population growth, but also previously ignored or underrated social concerns such as gender roles and relations, political structures and governance at all levels.

HISTORY

In 1994, 179 countries including Canada reached an historic agreement at the International Conference on Population and Development (ICPD) in Cairo. The Programme of Action adopted by consensus at ICPD represented a dramatic new approach to population issues. Before the Cairo Conference, population policies and programmes in developing countries were largely focused on demographic targets. The Cairo Conference shifted the focus away from demographic objectives and placed the emphasis on

meeting the needs of individuals. For the first time, the global community agreed that investing in people - with a view to making it possible for them to realize their potential as human beings - is key to sustained economic growth, as well as to balanced and sustainable population growth.

The Cairo Conference broke new ground in the area of reproductive health and rights. The 179 participating countries agreed that comprehensive sexual and reproductive health and rights must be a global priority, and not one for just family planning services. The Programme of Action emphasizes the importance of meeting the totality of people's sexual and reproductive health and rights needs, particularly those of women and girls. These concepts were further defined during the Fourth World Conference on Women (Beijing 1995) and during the five-year reviews of both conferences.

Finally, the Cairo Conference recognized that stabilization of the global population can only be achieved if women are full and equal participants in all aspects of development. Advancing gender equality, greater educational and employment opportunities for women, eliminating violence against women and ensuring women's ability to control their own fertility were acknowledged as cornerstones of population and development policies.

INDICATOR

At ICPD, UN member nations, including Canada, agreed to fund global programmes that support sexual and reproductive health. The cost of implementing these programmes was estimated to be CAD \$24.8 billion (or USD \$17 billion) by the year 2000. Based on its GNP and the 2000 targets, Canada's share is CAD \$200 million annually.¹ However, Canada is currently spending only one quarter (about CAD \$53 million) of the \$200 million pledged to family planning and reproductive health programmes.

The indicator used in this analysis of Canada's progress on population is its international commitment to fund global programs that support reproductive health based on the commitment it made at the ICPD.

LOOKING BACK

At the five year review of ICPD in 1999, UN member states met to assess progress on the Cairo commitments. Developing countries were able to report that, although they had had to surmount significant challenges from an economic perspective, they had managed to attain approximately 70 percent of the amount they had committed to. Shamefully, the donor countries could only report that they had achieved 30% of their total commitment.

The Canadian government does not have a coherent or consistent approach to meeting its international commitments, including those made at UN conferences in the 1990s and in subsequent reviews. The various government departments have failed to come together in a coordinated fashion. There is little long-term planning, and there are no accountability mechanisms, to ensure that Canada is following through on its promises.

There is an absence of leadership within the Canadian International Development Agency (CIDA) on these issues, and there is no detailed population and reproductive health and rights strategy to guide CIDA programming in this area.

TARGET FOR 2012

In order to meet its commitments by 2015, Canada will have to at least quadruple its current spending in reproductive health. Canada must:

- **BE A LEADER**

Canada must lead by example. Canada's voice is respected by the international community, and if Canada leads not just with words but with a detailed plan for meeting its own commitments, Canada will set an example for the world to follow.

- **MEET ITS FINANCIAL COMMITMENTS**

Canada must move towards fulfilling its greater obligation of ultimately committing 0.7% of GNP to international development assistance.

¹ These estimates will change based on a recalculation of each country's GNP relative to the 2005 target of US 18.5 billion.

• ARTICULATE A SOLID AND COMPREHENSIVE POLICY

Canada's agency responsible for international cooperation, CIDA, must develop a specific policy on sexual and reproductive health and rights. Such a policy helps guarantee that the Canadian government's efforts are coordinated and have the greatest possible impact.

• SPEAK OUT

The time has come for Canadian politicians to join the growing international coalition of progressive political leaders who are speaking out against the U.S. global gag rule. We must work actively to ensure that the sexual and reproductive health and rights of all people are protected.

HEALTH

By David Daughton, Healthy Community Partners

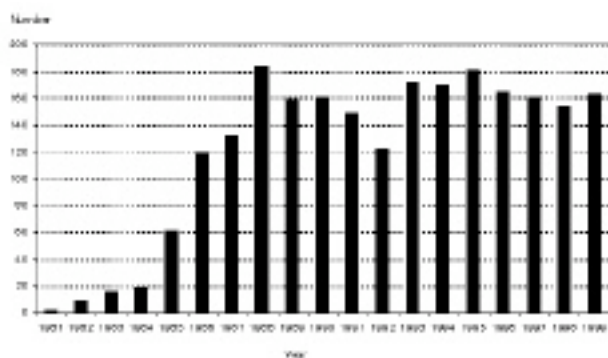
INDICATOR: Heart Transplants

Rather than a shortage of healthy hearts for transplantation, there would appear to be simply a shortage of healthy hearts. As unhealthy hearts fail, the proliferation of demand for a transplant procedure that didn't exist 50 years ago is spiralling ever higher in tandem with the costs of health care. In the words of Dr. Stan Parsons, "we seem to be getting better and better at hitting the bulls-eye on the wrong target."

STATE OF THE INDICATOR IN 1992

One hundred and twenty-two heart transplants (single organ) were performed in Canada in 1992. The following graph gives an indication of trends:

Figure 1 Number of Heart Transplants, Canada, 1981-1999(1)



1 Does not include combination transplants.

STATE OF THE INDICATOR IN 2002

Figures for 2002 are not available, but 1999 figures show 163 single heart transplants. This figure does not convey the increase in demand over the period.

"Although transplant activity has increased by 40% over the previous decade, the number of patients waiting for an organ transplant has increased by 68% from 1,830 in 1991 to 3,072 in 1997. During this same period, the average annual increase in the number of patients waiting for an organ transplant was 9%, ranging from less than a 1% increase from 1993 to 1994 to a 17% increase from 1994 to 1995."¹

Some commentators would be tempted to see the rise in heart transplants as a sign of "progress". Supporters of transplants characterize the waiting lists for heart transplants as being caused by a "shortage of organs," and propose ambitious schemes to encourage more human cadaver donations or to clone genetically modified swine that will be well suited for xenotransplantation (inter-species organ transplants).

If heart disease is largely the product of risk-saturated lifestyles and a deteriorating physical environment, then transplant surgery represents an inappropriate and unsustainable response to factors such as increased intake of poor quality fats, lack of whole grains and fresh produce, increased stress, decreased exercise and greater incidence of micro-particulates in the atmosphere (lack of fresh air). The high tech approach of transplant surgery is available mainly to rich minorities among planetary populations, leading to a kind of plutocratic pecking order regarding access to medical treatment. There is irony in the fact that heart disease is epidemic primarily among industrialized nations eating industrialized foods.

TARGET FOR 2012

A reasonable target for 2012 would be stabilization of heart transplants at about year 2000 figures. Let's say 160.

Clearly, this target differs substantially from the drastic increase advocated by transplant lobbyists. The Canadian government does not have a preferred target number for heart transplants over the coming decade. There are factions in the health bureaucracy that favour

¹ Canadian Institute for Health Information: <http://www.cihi.ca/wedo/corrrls.shtml>

increased organ transplantation as a way of dealing with the perceived “problem” of organ transplant waiting lists. However, there are also whole government departments focusing on health promotion and disease prevention strategies that are aimed at decreasing life-threatening illnesses associated with the increased use of drugs and surgery. Canada’s aging population will make a rapid decrease in demand for heart surgery unlikely. However, if we are willing to state our commitment to a target of zero growth, the effect will ripple through Canadian health policy in ways that touch on many health determinants, from physical environments to social support networks.

NECESSARY ACTIONS

Canada has signed on to numerous international accords that have significant impacts on the determinants of health. The 1986 Ottawa Charter for Health Promotion comes immediately to mind, but the most notable of the past five years has probably been the Kyoto Agreement on greenhouse gas reduction. Action to implement such international agreements will have a positive effect in counteracting “the pressures towards harmful products, resource depletion, unhealthy living conditions and environments, and bad nutrition; and to focus attention on public health issues such as pollution, occupational hazards, housing and settlements,” to quote part of the Ottawa Charter. Action is also needed to ensure that regulatory standards and government policy reflect targets for clean air and water rather than for safe air and water (i.e. polluted water with antibacterial chemicals added to it). Many initiatives designed to improve the health of Canada’s population will depend for their success on collaboration with provincial governments and First Nations. Government deficit reduction efforts resulted in massive public education efforts to increase economic literacy. Just so, a significant effort will need to be made to increase understanding of population health and the way that broad determinants of health outweigh what is conventionally thought of as “health care” in determining health outcomes. A certain amount of reorientation of health services has taken place, but clear targets and timelines need to be set in regard to the transition to a health promotion model. Concerted efforts have been made to discourage smoking, but healthy eating still faces constant challenges from widespread fast food and junk food. Canada’s agricultural policy tinkers with organic food projects while promoting GMOs.

THE GLOBAL CONTEXT

Canada has an enviable reputation for quality of life, but also has a high rate of heart disease. To date, nutritional and lifestyle approaches to reversing heart disease have taken a back seat to hospitalization and heroic medical intervention. Medical cost increases that constantly outstrip other gains are unsustainable, yet Canadian governments have been unwilling to create a clear strategy to move away from drugs and surgery as their main tools in combating ill health. (A program to rid school cafeterias of hydrogenated fats and oils, and sugary snack foods so that our 9-11 year olds don’t develop obesity would probably do more to reduce the demand for heart transplants 50 years from now than any other single action.) Global health issues such as access to food and water are less likely to be dealt with as developed nations pour ever more resources into invasive procedures. Per capita resource consumption is severely skewed already, and Canada can be a leader in stating clear goals for reductions - rather than increases - in expenditures on unsustainable surgical interventions.

SUSTAINABLE HUMAN SETTLEMENTS

By Nikki Skuce, One Sky

The statistics on urbanization are startling - three billion people live in cities - nearly every other person on earth. By 2030, over 60 percent of the world's population (4.9 billion out of 8.1 billion people) will live in cities.¹

The Habitat II conference in Istanbul in 1996 reinforced Chapter 7 of Agenda 21 on Sustainable Human Settlements, and stressed local action and partnerships for ensuring adequate shelter for all and for achieving 'sustainable human settlements in an urbanizing world'. In Article 10 of the Istanbul Declaration, states declared that: "...we commit ourselves to sustainable patterns of production, consumption, transportation and settlements development; pollution prevention; respect for the carrying capacity of ecosystems; and the preservation of opportunities for future generations. In this connection, we shall cooperate in a spirit of global partnership to conserve, protect and restore the health and integrity of the Earth's ecosystem. In view of different contributions to global environmental degradation, we reaffirm the principle that countries have common but differentiated responsibilities..."² As one of the major contributors to environmental degradation, Canada needs to take responsibility and aim to reduce its ecological footprint.

The latest Census in Canada shows that nearly 80% of the population lives in urban centres. As the second largest country in the world with a population of just over 30 million, however, Canada's urban areas account for only 0.2% of its total landmass.³ Nonetheless, with 20% of the world's population consuming 80% of the world's resources, this means that approximately 64% of economic production/consumption and pollution is associated with cities in industrialized countries and only 12% with cities in developing countries.⁴ Human settlements in Canada, therefore, extend well beyond the area in which they are located.

As developed by Dr. Bill Rees, ecological footprint is the "total area of productive land and water required on a continuous basis to produce the resources consumed, and to assimilate the wastes produced, by that population, where on Earth the land is located".⁵

Vancouver can be used to illustrate this with a population of 472,000 in 1991 and an area of 11,400 hectares (ha). Taking into account land needed for food production, housing, consumption items and use of fossil fuels, Vancouverites conservatively require 2.0 million ha of land to maintain their current consumption patterns.⁶ This means that the city population appropriates the productive output of a land area nearly 174 times larger than the city itself to support its current consumer lifestyle.⁷

The bottom line is that Canadians need to reduce their consumption patterns in order to achieve sustainable living. Until a paradigm shift occurs, some 'smart growth' policies and good planning can help make Canadian cities greener and reduce their impact on the global commons.

INDICATOR

Several indicators could be used to measure the sustainability of our cities, such as distance between resource use and production, green building policies and construction, public transportation and urban sprawl. While just one component in a larger picture, I will use the percentage of green space as an indicator for sustainable cities in that they can contribute to local food production, increase carbon sinks, prevent water run-off, protect or create habitat, help filter airborne pollutants and help improve the quality of urban life.

LOOKING BACK

In general, green space includes parks, other public open space and private open space. However, there are no common standards and criteria nationally to develop a green space inventory. Nonetheless, Environment Canada, through satellite imagery, developed a list of green spaces in 7 Canadian cities as shown in Table 1 (next page).

¹ State of World Cities Report: <http://www.unhabitat.org/en/publication.asp?id=66>

² Habitat II Istanbul Declaration available at: <http://www.un.org/Istanbul-5/declaration.html>

³ Wildlife Habitat Canada. "The Status of Wildlife Habitats in Canada's Urban Landscapes", U-3, www.whc.org

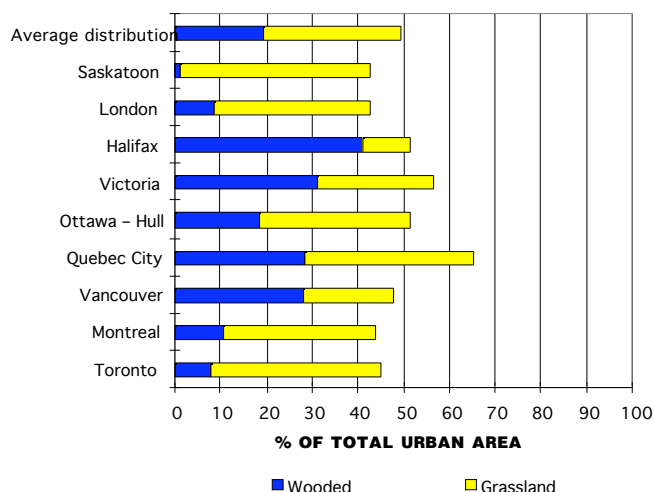
⁴ Rees, William E. "Is 'Sustainable City' an Oxymoron?", published in *Local Environment* 2:303-310, 1997

⁵ Rees, William E. "Revisiting Carrying Capacity: Area-Based Indicators of Sustainability", available at: <http://www.aloha.net/~jhanson/page110.htm>

⁶ Ibid

⁷ According to Rees, the amount of ecologically productive land per capita on Earth in 1995 was 1.5 ha.

Table 1: Green Spaces in selected urban areas in Canada (1996)



a Total green space = wooded + grassland area

Notes: Minimum size area for green space included is 30m²; areas of water have been excluded.⁸

In general, green space averages a surprising 45-50% of total urban land use.⁹ However the majority of Canadian urban green spaces are for human recreation. In a study by Wildlife Habitat Canada, it was found that many of Canada's species at risk are found in or near urban areas.¹⁰

STATE OF THE INDICATOR IN 2002

Various urban initiatives have been taking place across Canada to make them more sustainable in the last ten years, including tree planting, urban gardens, creation of green corridors, recycling and composting programs. At the same time as these positive changes, population growth in cities, and more so in suburbs, is a constant threat to green spaces. Between 1996-2001, the 27 major Canadian municipalities experienced a 4.7% growth in the core areas and more than 8.5% increase in the surrounding areas. Urban sprawl often encroaches on agricultural land, increases costs for water, waste and other infrastructure, and increases energy-intensive travel in private cars. While new developments require that a certain percentage be reserved as greenspace, the overall effects of land conversion in suburban areas are much greater than within city centres.

While high-density areas have larger impacts measured per acre of development and greater human exposure to local environmental impacts (total resource consumption, total pollution emissions, total habitat destruction), they help preserve regional greenspace because per capita land development and vehicle use decline. Ecological footprint can also change with the type of housing we live in (city apartment versus suburban house).

There is no standard data on green spaces across Canada. The Vancouver Parks Board estimates that Vancouver currently has approximately 44% of the city as parks (although not all parks are green), open public spaces (includes sidewalks, medians, cemetery, school yards) and private green space (yards and golf courses). In 1999 green space (assumed here to include natural areas, various types of parks, ravines, environmental protection zones and environmentally sensitive areas) in the City of Toronto was 0.6 ha per capita or 21% of the region.¹¹ Toronto and Montreal have less green space per capita, however, as of yet, there is no data to compare the quality of the green and open spaces. Generally, these spaces are for human recreation and, as noted, may not even be green, let alone naturalized. In addition, the location of these green spaces has not been analyzed although it is often true that the poor and marginalized have less access to green space.

TARGETS AND STRATEGIES FOR 2012

Suggestions for policies to improve the quantity and quality of green space include:

- Implementing a Greenspace Conversion Tax - special taxes applied to land when developed from green space. Tax revenues could purchase conservation areas and development rights which insures preservation of additional greenspace and compensates land owners who do not develop.
- Implementing the National Roundtable for the Environment and Economy's budget recommendations from 2000 to protect and conserve natural spaces by "reducing Capital Gains Taxation on Ecological Land Gifts" and creating a "Stewardship Fund for Habitat Conservation".¹²

⁸ State of the Environment Report, available at: <http://www.ec.gc.ca/soer-ree/English/1996report/Doc/1-9-2-1.cfm>

⁹ Wildlife Habitat Canada, available at: www.whc.org p. U-4.

¹⁰ Available at: www.whc.org

¹¹ Toronto Vital Signs. Available at: www.torontovitalsigns.com/indicators/toronto_greenspace.pdf

¹² For a more detailed account, visit: www.nrtee-trnee.ca/eng/programs/Current_Programs/Gbudget/budget_2000_introduction_e.htm

- Encouraging multi-functional and diverse green spaces such as combined areas for food production, native species, habitat protection and recreation, while ensuring that these spaces are as equitably distributed throughout the cities as possible.

- 50% local food production in urban centres (for additional green space, to decrease energy inputs, to decrease greenhouse gasses for food travel, to close nutrient cycles). Coherent government support is needed to encourage urban agriculture and change zoning by-laws to facilitate access to municipal lands, allot portions of parks for food production, allow building codes to support rooftop gardens, improve market mechanisms for produce, raise educational awareness and allow for small livestock.¹³

- Increasing support, including funding, to current community greenspace and urban agriculture initiatives. This will also help raise awareness and promote successful initiatives such as the City of Montreal's Community Gardens Programme with 76 gardens and over 6,400 plots that also supports converting empty lots into gardens.

- Implementing municipal 'Smart Growth' policies to: increase green space and uncover old creeks and water ways; contain urban sprawl; provide transportation alternatives; protect natural areas and cultural heritage; set growth boundaries; re-use commercial brownfields (abandoned toxic areas) as parks, urban farms or housing; and set a goal for zero waste.

- Developing a standard for taking inventory of green space across Canada to be included in a renewed Environment Canada's State of the Environment reporting.

- Creating a national standard of parkland required for new developments to a minimum of 10%.¹⁴ In addition, incentives should exist for new developments to use ecological design.

- Supporting rural communities to help decrease urban migration.

With increased and more naturalized green spaces, Canadian city dwellers may soon start asking where their food, energy, fossil fuels and other consumption items come from and make the necessary changes to decrease their footprint.

HUMAN SECURITY

By Bill Robinson

INDICATOR: Military spending

Human security can be defined in a number of ways. The Government of Canada has described human security as "freedom from pervasive threats to people's rights, safety or lives."¹ Such threats range from epidemic diseases to environmental degradation to economic upheaval to war. By contrast, Canadian pursuit of human security focuses on a more limited range of threats, concentrating on protecting people from "threats of violence." Human security and human development are seen as mutually reinforcing concepts:

Human security provides an enabling environment for human development. Where violence or the threat of violence makes meaningful progress toward development impractical, enhancing safety for people is a prerequisite. Conversely, by addressing the inequalities that are often the root causes of violent conflict, by strengthening governance structures and by providing humanitarian assistance, human development can also be an important strategy for furthering human security.

The means of promoting human security are predominantly but not exclusively non-military, encompassing "a spectrum of approaches to the problem of violent conflict, from preventive initiatives and people-centred conflict resolution and peacebuilding activities to - in extreme cases, where other efforts have failed - intervention to protect populations at great risk". Thus, military spending may seem an inappropriate indicator to measure progress toward human security. There are several reasons, however, why military spending might be a relatively useful indicator.

High military spending is often directly related to low human security, e.g., ongoing war, state repression, or local or global arms races. It may also reflect inordinate influence of the armed forces or military industry over government spending priorities. High military spending is not always evidence of bad priorities: it may also be related to defending a country's population against genuine threats or to

¹³ Urban Agriculture and Food Security Initiatives in Canada. Lifecycles Project. Available at: <http://www.lifecyclesproject.ca/downloads/idrcsurvey-dec992.pdf>
¹⁴ Evergreen Foundation: www.evergreen.ca

¹ All Canadian government quotations are from Freedom From Fear: Canada's Foreign Policy for Human Security, Department of Foreign Affairs and International Trade, 2000.

peacekeeping and other humanitarian activities. But even in those cases it reflects the existence of a lower-than-desirable level of security nationally or globally. And in all cases it represents an opportunity cost, diverting funds from more positive security building activities. A country will not necessarily achieve greater human security simply by reducing its military spending - in some cases the opposite might be the result - but in most cases a country that has decided to reduce spending has made that decision because it perceives that its security situation has improved. Declining military spending should therefore correlate most of the time with growing human security.

Military spending is also attractive as an indicator because relatively reliable, current and historical military spending statistics are available for most countries, facilitating comparisons among countries and measurement of progress over time.

STATE OF THE INDICATOR IN 1992

Canada's military expenditure in fiscal year 1992-93 was \$12.3 billion (about \$14.2 billion in 2002 dollars), slightly less than the peak level of Canadian spending during the Cold War, which was reached in 1988 (\$14.4 billion in 2002 dollars).

STATE OF THE INDICATOR IN 2002

Canada's military expenditure in fiscal year 2002-03 is projected to be \$12.3 billion, about 13% below the 1992 level of spending. The trend in recent years, however, has been upward. As of 1998, Canadian spending had fallen 21% from its 1992 level. This was the result of several factors, most notably the end of the Cold War and the election in 1993 of a government determined to cut all sectors of government spending, including the military. Approximately one-third of that cut has been returned since 1998. Improvements in the fiscal environment, complaints about chronic under-funding of the military, an increase in combat operations (accompanied, however, by decreased participation in UN peace missions), heightened concerns about terrorism, and pressure from the United States and other allies are among the reasons for the increase. Defence and foreign policy reviews planned for later this year may lead to additional increases.

TARGET FOR INDICATOR IN 2012

There is no widely accepted target for Canadian military spending in 2012. Some commentators believe military spending should be reduced, some believe it should be increased. A general target, however, might be a steady increase in the level of human security worldwide that is then reflected in a steady decline in military spending. Canada, like almost all countries, is legally obligated in the Non-Proliferation Treaty to pursue "general and complete disarmament," the reduction of armed forces and armaments by all states to the level required for internal security and an international peace force. As these roles arguably could be fulfilled by constabulary forces, the ultimate target for Canadian and global military spending could be said to be zero. At present, however, general and complete disarmament remains a prospect so distant that this target has essentially no effect on the military policies of states.

WHAT ARE THE ACTIONS NEEDED TO GET TO THE TARGET?

Increased efforts on the full range of human-security- and human-development-related measures almost certainly will be required on the part of Canada and other countries to produce a reasonable likelihood of sustained increases in human security worldwide.

HOW DOES THIS FIT INTO THE GLOBAL CONTEXT?

Global military spending declined 11% between 1992 and 2000 (the most recent year for which comprehensive statistics are available), from US\$847 billion to US\$756 billion (all figures in 1998 dollars), as part of a longer-term trend that began in the last years of the Cold War. Like Canadian military spending, global spending has been on the increase since 1998, when it stood at \$720 billion. Global military spending almost certainly has continued to grow since 2000. With large increases projected in US military spending, global spending is likely to continue growing for the next several years at least.

**SECTION 2:
CONSERVATION AND MANAGEMENT
OF RESOURCES**



AIR QUALITY IN CANADA

By John Bennett, Sierra Club of Canada

Poor air quality in Canada has long been identified as a health and environmental problem. It is however, marked by regional differences across the country and control of emissions fall largely under provincial and territorial jurisdiction. This makes it impossible to generalize about the state of air quality and the reactions of government across Canada.

INDICATOR

To establish an indicator for air quality improvement in the 1990s is complex. The air was somewhat better in areas across Canada but the number of smog warnings increased as the hottest decade ever recorded turned the precursors pouring out of smoke stacks and tail pipes into smog. On May 1, 2001 the earliest ever smog episode was recorded from Windsor to Montreal.

The only indicator is activity - government activity on the issue of air quality.

The two senior levels of government (federal and provincial/territorial) do cooperate through the Canada Wide Standards on establishing ambient air quality objectives and guidelines. It is then up to the provinces and territories to put in place policies and regulations to meet these standards.

LOOKING BACK

In 1992 the federal government began a multi-stakeholder consultation on NO_x (nitrogen oxides) and VOCs (volatile organic compounds) involving the provinces, industry and environmental nonprofit organizations. This process yielded a series of recommendations in 1997.

Health Canada (the federal health ministry) produced a health study based on a handful of Canada's largest cities in the 1990s. It revealed that as many as 5000 Canadians from the cities study die premature deaths every year as a result of air pollution. In 1999, the David Suzuki Foundation commissioned a

team of scientists to extrapolate the Health Canada study to all of Canada. The team concluded that 16,000 Canadians die prematurely each year because of air pollution.

In May 1998, the Ontario Medical Association (OMA) released a position paper on the Health Effects of Ground-Level Ozone, Acid Aerosols & Particulate Matter. This ground breaking document underlined the public health aspect of Ontario's declining air quality. In June 2000, the OMA released a follow-up paper, entitled The Illness Costs of Air Pollution in Ontario, which calculated the financial cost of smog. The OMA reports identified 1,900 premature deaths per year and over \$1 billion in health care costs as reasons to act now to clean our air. The OMA papers contained a number of specific recommendations for action aimed at improving the quality of the air that Ontarians breathe. These recommendations form much of the core of The OntAIRio Campaign's action program for clean air.

Across Canada, provinces and territories responded to air quality issues by devising provincial and regional programs and plans to address air quality.

In December 1994, the Board of Directors of Greater Vancouver Regional District adopted an **Air Quality Management Plan**. The AQMP identifies a number of emission reduction measures designed to reduce the discharge of total air contaminants within the area of the Greater Vancouver Regional District. The emission reduction measures target reductions in discharges from the industrial, commercial, residential, consumer product and transportation sectors.

The Alberta government created the Clean Air Strategic Alliance (CASA). Its web site describes its role as follows: "Air quality is an important issue to Albertans. The Clean Air Strategic Alliance (CASA) was established in 1994 as a new way to manage air quality issues in the province. Simply put, CASA facilitates meetings of senior representatives from industry, government and non-government organizations (environment and health) to solve air quality issues by consensus."

However, despite the existence of CASA, emissions from oil and natural gas wells have come under heavy criticism and physical attack. In the fall of 2001, Alberta utility companies applied to construct new coal fired power plants without state of the art emissions control.

The province plans to put new regulations in place for coal plants proposed after 2005. The local community groups who oppose these new plants would not agree that Alberta has a consensus based method for improving air quality. Their views were overridden in the hearings.

The major battleground over air quality in the '90s, however, was Ontario. The government, elected in 1995, immediately set about dismantling environmental enforcement during a period of increased reliance on coal fired power plants. The coal plants originally built to provide peaking power when demand exceeded the capacity of nuclear and hydro facilities were forced to provide base load when most of the reactors in the provinces fleet of 20 broke down. This increased the emissions from Ontario Hydro (now called Ontario Power Generation) and put air quality at the top of the environmental list.

The Province produced a smog plan that would see significant reductions in emissions but not before 2015, and only on a voluntary basis. It appeared this would be the extent of action until the provinces agreed that the federal government should negotiate an "Ozone Annex" to the existing Air Quality Agreement with United States. The agreement was to be based on the existing smog plans of the provinces.

The negotiations created an opening for environmentalists to exploit. The OntAIRio Campaign was created by the Sierra Club of Canada with the David Suzuki Foundation and Toronto Environmental Alliance for this sole purpose. The resulting pressure on the federal environment minister used the negotiations to force Ontario to have clean hands succeeded. The Ozone Annex concluded in the fall of 2000 will require significant improvements in the Ontario Smog Plan.

TARGETS AND STRATEGIES FOR 2012

Air quality continues to challenge Canada with significant health and economic damage. It is clear that the present system of addressing air pollution on a pollutant by pollutant basis, without relating them to energy use and efficiency, will not achieve the significant improvement in air quality necessary to protect public health and the environment. Canadian governments have to accept that end of pipe solutions are inadequate and must initiate long term policy moves to phase out the use of fossil fuels.

GLOBAL CONTEXT

The ratification of Kyoto Protocol is the best hope for speeding the improvements in air quality both nationally and internationally. To achieve the initial targets and to go beyond them in the future the international community must work together. Canada must be in the forefront.

MINING: DEVELOPMENT DIAMONDS

By Ian Smilie, Partnership Africa Canada

Each year, US \$7.5 billion worth of rough diamonds enter the world market and are transformed into nearly \$60 billion worth of diamond jewelry. Seventy five per cent of these diamonds are mined in Africa, and half are cut and polished in India.

Canada's first diamond mine began producing in 1998. Today we produce about \$400 million worth of diamonds annually, and Canada may produce as much as 15% of the world's total by the end of the decade.

INDICATOR: Unregulated diamonds.

The majority of the conflicts taking place in the world today are struggles for the control or looting of lucrative resources (gemstones, oil, minerals, metals, timber). The lack of industry regulations and consumer and government apathy in the North, have made resource industries, such as that of diamonds, available and attractive to rebel armies, warlords, criminals and money launderers.

Principles 24 and 25 of the Rio Declaration that deal with warfare state, among other things, that "Peace, development and environmental protection are interdependent and indivisible."¹ In other words, without human security, there can be no sustainable society. Canada, as both a consumer and producer of diamonds, should be promoting mining regulations at the World Summit for Sustainable Development to bring about corporate accountability and put an end to illicit trades causing the deaths of thousands.

¹ Principle 25 of the Rio Declaration, available at: <http://www.un.org/documents/ga/conf151/aconf15126-1annex1.htm>

1992: DIAMONDS ARE BECOMING A MAJOR SOURCE OF WAR IN AFRICA

In 1992, the diamond industry is dominated by one company: De Beers. De Beers controls about 75% of all rough diamond sales, manipulating supply and advertising in order to create demand, giving diamonds their allure and their value. As much as 80% of all rough diamonds are marketed through Antwerp, on their way to India, Israel and elsewhere for cutting and polishing.

In 1992, Angola's civil war, a consequence of its earlier war of independence, is in its 17th year, and diamonds are becoming a key resource for the rebel movement, UNITA. By 2000, half a million people will have died, and a quarter of the country's 12 million people will have been displaced. In the Democratic Republic of Congo (DRC), diamonds have become a major source of corruption and government predation. The country's 1961 official output of 18 million carats has dropped to one third of that, with the balance being smuggled to neighbouring countries, or stolen by government officials for themselves and for tribute to the President. By the late 1990s, the armies of Uganda, Zimbabwe and Rwanda will be active in the DRC, all defending one or another political ally, and all plundering the country's natural resources. Diamonds will be among the most prominent of these, and countries with no production of their own will be magnets for diamond buyers from Antwerp, Israel and elsewhere. In 1992, Sierra Leone's rebel war is a year old. Bereft of popular support, ideology, and a political platform, the Revolutionary United Front (RUF) will soon capture the country's rich alluvial diamond fields, and with the help of Liberia's warlord, Charles Taylor, will purchase the weapons it needs to expand its territory. The RUF chops the hands and feet off civilians, many of them small children, in a successful effort to create terror and to clear the areas where they intend to mine. In a decade, as many as 75,000 people will have died, and half the country's population will be displaced or refugees.

The diamond industry and the governments of countries that benefit from diamond taxes ignore the problem. Diamonds have just been discovered in Canada's Northwest Territories, but conflict diamonds are not on the Canadian radar. Angola, DRC and Sierra Leone slip increasingly into chaos and anarchy, and the resource which could have been a developmental treasure, has become a curse. By 2002, the UN's largest and most costly

peacekeeping effort by far will be in Sierra Leone, a country smaller than New Brunswick.

2002: GOVERNMENTS, INDUSTRY AND NGOS WORK TO SOLVE THE CONFLICT DIAMOND PROBLEM

In the late 1990s, the world began to awaken to the issue of 'conflict diamonds', sometimes called 'blood diamonds'. A 1998 report on Angola by the British NGO, Global Witness, detailed the role of diamonds in that country's civil war and exposed the culpability of the diamond industry. In January 2000, Partnership Africa Canada released a major report on the role of diamonds in Sierra Leone's on-going tragedy. Later that year, two UN Security Council Expert Panels also reported on the role of diamonds in fueling those wars, and subsequent panels in 2001 reported on conflict diamonds in the DRC and Liberia. Between 1992 and 2002, as much as US\$3 billion may have been derived from stolen diamonds to fund rebel wars. A further \$10 billion worth of diamonds was probably stolen, smuggled or otherwise laundered into the legitimate trade, robbing these three countries and others of funds which might have been used for development.

Shocked by the revelations and worried about the commercial implications, the diamond industry and governments began to act. The Government of South Africa convened a May 2000 meeting in Kimberley, bringing together other governments, the industry and NGOs to discuss possible solutions. Canada's first diamond mine is now producing \$400 million a year in rough diamonds, and the Canadian government starts taking an active role in intergovernmental meetings. In March 2002, after a dozen meetings of what became known as the 'Kimberley Process', an agreement is reached in Ottawa on the creation of a system of controls for all rough diamonds. Some 37 governments, meeting with industry and NGO representatives, hammer out minimum standards for rough diamond controls between mines and the point of export, for shipments between countries, and for controls and chains of warranties in trading countries and those where diamonds are cut and polished. The agreement contains provisions for a central data base on all rough diamond production and trade, and for a coordination mechanism. Disputes about WTO compatibility were settled, and the scheme was expected to begin as soon as participating countries could create the appropriate legislation and regulatory framework, probably in November 2002.

One issue remains outstanding, however. NGOs have argued strenuously throughout the process for a strong, independent, regular monitoring arrangement which can review all national control systems. This was not agreed. Without such an arrangement, the Kimberley system will lack the credibility and, more importantly, the effectiveness it requires. A landmark commodity agreement will remain flawed. The governments and the companies that have benefitted from, and contributed to, the misery of conflict diamonds will be able to continue with impunity.

2012: CONFLICT DIAMONDS HAVE DISAPPEARED AND DIAMONDS ARE AN IMPORTANT SOURCE OF DEVELOPMENT REVENUE

The Kimberley system of rough controls is functioning well. Shortly before the official launch of the system in 2002, a system of voluntary external monitoring was agreed by several governments, industry representatives and NGOs, and within two years, the countries that had opposed such a measure were clamouring to join. Canada now produces more than 10 per cent of the world's diamonds by value, and some years ago joined other producers who saw that the advantages of a clean and transparent system far outweighed their earlier arguments about state sovereignty and commercial confidentiality. The wars in Angola, DRC and Sierra Leone are a thing of the distant past, and while diamond smuggling continues to a certain extent, it is much reduced because there are now real penalties associated with detection. Better prices are paid to miners. Issues of child labour and the environmental rehabilitation of old mining sites are now being addressed. Significantly improved government revenues from diamond exports have allowed Sierra Leone, DRC and Angola to rebuild their economies, and all of them - at the bottom of the UNDP Human Development Index in 2002 - have shown significant improvement over the past decade. The end of conflict diamonds and reduced smuggling have helped other diamond producers as well: Namibia, Botswana, South Africa, Guinea, Central African Republic. And the diamond industry at large, no longer beleaguered by NGO campaigners, takes pride in its genuine contribution to 'development diamonds'.

STRATEGIES TO REACH 2012 SCENARIO:

- Develop a strong, independent monitoring system for the Kimberley Accord.
- Develop global certification systems for other resources to screen out commodities produced and traded illicitly in conflict areas.
- Develop a corporate accountability Agreement that improves transparency and prevents the business-as-usual approach that either fuels or allows conflicts to continue.
- Agree, ratify, implement, enforce and monitor a strong, viable treaty on small-arms proliferation.
- Increase consumer awareness of commodity origins and connections to conflict.
- Understand of corporate social accountability in the diamond industry at large has been expanded to include ethical labour practices and environmental sustainability wherever diamonds are mined.

FOREST CONDITIONS

By Peter Lee, Global Forest Watch Canada

INDICATOR: Area logged

RATIONALE FOR CHOICE OF INDICATOR

Forests are more than a source of timber and access for energy and mineral extraction activities; they are a renewable living resource, providing an economic function,¹ an environmental function and a social and cultural function. With the dramatic declines of primary forests globally,² Canada's large proportion of primary or frontier forests have taken on a new global significance.³

Since Canadians more highly value their forests for environmental and ecological benefits than for industrial use benefits,⁴ good forest condition in Canada implies that forests are not significantly impacted by industrial-caused disturbances. The area of Canada's forests that are cut by the logging industry annually provides an indication of the pressure being placed on forest ecosystems (see Figure 1 for a time-series of satellite images showing logging over a ten year period) and therefore an indication of overall forest condition. Data are available to give a picture of forest area cut. Comparisons, albeit coarse, with OECD countries provide a global context with what is happening to Canada's forests.

LOOKING BACK

In Canada, between 1992 and 1999, the total area cut for timber extraction increased 21% (Figure 2).⁵ During this period, clearcutting comprised between 86% and 89% of the total area cut. There are substantial differences between industrial clearcutting, as practiced throughout Canada's forests, and fire (i.e. clearcut logging does not emulate natural fire in terms of the volume/extent, species composition and age-class distribution).⁶ Approximately 90% of all timber cutting in Canada occurs in areas not previously cut commercially, termed primary forests.⁷

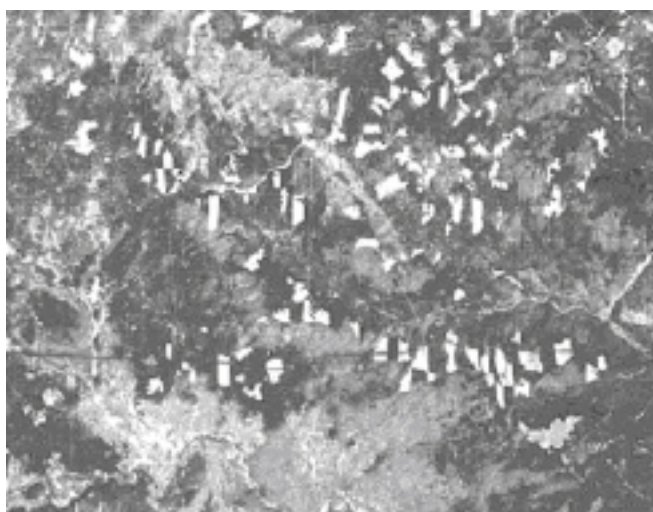
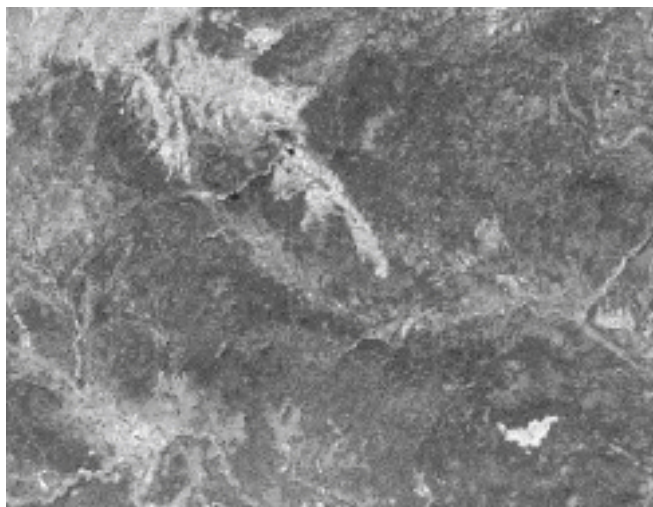


Figure 1. Landsat 7 image from 1990 (top) and 2000 (bottom) from the same location showing cumulative impacts from logging, oil and gas, linear disturbances and fires (Chinchaga/Clear Hills area of northwestern Alberta).

1 OECD. 1999. OECD Environmental Data Compendium. Paris.

2 Bryant, Dirk, Daniel Nielsen and Laura Tangle, 1997. The Last Frontier Forests: Ecosystems and Economies on the Edge. World Resources Institute, Washington DC.

3 Boyd, David. 2001. Canada vs. The OECD: An Environmental Comparison. www.environmentalindicators.com.

4 Corporate Research Associates. 1997. Tracking Survey of Canadians Attitudes Toward National Resource Issues, 1997. Ottawa: Natural Resources Canada. Available from the Internet. URL: http://www.NRCan-RNCan.gc.ca:80/homepage/graphics/survey_e.pdf

5 Canadian Council of Forest Ministers. 2002. Compendium of Canadian Forestry Statistics. Available from the Internet. URL: http://nfdp.ccfm.org/frames2_e.htm.

6 McRae, D.J., L.C. Duchesne, B. Freddman, T.J. Lynham, and S. Woodley. 2001. Comparisons between wildfire and forest harvesting and their implications in forest management. *Environmental Reviews* 9: 223-260.

7 Environment Canada. 1995. Sustaining Canada's Forests: Timber Harvesting. SOE Technical Supplement No. 95-4. Ottawa: Environment Canada. Online at: <http://www3.ec.gc.ca/~ind/English/Home/default1.htm> (February 17 2001).

IMPACT

It appears that cutting (especially clearcutting) is having at least a partial additive impact to fires on Canada's forests, and that such cutting is not an ecological substitute for fires. During the 8-year period from 1992-1999, cutting plus forest fires averaged almost 4M ha per year. The net effect of increasing cutting, especially clearcutting, is, and will increasingly be, substantial reductions in primary forests, and much younger forest landscapes. The total "basket" of balanced environmental and ecological benefits that Canadians most value in their forests is thereby eroding.

In some large regions of Canada, such as the province of Alberta, impacts of dramatically increased forest cutting, fires, and other impacts from energy exploration and developments and other forest disturbances are causing extensive and deepening ecosystem degradation, according to one study.⁸ Overall, logging and other human-caused disturbances have resulted in 30% of Canada's forests being accessed and 6% converted as of the late 1990s.⁹

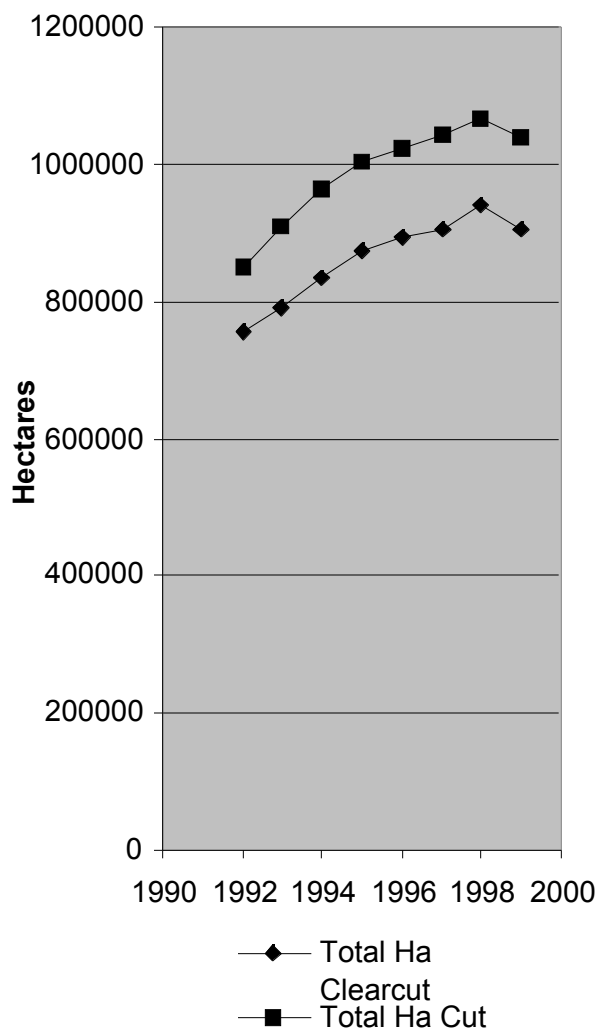
GLOBAL CONTEXT

In comparison to other OECD countries for years which data is available, Canada ranked first in increase in volume of timber cut (43,777,000 m³) between 1990 and 1997. The second ranked country (Finland) had far less of an increase (10,644,000). In terms of the increase in volume of timber cut as a proportion of 1997 total forest cover, New Zealand, Belgium, Finland, Netherlands, Poland, Sweden, UK exceeded Canada (although it is unknown how much of the increases in other countries were due to cutting in primary or frontier forests - in Canada, 90% is in primary forests).

WHERE SHOULD CANADA BE IN 2012?

Canada needs to increasingly incorporate ecological realities and concerns as a key component of decision-making in forest management. As well, according to Brian Emmett, Canada's former Commissioner of the Environment and Sustainable Development, Canada needs to improve progress, and keep its promises to the international community, in environmental matters, including the United Nations Framework Conventions

Figure 2. Total Area Cut and Total Area Clearcut in Canada



on Climate Change and Biological Diversity. Specific to forest cutting, case studies estimate that the rate of logging in Canada would have to decline by 10 to 25 percent in the boreal forests¹⁰ and 30 to 40 percent on the coast of British Columbia to address broader sustainability objectives.¹¹

⁸ Timoney, K. P. Lee. 2001. Environmental management in resource-rich Alberta, Canada: first world jurisdiction, third world analogue? *J. Env. Mngt.* 63: 387-405.

⁹ Wynet, and Peter Lee, eds. Canada's Forests at a Crossroads: An Assessment in the Year 2000. World Resources Institute and Global Forest Watch Canada. www.globalforestwatch.org 114 p. Senate Subcommittee on the Boreal Forest. 2000. Competing Realities: The Boreal Forest At Risk. Ottawa. Standing Senate Committee on Agriculture and Forestry. Available from the Internet. URL: <http://www.parl.gc.ca/36/1/parlbus/commbus/senate/com-e/rep-e.htm> AND Wedeles, C.L., D.C. Van Damme, and L. Sully. Alternative silvicultural systems for Ontario's Boreal Mixed Woods (Sault Ste. Marie: Canadian Forest Service, 1995). (Cited in: Sten Nilsson et al. How Sustainable are North American Wood Supplies? (Laxenburg: International Institute for Applied Systems Analysis, 1999), Section 4.6.)

¹¹ Williams, J., P. Duinker and G. Bull. Implications of Sustainable Forest Management for Global Fibre Supply: Working Paper No. 3 (Rome: Food and Agriculture Organization of the United Nations, 1997), p. 43.

SUSTAINABLE AGRICULTURE

By Nettie Wiebe, National Farmer's Union

INDICATOR – Organic farming

Organic farming is a key indicator of ecological sustainability in agriculture. Trends marking the increase or decrease of organic food production are significant for several reasons:

1 Whereas the increased use of chemical fertilizers, herbicides and pesticides, which has changed Canadian agricultural production radically over the last fifty years, has resulted in the pollution of soils, groundwater and waterways, organic farming eliminates the use of these pollutants.

2 The use of chemicals has encouraged monocultures, decreasing the variety and number of crop rotations, especially in grain growing areas, while organic farming requires more rotations, a greater variety of crops and more careful integration of cropping with naturally occurring vegetation.

3 While genetically engineered organisms (GMOs) threaten to pollute both native and domestic plant varieties and decrease biological diversity, organic production prohibits the use of genetically engineered crops.

4 A wide range of other factors, such as the survival and health of animal, bird and beneficial insect species, as well as microbial life in soils, are determined by the amount and kind of chemicals that are added to their environment.

Given the above, an increase in the number of organic farmers and organically farmed acres signals a decrease in the amount of land that is being treated with chemicals. It may also indicate a decrease in the total amount of chemical inputs being used in farming but this is not necessarily demonstrated by these trends as the 'conventionally' farmed acres might be farmed with intensified use of chemicals leaving the total amount of chemical product used unchanged even if organic acres increased. It must also be noted that a trend to lower input agriculture will decrease the volume of chemicals used without demonstrating an increase in number of certified organic acres or producers.

ORGANIC FARMERS IN CANADA – 1992 – 2000¹

The number of organic producers in Canada has almost tripled between 1992 and 2000. This upward trend has been most dramatic in the most recent years with an increase of 34% between 1999 and 2000. Saskatchewan, with largest average farm size, registered an 83% increase in the number of organic farmers during that period, while Alberta (55%) and PEI (50%) both surpassed the national average also. The total number of certified organic producers was 3108 in 2000.

These trends, especially the rapid increase in recent years, are very positive. This is a strong indication that many more farmers are changing their practises to eliminate the environmental dangers posed by the use of chemicals. Ecological and health concerns as well as high input costs coupled with low product prices are key factors driving the changes. The premium prices that consumers have been willing to pay for organically produced food is also encouraging farmers to abandon the use of chemicals.

ORGANIC FARMING IN 2012

Although the increase in the number of organic producers is positive, the overall impact of such farmers is not yet significant. Overall, less than 2% of Canadian farms are organic. A mere 0.6% of Alberta farms, while approximately 2% of British Columbian farms are organic - the other provinces fall between that range.

This compares very unfavourably with our northern European counterparts where Sweden, for example, has set a goal of having 20% of the land farmed organically by 2005. Moving effectively to environmental sustainability in farming requires targets for less reliance on chemicals and more organic farming. Canada should commit to a goal of 10% organic farms by 2012. This goal assumes that a much larger percentage of Canadian farm land would be organic, given the extensive acres of many prairie farms.

¹ All statistics are based on information provided by the certifying bodies operating in Canada as reported by Brenda Frick in "Production Statistics for Organic Agriculture in Saskatchewan for 2000". SOD, 2001.

RECOMMENDED ACTIONS

In order to reach the above named target, Canadian agriculture and trade policy must be fundamentally redirected away from the current emphasis on high input production to ecologically sustainable production appropriate to local growing conditions.

To achieve the transition to organic production requires support to farmers during the years of transition. (The financial insecurity and indebtedness of many farm families discourages the yield loss risks of the transition period).

Agriculture research and extension for organic production must be funded. Such funding is currently absent from the budgets of Agriculture Canada and its provincial counterparts, while Agriculture colleges, increasingly reliant on Agribusiness research grants, continue to focus on conventional methods.

The lack of effective marketing mechanisms for organic products is a major obstacle to increasing organic production. Improved commercial and trade regulations and aids for cooperative marketing mechanisms are needed.

A moratorium on the approval and release of genetically engineered plant varieties is imperative. GMO contamination eliminates the possibility of organic production. For example, it has become impossible to grow certified organic canola in most of the prairie region due to the release and widespread use of genetically engineered canola since 1996. The approval of genetically engineered wheat would threaten the possibility of growing organic wheat - and thereby eliminate the largest single organic crop in Canada.

GLOBAL CONTEXT

As a proponent of GMOs in the international arena, Canada undermines organic agriculture, mandatory labelling of food products, lowers standards and argues for higher GMO tolerance levels in traded foodstuffs. The Canadian focus on liberalizing agricultural trade and increasing exports increases the pressure on farmers to maximize production at all costs, even as intensified production threatens water, soil, biological diversity and health.

As a nation that produces a surplus of food, Canada is not faced with the dilemma of exploiting our food growing resource beyond renewable capacity in order to meet our immediate food needs. Canada could, and must, create models of modern agriculture which is truly sustainable - agriculture that is not reliant on chemical inputs, that improves soils rather than mining them, leaves water systems replenished and clean, protects biological diversity and avoids genetic contamination.

CANADA'S RECORD ON BIODIVERSITY PROTECTION

By Laura Telford, Ph.D., Canadian Nature Federation

Since the arrival of European settlers, Canada has been losing diversity at the genetic, species and ecosystem levels. Pioneers described the waters and landscapes they encountered as teeming with wildlife. Some of these species - like the Labrador Duck, the Great Auk and the Atlantic Walrus, no longer exist. In fact, the Committee on the Status of Endangered Wildlife in Canada has identified 29 species and populations that have disappeared from the Canadian wild.¹ A further 358 are considered to be at risk, and this list is far from complete. For example, in British Columbia alone, 840 vertebrate animal and vascular plant species have been identified as being at risk of extinction.² A recent report by the Canadian Endangered Species Conservation Council examined the status of some 1600 Canadian species.³ Only 65% were considered to be secure while 10% were identified as being at risk or potentially at risk.

A considerable amount of work remains to be done to complete our species and ecosystem inventories. It is estimated that only 50% of Canada's non-viral species have been described, and information on the biogeography and ecology is available for less than 5% of the 71,000⁴ documented species.^{5,6} The current scientific infrastructure for research and inventory is a disconnected patchwork of institutions, rather than a seamless integrated biodiversity information network.⁶ There is no inventory of existing biological data holdings and few data sets are comparable.

Scientists agree that the fundamental cause of biodiversity decline is loss and alteration of habitat.⁷ Despite Canada's vast size, a considerable number of its

1 Canadian Species at Risk, November 2001, Committee on the Status of Endangered Wildlife in Canada

2 British Columbia Conservation Data Centre, <http://smmwww.gov.bc.ca/cdc/> March 2002

3 Wild Species 2000. The General Status of Species in Canada, Canadian Endangered Species Conservation Council, 2001

4 The State of Canada's Environment, Government of Canada, 1996

5 Mosquin, T., Whiting, P., and McAllister, D.E. Canada's biodiversity: the variety of life, its status, economic benefits, conservation costs and unmet needs. Canadian Museum of Nature, Ottawa, 1995

6 Canada's Natural Capital. Discussion Paper produced for the Canadian Biodiversity Network Conference, Ottawa, March 2001

7 Wilson, E.O. The Diversity of Life. Harvard University Press, Cambridge, Massachusetts, 1992

land and seascapes are under threat from deforestation, urbanization, agriculture, commercial fishing, aquaculture and other human uses.⁸ Development pressures are particularly high in the areas of highest biodiversity. For example, less than 20% of the short grass prairie and less than 1% of the original tall grass prairie are intact, and only remnant pieces of Gary Oak, Carolinian forests and South Okanagan habitats are left. There are few reliable quantitative data on long-term changes in habitat viability (size and fragmentation of habitat patches) or even adequate baselines against which to measure habitat loss over time. The landscape level monitoring programs that have been in place to measure changes in land use over time are now largely defunct.

INDICATOR

Since direct indicators (percentage of species at risk and habitat viability) of ecosystem functioning are not available in Canada, the presence of species at risk legislation is used here as an indicator of how well Canada is protecting its natural capital. Although such legislation cannot guarantee that biodiversity will be protected, without legislation, wildlife departments cannot effectively leverage money from their governments to establish programs to protect and recover species at risk and if they can, these programs stand little chance of long-term survival.

Canada agreed, under article 8k of the Convention on Biological Diversity, “to develop or maintain necessary legislation and /or other regulatory provisions for the protection of threatened species and populations”. To implement this commitment, federal, provincial and territorial governments agreed in principal to the National Accord for the Protection of Species at Risk in 1996. The Accord obligates jurisdictions to “establish complementary legislation and programs that provide for effective protection of each species at risk throughout Canada.”

STATE OF THE INDICATOR IN 1992 AND IN 2002

In 1992 most of Canada’s governments relied on outdated wildlife acts designed to manage a limited number of game species for harvest. These laws afforded little protection to plant or invertebrate species, nor did they protect habitat. Only four jurisdictions (see Table 1) had passed specific laws to protect species at risk in 1992. Since then, the national

species at risk list has ballooned by 67% but still only half of Canada’s governments have enacted species at risk legislation. Other jurisdictions have modified their wildlife acts to provide some protection for species at risk. Serious legislative gaps remain - the most significant being the federal government’s failure to pass legislation. This puts federal species such as migratory birds, aquatic species and species on federal lands at risk. Although migratory birds and aquatic species are covered under existing legislation, the Migratory Birds Convention Act and Fisheries Act were not designed to recover species at risk and have not been effectively used to protect habitat. The proposed Species at Risk Act, if passed in its current form, would also offer little in the way of habitat protection since decisions about habitat protection are left to the discretion of politicians.

There are also gaps in the level of protection afforded by the various laws and programs that have been put in place to protect species at risk. Most provincial and federal biodiversity science and conservation programs are woefully inadequate and underfunded. Few jurisdictions have established the scientific infrastructure needed to adequately monitor and assess the status of all biodiversity. In the existing provincial species at risk laws, political discretion is the norm rather than the exception. Currently only four provinces have passed laws that mandate that species and their habitat will be protected (Table 1). All but one jurisdiction (NS) gives politicians, rather than scientists to authority to determine the legal list of species at risk. Because of this, only a third of Canada’s species at risk are protected under law.

Table 1 Species at Risk Legislation in Canada*

Jurisdiction	1992	2002	Habitat Protection
CA	No	No	No
AB	No	No	No
BC	No	No	No
MB	Yes	Yes	Yes
NB	Yes	Yes	Yes
NF	No	Yes	No
NS	No	Yes	No
NT	No	No	No
NU	n/a	No	No
ON	Yes	Yes	Yes
PE	No	Yes	Yes
QC	Yes	Yes	No
SK	No	No	No
YT	No	No	No

*Jurisdictions with stand-alone species at risk legislation and mandatory habitat protection are indicated as “yes”. Jurisdictions that have been assigned “no” may have some measures to protect species at risk under other legislation.

⁸ The North American Mosaic. A State of the Environment Report, Commission for Economic Cooperation, 2001

GLOBAL CONTEXT

Although Canadian landscapes may be under less stress than those of many other western countries, the laws and programs we have in place to protect our biodiversity lag far behind in most cases. Canada is one of the few OECD nations that has not yet passed a law to protect and recover species at risk. Both the US and Mexico have effective laws that protect both species and their habitats.

TARGET FOR 2012

To meet commitments under the Convention on Biodiversity, each Canadian jurisdiction must develop the scientific capacity and infrastructure to identify, monitor and report on this biological diversity (article 7) and pass comprehensive stand alone legislation that mandates protection for all species at risk and their habitats (article 8).

A COUNTRY IN DECLINE: CANADA'S UNSUSTAINABLE FOOD/AGRICULTURAL BIOTECHNOLOGY STRATEGY

By Holly Penfound, Greenpeace Canada

Since the Rio Declaration on Environment and Development in 1992, what "progress" has the Canadian government made over the past 10 years toward sustainable development (SD) in the area of food/agricultural biotechnology? When one turns for guidance to the relevant section in the action plan emerging from the Rio Declaration Agenda 21, Chapter 16 entitled "Environmentally Sound Management of Biotechnology" an immediate problem in assessing progress is revealed. Agenda 21 assumes without question the benefits of modern biotechnology such as better health care, enhanced food security, sustainable agricultural practices and detoxification of hazardous wastes.¹ It ignores dissenting opinion, minimizes or ignores the risks (health, environmental, agronomic, social and economic) and sets goals accordingly. Considering the era in which Agenda 21 was adopted four years prior to the first significant commercialization of genetically engineered (GE) crops in 1996,² with little public awareness or meaningful debate this is perhaps not surprising.

In the intervening years, many of the claimed benefits of GE crops such as higher yields and pesticide reduction have been scientifically disputed.³ Evidence of risks has emerged such as gene flow to wild plants and harm to beneficial organisms threatening biodiversity; outcrossing to conventional and organic crops leading to crop management problems in agriculture; and the potential creation of unanticipated allergens, toxins, antibiotic resistance and nutritional changes to food.⁴ Aggressive actions on the part of the biotech industry and pro-biotech governments concerning patent and trade rights, and piracy of indigenous genetic material, have discredited the promise of biotechnology to alleviate world hunger, provide food security and equal access to the benefits of biotechnology.

¹ According to Agenda 21, "... (Biotechnology) promises to make a significant contribution in enabling the development of, for example, better health care, enhanced food security through sustainable agricultural practices, improve supplies of potable water, more efficient industrial development processes for transforming raw materials, support for sustainable methods of afforestation and reforestation, and detoxification of hazardous wastes.": (p. 1)

² James, C. Global Review of Commercialized Transgenic Crops: 2001. International Service for the Acquisition of Agri-biotech Applications, Ithaca, New York, No. 24 - 2001. www.isaaa.org/publications/briefs/Brief_21.htm

³ Benbrook, C. (May 3, 2001) Troubled Times amid Commercial Success for Roundup Ready soybeans - Glyphosate Efficacy is Slipping and Unstable Transgene Expression Erodes Plant Defenses and Yields. Sandpoint, Idaho, The Northwest Science and Environmental Policy Center. Ag Bio Tech InfoNet Technical Paper no. 4, www.biotech-info.net/troubledtimes.html

⁴ www.greenpeace.org (2002); Rissler, J & M. Mellon. (1996) The Ecological Risks of Engineered Crops Cambridge, MA, MIT Press. 1996; The Royal Society of Canada (January, 2001). Elements of Precaution: Recommendations for the regulation of food biotechnology in Canada. Ottawa, Ontario, www.rsc.ca/foodbiotechnology/indexEN.html

Canada's pro-biotech stance is reflected in a food biotechnology regulatory system that is fundamentally flawed and ill-equipped to implement the precautionary principle when considering the safety of genetically modified organisms (GMOs). In 2001 the Royal Society of Canada (RSC) issued a scathing indictment in its report *Elements of Precaution: Recommendations for the regulation of food biotechnology in Canada*.⁵ One year later, little has changed.

In a related matter, Canada also refuses to make the labelling of GE food mandatory despite consistent polls showing that 90-95% of Canadians want to know if their food has been genetically engineered and despite global trends to require mandatory labelling of GE food.⁶

INDICATOR

Considering the many health, environmental, agronomic, social and economic hazards associated with GMOs, the estimated global area of GE crops has been selected as a meaningful indicator of progress or decline toward sustainability vis a vis the Rio Earth Summit of 1992. In this analysis, zero release of GMOs into the environment and into the food supply is considered the status quo to prevent the destruction of biodiversity.

LOOKING BACK

According to C. James (2001) of the International Service for the Acquisition of Agri-biotech Applications (ISAAA), globally in 2001, GE crops were grown on 52.6 million hectares (has.) or 130.0 million acres, by 5.5 million farmers in 13 countries. The increase in area between 2000 and 2001 was 19%, up from the previous year's growth rate of 11%. During the six-year period from 1996, when GE crops were first commercially grown, to 2001, the global area of transgenic crops increased more than 30-fold, from 1.7 million has. in 1996 to 52.6 million has. in 2001.

In 2001, four principal countries of which Canada was one grew 99% of the global transgenic crop area. The USA grew 35.7 million has. (68% of global total), followed by Argentina with 11.8 million has. (22%), Canada 3.2 million has. (6%) and China 1.5 million has. (3%).⁷

Measured against the goal of zero environmental release due to the risks previously stated, the unsustainable and destructive proliferation of GMOs throughout the world since 1996, with Canada playing a major role, can only be assessed as a global and Canadian catastrophe.

CANADA AT HOME AND IN THE GLOBAL CONTEXT

In contrast to GE crop promotion and development, the Canadian government's support for ecological/organic production is dismal,⁸ especially when compared to the sustainable agriculture goals and practices of other countries.

A further hardship for organic farmers is the risk of contamination from GE crops. Already organic farmers have had to remove canola from their crop rotation due to widespread contamination in Canada, including the emergence in 1998 of triple-resistant canola (resistant to three different herbicides).⁹ Problems with contamination have prompted organic farmers associated with the Saskatchewan Organic Directorate to launch a class action lawsuit¹⁰ against Monsanto and Aventis for GE canola contamination and to prevent the approval of GE wheat which Monsanto is planning to commercialize in Canada by 2005.

Shamefully, Canada has taken a strong role in the development of GE wheat, entering into a contractual relationship with Monsanto to merge government-owned wheat germplasm BW251¹¹ with Monsanto's Roundup Ready gene technology. Despite massive multi-sector opposition including key agricultural producers, marketers and importers, the Canadian government is taking steps to weaken Canada's wheat variety registration scheme in a manner that will facilitate the commercialization of GE wheat.

GE fish, a serious biohazard risk that has also generated multi-sector opposition, has now become associated with Canada. Records show that the Canadian government entered into a public/private sector partnership between Monsanto and the Department of Fisheries and Oceans to develop GE fish,¹² and A/F Protein - Aqua Bounty Farms based in Prince Edward Island, is aggressively seeking to commercialize GE fish with approval being sought in the United States. Despite the potential disastrous

⁵ The RSC report is available at: www.rsc.ca/foodbiotechnology/indexEN.html. Other critiques of the regulatory system have been published by the Canadian Institute for Environmental Law and Policy (CIELAP), Ontario Public Health Association (OPHA), Conseil de la science et de la technologie (CST), Institut National de Santé Publique du Québec and National Academy of Sciences (NAS). ; ⁶ Greenpeace Canada (February, 2002). Labelling by the Numbers: Canadian Polling Data for Genetically Engineered (GE) Food 1994 - 2002. www.greenpeace.ca/e/campaign/gmo/background/index.html; ⁷ The remaining 10 countries that grew GE crops in 2001 (listed in descending order of GE hectareage) are: South Africa, Australia, Mexico, Bulgaria, Uruguay, Romania, Spain, Indonesia (which commercialized its first transgenic crop, Bt cotton, in 2001), Germany and France.; ⁸ Organic Agriculture Centre of Canada (February 19, 2002). Discussion Paper: A National Strategic Plan for the Canadian Organic Food and Farming sector, draft #3. Nova Scotia Agricultural College, Truro, Nova Scotia. www.nsac.ns.ca/pas/staff/rma/index.htm; ⁹ For further information on the canola contamination problem in Canada refer to Genetic Pollution - A Multiplying Nightmare (February 2002), Greenpeace International, www.greenpeace.org or Orson, J. "Gene stacking in herbicide tolerant oilseed rape: lessons from the North American experience." *English Nature*. No. 443, January 2002. www.checkbiotech.org/pdf/englishnaturegenestacking.pdf; ¹⁰ For information about the Saskatchewan Organic Directorate Organic Agriculture Protection Fund, refer to: www.saskorganic.com/oapf.htm; ¹¹ Personal email communication from Marc Loiseleur, Saskatchewan Organic Directorate, March 8, 2002. ¹² www.tao.ca/~ban/899Mstransgenicfish.htm

consequences for marine biodiversity and despite admonitions from various experts including the Royal Society of Canada and environment ministers attending the 5th International Conference on the Protection of the North Sea, the Canadian government has failed to legislate a ban on the environmental release of transgenic fish in Canada.¹³

In one notable exception to its pro-biotech stance, Canada refused Harvard College's application to patent higher lifeforms, the oncomouse or any other mammal bred to carry the same gene. A Supreme Court decision is pending.

Notwithstanding this one anomaly, Canada's apparent blind faith in food biotechnology was evident during negotiations to establish the Cartagena Protocol on Biosafety (BP) to the Convention on Biological Diversity. The BP will regulate the transboundary movement, transit, handling and use of GMOs, known in the protocol as "living modified organisms".

Numerous first-hand accounts exist of Canada's obstructionist efforts to prevent the adoption and implementation of a strong protocol on Biosafety including those of Greenpeace International, the Canadian Environmental Law Association and the Canadian Institute of Environmental Law and Policy.¹⁴ These reports document the efforts of several grain-exporting nations comprised of Canada, the United States, Australia, Uruguay, Chile and Argentina to undermine the Biosafety Protocol. Ultimately, as a result of tough negotiating by developing countries and the European Union, and the pressure of a strong domestic presence by Canadian activists, the BP was finally concluded in Montreal in January 2000, although concessions had to be made to the pro-biotech block of countries.

Even today, Canada has shown no commitment toward applying the rules and principles contained in the Biosafety Protocol, let alone any sign of ratification of the Protocol despite Canada's central role in watering it down. In contrast, 16 other countries have already ratified the BP and the European Commission has proposed an implementation strategy that would bring the 15 EU countries into compliance with the protocol.

TARGETS AND STRATEGIES FOR 2012

Canada and other countries participating in the WSSD should:¹⁵

- End the environmental release of genetically modified organisms and prevent new approvals such as GE wheat and fish.
- Implement independent and publicly funded medium and long-term research programs at national and international levels to monitor genetic contamination of ecosystems and biodiversity resulting from existing GMOs.
- Implement a program to preserve and protect effectively natural and agricultural biodiversity.
- Overhaul Canada's domestic food biotech regulatory systems based on the precautionary principle, enshrining as a priority the protection of biodiversity, also taking into account human health.
- Promote agriculture practices that respect traditional knowledge and the environment, with a clear commitment to change incentives and structures in favour of ecologically sound agricultural practices and farming systems.
- Adopt a new instrument to prevent patenting on life in favour of the International Undertaking and fair access/benefit sharing as opposed to the World Trade Organization's (WTO) Trade Related Intellectual Property Rights (TRIPS) approach.
- Ensure speedy entry into force of the Cartagena Protocol on Biosafety, with Canada committing to immediate implementation of the principles of the BP and ratification as quickly as possible.

¹³ On August 21, 2001 Greenpeace Canada submitted a critique on the Canadian government's draft document, "Policy on Research with, and Rearing of, Transgenic Aquatic Organisms". The submission outlines serious flaws in the approach undertaken by the government.

¹⁴ Greenpeace International (January, 2002). Who to Blame Ten Years After Rio? The Role of the USA, Canada, and Australia Undermining the Rio Agreements. www.greenpeace.org; Swenarchuk, M (2000). The Cartagena Biosafety Protocol: Opportunities and Limitations. Canadian Environmental Law Association (CELA). www.cela.ca/international/biosafe.htm; and Winfield, Mark S (2000). Reflections on the Biosafety Protocol Negotiations in Montreal. Canadian Institute of Environmental Law and Policy (CIELAP). www.cielap.org/infocent/research/MontrealBio.html

¹⁵ These recommendations are adapted from a Greenpeace International Briefing Paper Nr. 3 for WSSD Prepcom 3 entitled Agriculture and Genetically Modified Organisms at the WSSD, www.greenpeace.org

CANADA'S MARINE HABITATS

By Jarmila Becka, World Wildlife Fund - Canada

INDICATOR: Marine protected areas.

Water is Canada's legacy to the world; it has the longest coastline and the largest system of freshwater lakes of any nation on earth. However, the waters and coasts and the species they support are showing clear signs of stress. Over-fishing, habitat disturbance, oil and gas development, aquaculture, shipping, shoreline development, and the impacts of land based activities, including toxic pollutants, are putting intense pressure on our marine ecosystems. Many conservation initiatives are needed to deal with ocean degradation in an integrated way; marine protected areas (MPAs) are one of these initiatives. MPAs provide a variety of benefits, including protection of key habitats, species, and ecological processes, seed banks for production of eggs and larvae, and prevention of over-fishing by providing refuges.¹ Canada's marine environment must be protected through a network of legally designated MPAs.

The IUCN defines a marine protected area as any area of intertidal or subtidal terrain, together with its overlying water and associated flora, fauna, historical and cultural features, which has been reserved by law or other effective means to protect part or all of the enclosed environment.² MPAs can include a variety of designations such as parks, reserves, conservation areas, and they may include zones of strict protection and zones allowing sustainable use. For this report, we consider only those MPAs that are legally defined with set boundaries that prohibit industrial activities causing long term, large-scale habitat disruption. To be effective, MPAs should also have the support of local communities, adequate enforcement and clear conservation goals.

Internationally, there is growing scientific consensus that MPAs are a vital part of marine ecosystem conservation. The United Nations' Agenda 21 specifically requires that marine ecosystems exhibiting high levels of biodiversity be identified and suitably protected.³ In early 2001, over 160 leading marine scientists signed a Scientific Statement of Consensus on the importance and necessity of MPAs.⁴ In Canada, the protection of marine ecosystems has also been identified as a priority by several government

agencies. The federal Oceans Act explicitly gives the Minister of Fisheries and Oceans a leadership role in ocean planning initiatives, which includes establishment of MPAs. Parks Canada's National Marine Conservation Areas Act (pending) and Environment Canada's Canada Wildlife Act both provide for the creation of marine protected areas. Internationally, Canada has committed to marine protection by signing various agreements and treaties, such as the Convention on Biological Diversity.⁵ Unfortunately, progress in Canada towards formal protection of marine ecosystems has been slow. Currently, less than 1% of oceans are protected worldwide⁶ and, based on WWF's calculations, less than 0.01% of Canada's marine waters are protected.

STATUS IN 1992

Using the above definition, there were only two established MPAs in Canada in 1992: Fathom Five National Marine Park and Pacific Rim National Park (marine component), protecting a total of 32,667 ha. There was no clear government lead on marine conservation and no legislative commitments on marine habitat protection.

Some sites had been identified by Parks Canada for potential protection; specifically, Saguenay-St. Lawrence Marine Park, Gwaii Haanas National Marine Park Reserve, and West Isles National Marine Park.

Parks Canada had completed studies identifying representative marine natural areas for the following areas: South Labrador Shelf, Scotian Shelf, Lake Ontario, Strait of Georgia, Beaufort Sea, James Bay.

Similarly, Environment Canada's Canadian Wildlife Service was reviewing a proposal by the Clyde River community to designate Igaliqtuuq as a National Wildlife Area.

STATUS IN 2002

By 2002, solid progress had been made on key legislation, including the Oceans Act (1997) and the National Marine Conservation Areas Act (pending 2002), which will replace the Parks Act as Parks Canada's legislative mandate for the ocean.

1 Day, J. and J. Roff. Planning for Representative Marine Protected Areas: A Framework for Canada's Oceans. WWF-Canada: Toronto, 2000.

2 A Global Representative System of Marine Protected Areas, Volume 1. Eds. G. Kelleher, C. Bleakley, S. Wells. World Bank: Washington, 1995.

3 A Global Representative System of Marine Protected Areas, Volume 1. Eds. G. Kelleher, C. Bleakley, S. Wells. World Bank: Washington, 1995.

4 National Centre for Ecological Analysis and Synthesis website, <http://www.nceas.ucsb.edu/Consensus>, (March 12, 2002).

5 Convention on Biological Diversity Website, <http://www.biodiv.org/world/parties.asp>, (March 13, 2002).

6 World Commission on Protected Areas website, <http://wcpa.iucn.org/blome/marine/marine.html>, (March 13, 2002).

Through the Parks Act, one additional national marine conservation area (NMCA) has been established since 1992 (Saguenay-St. Lawrence Marine Park) and three more identified/proposed, including Notre Dame - Bonavista Bay NMCA, Fundy West Isles NMCA and Western Lake Superior NMCA.

Western Lake Superior NMCA and Gwaii Haanas NMCA/South Moresby National Marine Park Reserve are still awaiting establishment as protected areas. However, both Notre Dame - Bonavista Bay and West Isles have been abandoned due to lack of local support.

Canadian Wildlife Service's Iqaluit National Wildlife Area is also awaiting full protection status. A new site, Scott Islands off the northwest tip of Vancouver Island, is currently being reviewed for protection as Canada's first Marine Wildlife Area.

Under the Oceans Act, Race Rocks and the Endeavour Hot Vents are both at the final stage before formal designation as MPAs by regulation. Several pilot MPAs have also been identified, including Gabriola Passage, Bowie Seamount,⁷ Gilbert Bay, Basin Head, Sable Gully, Musquash Estuary, Leading Ticks, and Eastport; these are all at various stages within the designation process.

A total of 114,000 additional hectares were protected between 1992 and 2002.

IDEAL STATUS IN 2012

Given the rapid pace of industrial development, including oil and gas leases, aquaculture operations, shoreline development and over-fishing, there is a time-limited opportunity to adequately protect Canada's waters. For instance, as of January 2002, 59 oil and gas exploration licenses off the coast of Nova Scotia have been awarded, covering an area (over 7.7 million ha) larger than Nova Scotia itself.⁸ Similarly, the recent lifting of the British Columbia aquaculture ban means the industry will likely double in size within a decade.⁹ By 2012, Canada must have in place a network of marine protected areas representing all of Canada's natural marine regions. According to WWF-Canada's Conservation First principle, no new large-scale development should be approved before MPAs in each natural region have been identified and set aside from development. Given the current rate of

assessment and implementation of new protected areas, this protection goal will not be achieved.

ACTIONS NEEDED TO GET TO 2012 TARGET

To achieve a full network of MPAs, the federal government must assume a primary coordinating role, led by the Minister of Fisheries and Oceans. Strong political will, measured by commitments and funding allocations, is needed. However, creating an effective system will entail a collaborative effort to which all government agencies must contribute, especially Parks Canada (National Marine Conservation Areas), Department of Fisheries and Oceans (Marine Protected Areas), and Environment Canada/Canadian Wildlife Service (National Wildlife Areas, National Marine Areas, Migratory Bird Sanctuaries). In addition, these federal agencies must coordinate their efforts with provincial and territorial agencies. International experience has shown that to provide effective protection, the process of designating MPAs must respect First Nations rights and incorporate local community and industry knowledge and concerns in all stages of implementation, including identification, management, enforcement, and reporting.

CANADA IN A GLOBAL CONTEXT

Protecting the integrity of marine and freshwater ecosystems is a global problem. It is estimated that over 1,300 MPAs exist worldwide,¹⁰ but the degree of protection of the majority of sites is unclear. While no single country has implemented a complete network of protected areas, some countries have made great strides. Australia has over 40 MPAs protecting nearly 40 million ha,¹¹ including the Great Barrier Reef Marine Park, the world's largest MPA. Similarly, the New Zealand government is working to protect 10% of its waters by 2010; currently, 4% of their coastal waters are protected.¹² Surrounded by three oceans and abounding with rivers and lakes, Canada deserves no less.

⁷ Department of Fisheries and Oceans website, <http://www.pac.dfo-mpo.gc.ca/oceans/mpa/pilots.htm>, (March 5, 2002).

⁸ Canada-Nova Scotia Offshore Petroleum Board website, www.cnsopb.ns.ca, (March 15, 2002).

⁹ British Columbia Ministry of Agriculture, Food and Fisheries website, http://www.agf.gov.bc.ca/fisheries/salmon_aqua_policy.htm, (March 13, 2002).

¹⁰ A Global Representative System of Marine Protected Areas, Volume 1. Eds. G. Kelleher, C. Bleakley, S. Wells. World Bank: Washington, 1995.

¹¹ Environment Australia website, <http://www.ea.gov.au/parks/nrs/protarea/patables/type1.html>, (February 26, 2002).

¹² Royal Forest and Bird Protection Society of New Zealand website, <http://www.forest-bird.org.nz/Marine/ProtectedAreas/reserves.asp>, (February 26, 2002).

FRESHWATER IN CANADA

By Daniel Green, Société pour vaincre la pollution

Seen from the air, Canada seems to have more freshwater ponds, lakes, and rivers than land. Under the land flows groundwater so pure that companies are striving to put it into bottles and sell it back to us. But with all this freshwater, is it safe to drink and can we eat the fish that live in it? This short paper will evaluate Canada's stewardship of its fresh water, and propose strategies to improve our performance.

CHOICE OF AN INDICATOR

To evaluate the state of freshwater in Canada, I will use as indicators of potability of water and edibility of fish. Taken together, they define both the use potential of freshwater and, in a broad sense, the degree of ecosystem health. Although not a comprehensive evaluation of ecosystem health, they provide a clear indication of its general state.

RATIONALE FOR THE INDICATOR

This indicator integrates a series of technical criteria that defines the health of a freshwater ecosystem. If fish are not contaminated and can be eaten without restriction (the water is fishable), then the other elements in the aquatic food chain, sediments, and water are also probably not contaminated. To evaluate the fishable element of this indicator I used the number of Canadian provinces and territories that have freshwater fish consumption advisories. For the potable element, I used the number of boil-water advisories and contamination.

WHERE WE WERE IN 1992

Fish consumption advisories

In 1992, all of the Great Lakes Basin, including the St. Lawrence River in Québec had fish consumption advisory for a least one species of fish. Hundreds of inland lakes in Ontario and Québec also had advisories to limit sportsfish consumption.¹ In 1992, to my knowledge, no similar advisories were in place in other Canadian provinces or territories. Industrial releases of chemical like PCBs, mercury

had accumulated in fish throughout central Canada. Trends in contamination of fish in the Great Lakes show that there was a sharp decline in levels of mercury and PCB between 1970 and 1985. But this decline has stopped. Since the mid 80's many sports fish in the Great Lakes and in the St. Lawrence River have reached a steady-state of contamination.²

Boil water advisories

In 1989, most Canadians had access to treated water.³ More surveillance and more reliance on bottled or home water treatment technologies had given the false impression that drinking water was safe, and high water levels in the Great Lakes basin in the beginning of the 1990s increased the dilution of bacterial surface water pollution. As a result there were few boil-water advisories. In 1993, Milwaukee experienced a cryptosporidium contamination event that killed more than 100 people and made 400, 000 sick. In the same year, cryptosporidium also invaded 25,000 homes and led to at least one death in Waterloo, Ont. These events prompted a flurry of increased surveillance activity in many Canadian cities that caused an increased of boil-water advisories.⁴

WHERE WE ARE IN 2002

Fish advisories

In 2000, according to the International Joint Commission (IJC), the consumption of Ontario's Great Lakes basin fish contaminated with PCBs and mercury posed even a greater health hazard than ten years ago. The IJC now recommends that certain Great Lakes fish should not be eaten by children or women of childbearing age and that more must be done to warn people who eat Great Lakes fish.⁵ The trend to warn North Americans not to eat toxic fish has increased since the end of the '90s, when it was shown that levels of toxics in fish had stopped declining and that human health effects were observed⁶. Since 1998, Ontario has issued advisories suggesting young people under 15 years of age and women of child-bearing age should not eat wild sports fish more than once a month because "existing evidence demonstrates that the consumption of contaminated Great Lakes fish prior to and during pregnancy is associated with decreased birth weight and deficits in cognitive function in infants and children."⁷ The most recent Ontario's Guide to Eating Ontario Sport Fish of 1999-2000⁸ and the Internet version of Québec's advisory⁹ suggests that

1 Guide to eating Ontario sport fish 1992-1993 Sixteenth Edition, Revised Queen's Printer for Ontario; and MEF et MSSS du Québec, (1992), Guide de consommation du poisson de pêche sportive en eau douce.; 2 The State of Canada's Environment -1991. Government of Canada, Ottawa 1991.; 3 ref. 2 : 4 National Post 04 May 2001 World learned from deaths in Milwaukee; 100 died in 1993 epidemic: Cryptosporidium still a mystery to researchers.; 5 Tenth Biennial Report on Great Lakes Water Quality International Joint Commission- Ottawa- July 2000.; 6 Guelph Mercury March 12, 2001 Eating fish in moderation lessens risk of mercury contamination.; 7 Guide to eating Ontario sport fish 1997-1998 Eighteenth Edition, Revised Queen's Printer for Ontario.; 8 Ontario's Guide to Eating Ontario Sport Fish of 1999-2000 Nineteenth Edition, Revised Queen's Printer for Ontario.; 9 Guide de consommation du poisson de pêche sportive en eau douce 2001: www.menv.gouv.qc.ca/eau/guide/index.htm; 10 L'Acadie Nouvelle 4 juillet 2000 Mercure: attention au poisson, disent les experts; 11 The Telegram (St. John's) 22 Sep 2000: Easy on the fish: government: Trace levels of contaminants in Paradise NFL ponds; 12 The Ottawa Citizen 27 Jul 2000: Walkerton panel confirms six deaths linked to water: Community devastated, and "dangling by a thread," residents tell judge heading public inquiry; 13 The Hamilton Spectator November 29, 2000 Brantford defends its water quality; Treatment plant among 50 cited by Ontario as deficient

"women of childbearing age and children under 15" eat only a maximum of four meals a month of sport fish - bass, pike, salmon, trout.

In July of 2000, the Chief Medical Officer of New Brunswick issued an advisory warning people to limit the consumption of sports fish in the province because of mercury contamination.¹⁰ That same year, fish in ponds in Newfoundland were found to have levels of contaminants which could produce an adverse health effect in people who consume large quantities of the fish. An advisory was issued for those ponds.¹¹

Number of boil water advisories

In Walkerton, Ontario, in 2000 an outbreak of E coli in the town's water supply killed seven people and sickened 2,000 others.¹² Many provinces followed Ontario's lead and quickly ordered hundreds of municipalities to boil their water. In 2000, 584 Ontario water treatment plants were inspected in a matter of weeks to ensure compliance with its new Ontario drinking water regulations, 50 of those were found to have deficient water treatment and boil water advisories were issued.¹³ Medical officers of health in Ontario issued 246 boil-water advisories in the nine months following the Walkerton water disaster¹⁴. It is estimated that almost half of 645 Ontario drinking water systems failed to meet provincial standards.¹⁵ At the same time, the Québec government ordered 90 municipalities to boil water. Many provinces quickly enacted new or improved drinking water regulations. In 2000, the New Brunswick's Auditor-General condemned the province's enforcement of the Clean Water Act as "informal, inconsistent and poorly documented."¹⁶ In Newfoundland, 188 water systems have received boil-water advisories and many are contaminated with cancer-causing trihalomethanes.¹⁷ One out of five aboriginal water systems has been found polluted. In Manitoba, 18 public schools were advised their water was unsafe.¹⁸ A 1995 Health Canada report found that 171 reserves - or one in five - had water systems that could "affect the health and safety of the community if the problems are not addressed."¹⁹ All this did not prevent the 2001 North Battleford, Sask., cryptosporidium contamination episode that killed 3 people and sickened hundreds.²⁰ In Saskatchewan 37 towns were advised to boil their water in 2001.²¹ The number of Albertans infected by the cryptosporidium parasite in the first eight months of 2001 is almost triple the number in all of 2000. Provincial health officials have recorded 156 cases this year, compared with just 56 cases in 2000.²²

TARGETS FOR 2012

- Pollution prevention: If we are ever to have safe fish to eat, then the fact that contaminant levels in fish have stopped declining clearly shows that we must do more to further reduce toxic inputs and to remove toxic sediments in freshwater bodies.
- Watershed protection: Pollution from huge industrial livestock operations threatens watersheds. Specific regulations dealing with farm pollution are needed at the provincial level and should replace the existing patchwork of non-regulatory guidelines, municipal bylaws and voluntary measures.²³
- Regulatory scrutiny of effects of drugs, antibiotics and hormones: Pharmaceutical chemicals - from birth control pills to antibiotics - found in our drinking water supply pose a risk to human health. The treatment or removal of pharmaceuticals, antibiotics and endocrine disrupters from sewage water must be incorporated into approved procedure in all of Canada's sewage treatment facilities.
- Canadian Drinking Water Act: A bill has been drafted by the Senate that would make Ottawa responsible for regulating the safety of drinking water under the Food and Drugs Act.²⁴ The Federation of Canadian Municipalities has asked that the federal government establish "mandatory national drinking-water quality standards".²⁵ Federal drinking-water quality standards are needed to provide a minimum of protection to all Canadians from drinking water contamination. The government must act on these recommendations.
- More fisheries prosecutions: The Fisheries Act prohibits the deposit of any deleterious substance that may enter water frequented by fish. Under this act, a private citizen can file charges against a water polluter and - if the polluter is convicted - get half the fine. The recent success the Hamilton Ont. and Moncton NB cases^{26,27} and the case against the hog producer, Hay Bay Genetics Inc., of Napanee, Ontario,²⁸ clearly shows that the application and enforcement of environmental laws is an efficient method of stopping the pollution of our freshwater.
- Toxic Hot-Spot clean-up: There are at least 42 toxic hot spots that contribute to the degradation of the Great-Lakes basin waters.²⁹ There are at least another 100 specific sites in the St-Lawrence River (Québec),³⁰ Fraser (B.C.),³¹ basins and in some in

14 The Ottawa Citizen 08 May 2001 Too-frequent boil water advisories like 'crying wolf'; 15 National Post 09 Apr 2001 Ottawa asked to regulate drinking water safety; 16 The New Brunswick Telegraph Journal May 4, 2001 Test the water - then prosecute; 17 Globe And Mail May.05, 2001 Canada's Water Crisis; 18 ref. 25 ; 19 ref. 27 ; 20 The Hamilton Spectator May 4, 2001 Contaminated water kills three; At least 20 others sickened in Saskatchewan city by parasite-laden drinking water; 21 National Post 05 May 2001 Water crisis: Strategy: North Battleford Not the First; 22 The Calgary Herald 31 Aug 2001 Hot weather linked to rise in infections; 23 The Hamilton Spectator August 7, 2001 More urgency essential in factory farm reform ref. 25; 24 ref. 25 ; 25 ref.27 ; 26 The Hamilton Spectator August 30, 2000 City charged in Red Hill pollution; 27 The Moncton Times and Transcript June 14, 2001 Dump closure flawed ; 28 Industrial Hog Farming in Canada The Gallon Environment Letter Special Vol. 3, No. 30, September 30, 1999 ; 29 Ninth Biennial Report on Great Lakes Water Quality International Joint Commission- Ottawa July 1998.; 30 Rapport du comité multipartite sur les sites contaminés du Saint-Laurent susceptibles d'avoir un impact sur le béluga. 26 p. 1998 Environnement Canada, Pêches et Océans Canada, Patrimoine Canada, Ministère de l'environnement et de la faune du Québec.; 31 The Fraser River Action Plan 1998 Environnement Canada cat. no. En37-99/1998E-3

Prairies, Northern and Atlantic freshwater ways that also are causing water and fish contamination. Until these aquatic hazardous waste sites are cleaned-up, safe drinking water and edible fish will not happen in those contaminated freshwaters.

- **Infrastructure:** Capital expenditures are needed to replace Canada's worn-down water and sewage treatment infrastructure. Storm water management, leaking sewer replacement water and sewage treatment plant upgrades are all needed and could be partially paid by a federal public infrastructure program.
- **Enforcement:** There must be a stricter application of environmental laws by governments, as prosecution of water polluters works to stop the pollution of our waters.
- **Education/Training:** We must ensure that the people responsible for treating our drinking water and our sewage are well trained and equipped to prevent sickness and death, and to communicate crises effectively.

TOXICS

By Angela Rickman, Sierra Club of Canada

The presence of toxics in the environment can be related to industrial activity. There are more than 35,000 chemicals currently used in Canada alone, and the vast majority of these have never been properly tested for their effects on human and wildlife health or for their environmental effects. Thousands of toxic chemicals are present in the environment, and, in turn, the bodies of every single human on the planet through many avenues, including industrial discharges and spills, sewage, use in products in our homes, runoff from agriculture, and many other routes.

This is a problem of recent vintage: the man-made chemicals in question were not to be found in our grandparents' bodies. In fact, most were developed and released into the environment only in the last 60 years. Despite ample reason for concern, information about what these chemicals do to our health, and to the health of our children, is unavailable or, at best, incomplete.

THE INDICATOR

Although it is impossible to assess Canada's progress on managing toxic substances by using just one indicator, it is useful to examine persistent organochlorines as a group, and the levels of these contaminants in biota as an indicator.

RATIONALE FOR THE INDICATOR

Generally, scientists use the levels of contaminants in wildlife as an indicator of ecosystem health, and as a warning of possible human health impacts. In Canada, the "canary in the coal mine" is the Double-crested Cormorant, both because it eats a great deal of fish and would reflect bioaccumulation of toxics, and because it tends to be located in the same areas where the majority of Canadians live. There is also a great deal of data available for comparative study, as scientists have been monitoring them since DDT became an issue in the '70s.

Unwelcome chemicals in breast milk are another symptom of toxic persistent pollution. incomplete. Indeed, most of the chemicals produced today and used in large quantities have never been tested for potential

health effects, including their impact on breast milk. Lack of available data corresponding with the time frames measured in this report ruled out the use of levels of organochlorines in breast milk as an indicator, though it is likely that those levels, particularly in women with high fish diets like First Nations, Great Lakes area inhabitants, and the people of the North would likely see a similar trend as for levels in biota.

BACKGROUND

Organochlorines include pesticides, such as DDT, industrial chemicals, including PCBs, and dioxins and furans. Polychlorinated dibenzo-p-dioxins (PCDD or dioxins), polychlorinated dibenzofurans (PCDF or furans) are toxic, persistent, bioaccumulative, and anthropogenic. Dioxins and furans are not intentionally produced, but rather are a byproduct of industrial processes, waste incineration, and fires.

Some are persistent, taking decades or even

centuries for them to break down. This, paired with their “fat loving” qualities, means that they tend to build up, or bioaccumulate, in animals. The higher up the food chain you go, the more contamination builds up in the top predators, as the body burdens of all of their prey, and their prey’s prey adds up, in a process called biomagnification.

STATE OF THE INDICATOR IN 1992

In 1992, there was a recognition of the problem of bioaccumulation of persistent organochlorines in living things and the environment DDT had been banned in Canada in 1985, the Canadian Environmental Protection Act (CEPA) had been passed in 1988, rules regarding the use and storage of PCBs had been passed, and generally, levels of these chemicals in Double-crested Cormorants had declined significantly (See figures 1 and 2). There was a global recognition of the need to do more to protect people from persistent organic pollutants, and the process for the negotiation of an international treaty on POPs was set in motion.

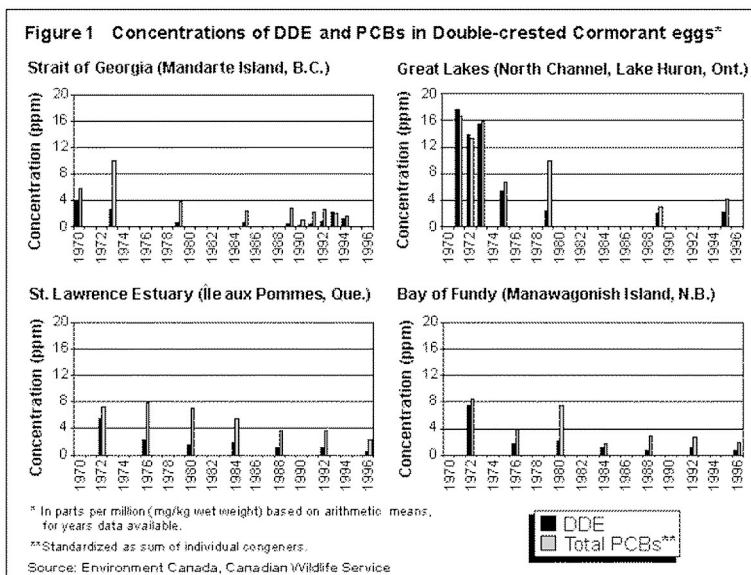
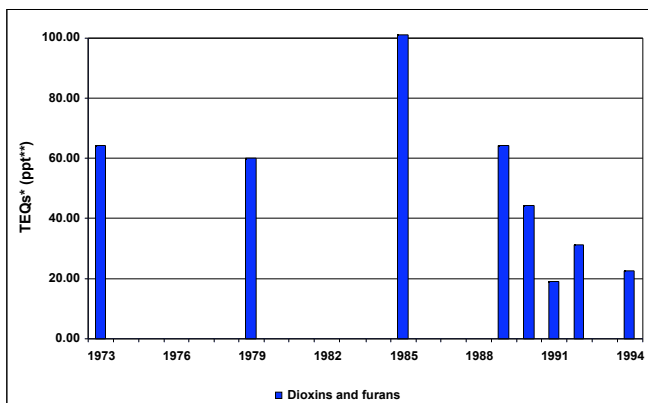


Figure 2: Contaminant levels in Double-crested Cormorant eggs: dioxins and furans, 1973-1994, Strait of Georgia (Mandarte Island, BC)



Source: Canadian Wildlife Service, Environment Canada, Ottawa, Ontario.

STATE OF THE INDICATOR IN 2002

Though there has been a significant decline in levels of contamination over the long term, levels appear to have plateaued in the last decade or so. This is due to the fact that although many of the uses of these persistent chemicals have been discontinued, they remain in the environment in soil, water, and sediment. Though use of some organochlorines have been banned in Canada, they are still used in other countries, and they migrate through air and water currents, and through animal migration, to end up in our environment. Some have been replaced with new chemicals, like PBDEs, a family of flame retardant chemicals, which threatens to become the PCBs of the next decade, currently being found virtually everywhere.

CANADA: ACTION IN THE GLOBAL CONTEXT

On May 22, 2001 in Stockholm, Sweden, 120 countries signed the Stockholm Convention, a United Nations treaty to eliminate POPs. The treaty calls for the international ban or phase-out of dioxins, PCBs and nine organochlorine pesticides, including aldrin, chlordane, DDT, dieldrin, endrin, hexachlorobenzene, heptachlor, mirex, and toxaphene. The treaty also establishes a process to identify and list additional POPs for eventual phase-out.

The Stockholm Convention is an important first step towards reducing the number and quantities of toxic persistent chemicals in our bodies and our environment.

It establishes a process to add to its current list of banned chemicals, which will be very important for eliminating chemicals like lindane and PBDEs.

The Stockholm Convention must be ratified by 50 countries before it goes into effect. Canada was the only country to ratify the treaty in Stockholm, at the time of writing this paper, eleven other countries had signed. David Anderson promised to work to have 49 other countries do the same by the time of the WSSD in Johannesburg, but obviously that has not been a great success. Entry into force is very important as well, but then we will all have to work to ensure that it is implemented. Canada will have to amend provisions of CEPA in order to be consistent with the obligations it has made under the Stockholm Convention.

HAZARDOUS WASTES IN CANADA: PROGRESS ON AGENDA 21

By John Jackson, Citizens' Network on Waste Management

INDICATOR FOR ASSESSING PROGRESS

In Agenda 21, governments adopted the following prime "overall target" in the section on hazardous wastes: "preventing or minimizing the generation of hazardous wastes as part of an overall integrated cleaner production approach."¹

The Canadian Council of Ministers of the Environment set a target of 50% decrease from 1988 levels of hazardous wastes by the year 2000. In 1993, the Industry and Hoc Group on Hazardous Waste Management adopted a similar target and went on to state that this is only an "interim goal." They said that this target "is viewed as a bench mark for measuring progress towards substantial change, and not as the end of the road."²

Therefore, the indicator that is used here to assess progress under Agenda 21 is the quantity of hazardous wastes generated and the progress is measured against a reduction target of 50% in hazardous wastes between 1992 and 2002.

¹ Agenda 21 - Chapter 20: Environmentally Sound Management of Hazardous Wastes, including Prevention of Illegal International Traffic on Hazardous Wastes, Section 20.7.
² Hazardous Waste: A Materials Management Approach, May 12, 1993, p. 3.

STATE OF THE INDICATOR IN 1992

It is impossible to confidently report on the state of hazardous waste generation or disposal in Canada. Reports are intermittent and incomplete, so the state of this indicator will be assessed based upon the best, although admittedly limited information, provided nationally.

Canada reported to the OECD that 5.8 million tonnes of hazardous wastes were generated in Canada in 1991.³ Canada also reported that in the same year a total of 512,000 tonnes of hazardous wastes were incinerated or landfilled in Ontario. Canada did not report on treatment and disposal methods for other provinces and territories. Canada stated that Ontario accounted for about 32% of the total hazardous wastes generated in Canada. If handling methods were similar in other provinces, this would mean that approximately 1.5 million tonnes of hazardous wastes were incinerated or landfilled in Canada in 1991.

STATE OF THE INDICATOR IN 2002

Unfortunately the state of data gathering has not improved over the past decade. The latest Statistics Canada report entitled Human Activity and the Environment 2000 has a section called "Waste Generation and Management" but hazardous wastes are not even reported on.⁴ Therefore, progress must be assessed based on similar weaknesses as those that existed in 1992.

Canada has not provided more information to the OECD on hazardous waste generation since the data it gave for 1991. An assessment by the Canadian Institute for Environmental Law and Policy of Ontario's waste generation database showed a 23.8% growth in the generation of hazardous wastes from the industrial sector between 1994 and 1998.⁵

The latest data that Canada has provided to the OECD on hazardous waste disposal is for 1996. Canada reported that in that year, 590,000 tonnes of hazardous wastes were incinerated or landfilled in Ontario. This represented a 15% increase in hazardous waste disposal over the first five years of the period being investigated. Again Canada did not report on hazardous wastes from other provinces and territories.

Canada's National Pollutant Release Inventory data show constant increases in hazardous wastes being sent off-site in Canada for disposal. For example, between 1997 and 1999, Environment Canada reported that there was a 33% increase in transfers off-site for disposal.⁶

The data is far from satisfactory, but the conclusion is clear. Canada has moved in a direction contrary to Agenda 21 and contrary to targets set by the CCME. **Instead of "preventing or minimizing the generation of hazardous wastes," Canada has had substantial increases in the quantities of wastes generated and in hazardous wastes disposed of between 1992 and 2002.**

GLOBAL CONTEXT

Upon pressure from developing countries, in September 1995, the Basel Convention, which controls the movement of hazardous wastes across international borders, was amended to immediately prohibit the export of hazardous wastes for disposal from developed countries (i.e. countries in the Organization for Economic Co-operation and Development [OECD]) to developing countries. At the same time, likewise under the initiative of developing countries, the Convention was amended to phase out the export of hazardous wastes for recycling from OECD to non-OECD countries by the end of 1997.

Canada was one of three countries that fought the Basel Convention amendment to ban export of hazardous wastes for recycling purposes to non-OECD countries. Despite the fact that this amendment was passed, Canada still has not ratified it.

TARGET FOR 2012

Canada should set a target of 50% reduction in hazardous wastes generated between 2002 and 2008. The target for hazardous waste generation should be an 80% reduction by 2012 in comparison with 2002.

GOVERNMENT ACTIONS NEEDED

In order to achieve these targets the federal, provincial and territorial governments in Canada should carry out the following actions:

3 OECD, OECD Environmental Data: Compendium 1999, 1999, pp. 168-171.

4 Statistics Canada, Human Activity and the Environment 2000, 2000, pp. 182-193.

5 James Yacoumides, Ontario: Open for Toxics, June 2000, p. 48-50.

6 Environment Canada, National Pollutant Release Inventory: National Overview 1999.

1. The Canadian federal government and each province and territory should set a target of 50% reduction in hazardous wastes generated between 2002 and 2008. The target for hazardous waste generation should be an 80% reduction by 2012 in comparison with 2002.

2. The federal, provincial and territorial governments should set up a country-wide, consistent system for gathering data annually on hazardous waste generation and on how those wastes are treated or disposed of. This information should be publicly available in a central database.

3. The federal, provincial and territorial governments should require generators of hazardous wastes to develop and implement pollution prevention plans. The goals of these pollution prevention plans should be subject to approval by the government. Failure to implement the plans and to achieve the goals in the plans should result in penalties.

4. Companies that sell hazardous materials should be required to develop extended producer responsibility or stewardship programmes by which they take responsibility for taking back and properly handling these materials after they have been used. Included in these EPR programmes should be requirements that certain waste reduction, reuse and recycling targets are met.

5. To prevent Canada from becoming a dumping ground for hazardous wastes from other countries, the federal, provincial and territorial governments should pass regulations for hazardous waste recycling and disposal that are at least as strict as the regulations in other countries, especially in the U.S.

6. Canada should immediately ratify the ban on the export of hazardous wastes for disposal or recycling to non-OECD countries that is called for under amendments passed to the Basel Convention in 1995.

SOLID WASTE

By Connie Vitello, Editor Hazardous Materials Management and Solid Waste & Recycling magazines

Information technology (IT) equipment is a growing source of waste in scrap heaps and landfills in Canada and across the globe. Increasingly, the public and private sectors are realizing that end-of-lifecycle IT products are valuable resources that should be recycled, recovered and reused. The environmental and economic benefits include diverting waste from landfill, recovering precious metals and plastics to resell and reuse, and demonstrating corporate social responsibility.

Continuing advances in technology mean that IT equipment quickly becomes obsolete. This results in an increase in the rate and quantity of this equipment -- which contains hazardous materials such as lead, cadmium, and mercury -- entering the waste stream. Cathode-ray tubes (CRTs) in computer monitors are of particular concern. (The average CRT for a monitor built from 1995 - 2000 is approximately 47 cm with a lead content of about 1.2 kg.)

INDICATOR

IT waste management is still a relatively new initiative, so clear indicators and target timelines are still evolving, but this synopsis will provide recent information and suggested solutions about this important waste management issue.

DOMESTIC DATA

Environment Canada released the first study on computer waste in Canada, prepared by EnviroRIS, in October 2000. The report provides comprehensive data and estimates for the period 1992 - 2005.

Report figures indicate that in 1999, approximately 33,972 tonnes of IT equipment (including PCs, monitors, laptops, and peripherals but excluding mainframes and other large equipment) were disposed, 15,592 tonnes were recycled, 24,507 tonnes were sent for reuse, and 6,128 tonnes were put into storage. The report estimates that more than 67,000 tonnes of IT waste will be disposed in 2005.

The current Canadian infrastructure to provide IT waste management services is scattered and undeveloped but there are organizations, both non-profit (i.e. Computers for Schools Program) and for-profit companies that are involved in equipment repair and modification, recycling, precious materials recovery and reuse.

Canadian ownership of PCs is highest in the province of Alberta. Calgary has two electronic waste dismantlers and brokers, which process a combined total of 125,000 computer systems per year. Equipment is dismantled by hand, valuable parts are separated and little is reportedly landfilled. The plastics are sent to Calgary or Edmonton recyclers, metals and cables to the U.S., and circuit boards to Asia. The remaining metals are sent to smelters. These companies claim that they have a throughput capacity to handle/dismantle all of the computer waste volume generated in Alberta up until 2005.

On February 6, 2001, Alberta launched its Fluorescent Lamp/Computer Recycling Initiative. The initiative, which targets municipalities, universities, schools and hospitals, had more than 70 voluntary participants as of March 2002.

GLOBAL CONTEXT

The EnviroRIS report points out that the IT industry in Canada is characterized by numerous suppliers and agents but relatively little direct manufacturing, which takes place in the U.S. or overseas.

It is no surprise that the U.S. has a more mature IT waste management infrastructure with several facilities across the country to handle waste from large leasing companies, such as IBM and Microsoft. The Microsoft Authorized Refurbishers Scheme (MARS) identifies PC refurbishers to assist in reducing PC disposal and to aid schools and charities.

However, according to the U.S. National Safety Council's recent Electronic Product Recovery and Recycling Baseline Report, only 11 per cent of the 20.6 million PCs discarded in 1998 were recycled.

Rather than rely on voluntary efforts, legislation has already been initiated in parts of the country. On April 1, 2000, Massachusetts implemented a disposal ban for

CRT monitors and in April 2001 the California Department of Toxic Substances Control ruled that landfill disposal of CRTs is illegal.

Most recently, the U.S. National Electronic Product Stewardship Initiative (NEPSI) made an agreement to work toward front-end financing for electronic waste collection and recycling -- a significant move toward state-level public policy for producer responsibility. However, the Computer TakeBack Campaign criticizes that there are still several important unresolved issues, such as product re-design, phase-out of hazardous substances, collection and recycling standards, and bans on export of hazardous waste and use of prison labour.

Europe also has a more mature system to handle IT waste. The European Union's Waste Electrical and Electronic Equipment (WEEE) directive will make manufacturers even more responsible for the collection, recycling and reuse of the equipment they sell. The WEEE directive requires an overall recovery rate of 4 kg/household/year -- with an IT and telecommunication waste recovery rate of 75 per cent and a reuse and recycling rate of 65 per cent -- by January 2006.

This European mandate should influence North American waste management standards.

The increasingly global notion of corporate social responsibility may also give rise to guidelines to increase recycling and reuse of IT waste. The International Organization for Standardization (ISO) is considering a corporate social responsibility standard through its consumer policy committee.

The challenge of social responsibility standards will be to address the range of issues from country to country. In some communities, there's concern about environmental impacts and workplace health and safety while in others are preoccupied with the basic necessities.

IT waste management also raises labour exploitation and toxic exposure issues. When dismantling this type of equipment with hazardous components, it is imperative that proper protective gear is worn and safety protocols are in place. The EnviroRIS study noted that several Canadian companies were sending a considerable amount of equipment to China, until this market was closed to overseas outlets on April 1, 2000.

As stated in the guidelines, Canada is a nation that lives in comparative luxury and wealth, having been ranked at the top of the United Nations quality of life index for seven consecutive years during the 1990s. Thus, our goals and solutions will be quite different from many other nations.

TARGETS AND STRATEGIES FOR 2012

One proposed option for managing IT waste is a centralized disposal system with recycling depots paid for by manufacturers. The success of this system depends heavily on consumer participation. Another option calls for a front-end financing system, similar to beverage container deposit-refund programs. Proponents claim this will divert more material from landfill and generate a higher quality of reclaimable/reusable materials.

The trend in increased industry product stewardship in Canada is significant. However, a successful sustainable development initiative to manage electronics waste in general and IT waste in particular should combine legislated and enforced targets with a supportive and economically competitive infrastructure. A system of this nature, supplemented by a campaign to foster public and private awareness and cooperation, is essential for the future management of IT waste.

In light of the current 50 per cent waste diversion target of all Canadian provinces as well as Europe's 2006 WEEE directive, Canada should have an IT waste management system in place by 2012.

RADIOACTIVE WASTE

By Graham Simpson, Interchurch Uranium Committee Educational Cooperative

THE INDICATOR – IONIZING RADIATION

Ionizing radiation is produced by the decay of uranium-238 into 13 radionuclides. This radiation is measured by becquerels (Bq), one disintegration of an atom per second. Three types of radiation can be emitted: alpha particles, beta particles and gamma rays. They differ in their potential to damage organisms. The energy transferred by an alpha-particle creates, on average, 4000 ion pairs/micron of tissue along a 40 micron track. A beta-particle only creates 6 ion pairs; a gamma ray may, or may not, create a pair. The 'relative biological effectiveness' (RBE) of alpha-radiation is much greater than either beta- or gamma-radiation. Alpha-radiation has, on average ten times higher energy and also much higher ionizing potential than either beta- or gamma-radiation. The degree of damage to living cells depends on the amount of 'linear energy transfer' (LET). Alpha-radiation has a very high LET value so that even in low levels it causes damage to cells, particularly to DNA in chromosomes.

The primary sources of ionizing radiation from radioactive wastes in Canada are the mining of uranium and its accelerated decay in Canadian nuclear reactors, mostly in the province of Ontario. The possibility of achieving sustainability of the environment, as currently defined by the Canadian Federal Parliament, is actually being reversed by continuation of uranium mining because it brings into the environment persistent alpha-emitting wastes, particularly radium-226 and thorium-230 which have very long half-lives of 1600 and 75,400 years respectively.

The higher the concentration of uranium in ore, the smaller the tailings but the higher the radioactivity measured by the indicator ionizing radiation. Saskatchewan mines are unique in having very high concentrations of uranium in the ore, ranging between 5 - 40% in some deposits. The McArthur River mine, with an average 21% content in the ore, brings 2,500 Bq's of radium-226 into the environment with every gram of ore brought to the mill. Currently these wastes are contained in empty mine pits by treatment, sedimentation and continual mechanical pumping. These actions cannot be sustained for the extremely

long periods necessary with such very long-lived radionuclides as radium-226 and thorium-230. No decommissioning of high grade uranium mines has taken place yet in Saskatchewan.

Natural decay of uranium can be accelerated through bombardment with neutrons in a reactor producing heat that can be converted into electricity. The fuel elements that contain uranium (a mixture of U-238 and U-235) in CANDU reactors, the only kind in Canada, become contaminated by the formation of the element plutonium (Pu), and many fission products. Fuel elements emit extremely high levels of radiation and heat in the short term and remain dangerously radioactive for long periods of time (eg Half-lives of Pu-239 and Pu-242 are, respectively, 24,390 and 387,000 years). Plutonium is potentially the most toxic element on earth for living organisms. The 5 Pu isotopes are alpha emitters (Pu-239 emits 2.2×10^{14} Bq's/gram for thousands of years). Each fuel element contains billions of bq's of fission products most of which, except Cesium-137, have short half-lives and decay within about forty years. 98.5% of the original U-238 remains unused in the fuel element and is contaminated by the fission products (about 0.8%) and the new elements of plutonium, americium and curium (0.5%). Canadian uranium is used in other countries (e.g. USA, France, Japan) for nuclear weapons and nuclear reactors. In 2001 Canada was a world leader (31%) in mine production of uranium, most of it from Saskatchewan.

STATE OF THE INDICATOR IN 1992

The enormous magnitude of radioactive waste producing ionizing radiation in Canada can be inferred from the following: In 1992 there existed 175 million tonnes of uranium-mine, -mill and -refinery tailings, mostly in northern Ontario. Approximately 21 million tonnes of this was accumulated in Saskatchewan from the previous 38 years of uranium mining. The average per cent uranium of the ore for all these tailings was less than 1%. In 1992, 9340 tonnes of uranium was mined in Canada and of this 7318 tonnes was exported.¹ As of 31 December 1992 about 900,000 used-fuel elements (approx. 20,000 tonnes) were stored, mostly in Ontario, some in cooling tanks and others above ground in dry storage. No research had been done on the genetic and somatic effects of ionizing radiation on organisms in radionuclide-contaminated lakes or terrestrial organisms in the vicinity of uranium mines.

STATE OF THE INDICATOR IN 2002

Accurate figures are not available yet for 2002 but in 2000 701,560 tonnes of uranium-mine tailings were produced in Saskatchewan, bringing the accumulated total for Canada to 197.2 million tonnes. The high-grade uranium mines in Saskatchewan represent a continued regression from sustainable development because of the huge quantities of alpha-emitting radionuclides released into the tailings. New mines currently coming into production have uniquely high concentrations of uranium between 5-21% which reduce the quantity of tailings but correspondingly greatly increase their content of radioactive waste. 11,250 tonnes of uranium were produced in Saskatchewan.

At the reactor end of the uranium chain, in 2002, approximately 1.8 million fuel elements were accumulated with a projection, based on currently operating reactors, for over 3 million by 2012. Canada has, next to the USA, the largest quantity of high-level spent fuel radioactive waste in the western world - approximately 34,000 tonnes in 2002.²

DESIRABLE STATE OF THE INDICATOR FOR 2012

To progress toward sustainable development, the purpose of the WSSD, the first step is to stop mining high-grade uranium ores until the effects of alpha-radiation on the biota in radium-contaminated areas of the environment have been determined. The genetic and somatic effects of alpha-radiation on biota have not been determined in situ. Uranium mining should be terminated and nuclear reactors shut down. A primary need is to contain all existing radioactive waste and prevent further spread into the biosphere for the foreseeable future. To date no government of any country, including Canada,³ has found a permanent way of safely containing high level nuclear waste.

¹ Federal Government of Canada, Department of Natural Resources

² AECL-1071-COG-93-1.

³ Recommendations of the Nuclear Fuel Waste Management and Disposal Concept Environmental Assessment Panel, 1998.

ACTIONS TO ACHIEVE THE GOAL BY 2012

Educate the Canadian public about reality to counteract the vested interests of the global nuclear industry. Shut down uranium mines and further exploration. Research the effects of alpha-radiation in situ in the already contaminated areas near uranium mines to determine the correct RBE to be used in assessing risk to organisms from exposure. Bring scientists from all countries together to create a global plan for containing radioactive wastes. Ensure no radioactive wastes from other countries can be stored in Canada. Clear up confusion between Provincial and Federal jurisdictions over control of uranium mining and the nuclear industry. Ensure that producers of radioactive waste pay for containment of, and damage by, radioactive wastes. End subsidies to the nuclear industry.

GLOBAL CONTEXT

Canada is the largest exporter of uranium, adding to the global total of radioactive waste. Saskatchewan is the single biggest contributor to alpha-emitting radioactive wastes globally, threatening the biosphere through genetic damage for the foreseeable future. Continuation of the uranium chain anywhere on the globe is a negation of sustainability of the environment.

CLIMATE CHANGE

By John Bennett, Sierra Club of Canada/Climate Action Network

INDICATOR

In 1992 Canada signed the United Nations Framework Convention on Climate Change, and agreed to stabilize greenhouse gas emissions below levels that would cause global climate change. This commitment has three indicators of success. They are: Canada's present emission levels; Canada's efforts to reduce emissions domestically; and Canada's participation in the ongoing international negotiations on climate change.

LOOKING BACK

Canada's emissions in 1990 (the baseline year for emissions reductions set in 1992) from all sources were just under 600 million tons of greenhouse gases. By the turn of the century, Canada's emissions had grown by about 15 percent, which was closer to business as usual projections than to any reduction scenario discussed throughout the decade. The only good news in the emissions numbers was that the economy grew a little faster than emissions, breaking the traditional one to one link between economic growth or Gross Domestic Product and growth in emissions. This was most likely the result of two factors: the recession of the early 1990s caused a major restructuring of Canada's industrial heartland, and increases in energy efficiency.

Canada's efforts to reduce emissions domestically can best be described as sporadic on behalf of senior levels of governments (federal and provincial) and inspiring on behalf of some municipalities and corporations. The federal government appeared to believe that talking and consulting would be the most effective means of reducing emissions throughout the 1990s. In 1998, after accepting the Kyoto Protocol target of 6% below 1990 levels, the federal government convened the "National Process on Climate Change" involving the provinces, industry and NGOS in series of issue tables. In all, over 450 people participated on sixteen tables, producing several hundred recommendations. The exercise had some value but failed to produce a comprehensive plan, largely because some provinces and industry

representatives attempted to use the process to continue the debate over reducing emissions rather than work on reductions. The tables were billed as experts working on solving the problem, but in reality industry did not send experts. Instead, government relations specialists were sent to represent industry interests rather than find solutions.

There were glaring failures in the process. The emissions trading table which should have produced an acceptable method of implementing this important measure (which experts say is the most cost effective means of reducing emissions) failed to agree on a plan, and two years later there is still no agreed-upon plan. Secondly, there was no taxation table, so of the hundreds of recommendations, almost none concern changing the tax system, which is also regarded as an important and efficient method of reducing emissions.

The federal government did produce "Action Plan 2000" which it claims will take Canada about one third of the way to meeting the Kyoto target, but over a year later it has still not produced the details of its analysis of the measures in the plan. It is clear, though, it relied heavily on voluntary action. For example, it claimed significant reductions would take place based on planned discussion with the auto industry to produce more efficient cars. However, before the discussions began, the Bush administration canceled a joint research program of the auto-makers and the US government working on developing efficient internal combustion engines. It was replaced with a fuel cell research program essentially abandoning any consideration of more efficient cars in the short term or within the Kyoto Commitment period 2008-12. Canada has not changed its plan to reflect this change in policy.

On the other hand, about 100 cities have accepted the climate change challenge and are reducing emissions. The City of Toronto recently released a report on its ten year program to reduce emissions. It has achieved a 67% reduction in city operations and an 8% reduction in the city overall. The City of Calgary's light rail system is powered by wind turbines which have replaced coal fired power plants.

GLOBAL CONTEXT

Canada's participation in the ongoing international negotiations on climate change can be described best by referring to the large number of Fossil of the Day Awards it received during negotiations over the years. These awards are presented by the Climate Action Network (some 200-300 environmentalists attending the international negotiations) to countries that display the most climate destructive behaviour in the positions they take and the demands they make. Canada, at every session, was among the winners of these awards. Along with its Umbrella Group partners, Canada sought numerous concessions in the rules (nominally to make the Protocol more market oriented and less expensive to operate). However, the concessions sought (including nuclear power in the Clean Development Mechanism and credit of non-additional sinks among other issues) led to the breakdown of the negotiations in The Hague, and have diminished the environmental integrity of the Protocol. Now Canada's efforts to gain credit for "clean energy exports" of natural gas and hydro electricity to the United States continue to threaten the usefulness of the Protocol.

TARGETS AND STRATEGIES FOR 2012

Regardless of the concessions the Kyoto Protocol remains the most significant and promising international environmental agreement ever negotiated. Canada to fulfill the promises it made on Rio must ratify and implement the Kyoto Protocol.

ENERGY

by Christine Elwell, Canadian Institute for Environmental Law and Policy

The subject of this review is to report on the Canadian government's implementation of Agenda 21 objectives and actions to protect human health and achieve sustainable development by the environmentally sound management of energy resources.¹ What has been done to promote sustainable energy development, energy efficiency and life-cycle costing of current systems? As the Agenda's action plan explains:

"Much of the world's energy is currently produced and consumed in ways that could not be sustained if technology were to remain constant. The control of emissions of greenhouse and other gases will increasingly need to be based on efficiency in energy production, transmission, distribution and consumption, and on growing reliance on new and renewable sources of energy. The existing constraints to increasing the environmentally sound energy supplies need to be removed."(emphasis added)

All relevant government, United Nation, intergovernmental, non governmental organization (NGO) and private sectors were called upon to cooperate and develop environmentally sound energy resources. Integrating energy, environment and economic decision-making is to rest on public environmental impact assessment to identify and implement measures to remove barriers to sustainable energy, including by programs for emissions standards, renewable energy, efficiency and distribution technologies, and consumer labelling on energy products.

Indeed, under the 1997 Kyoto Protocol to the 1992 Climate Change Convention, ratified by 170 countries, Canada committed to reduce greenhouse gas (GHG) emissions to 6% below 1990 levels between 2008 and 2012.² The Convention has significant economic and trade related implications, especially for the oil and gas industry.

It is important to note Agenda 21, Chapter 39 on International Legal Instruments recognized "environmental policies should deal with the root causes of environmental degradation, thus preventing

environmental measures from resulting in unnecessary restrictions to trade". But the text continues: "Domestic measures targeted to achieve certain environmental objectives may need trade measures to render them effective" and notes: "Where conflicts arise they should be appropriately resolved, including by broadening the capacity of the UN system to facilitate and settle international disputes in the field of sustainable development".³ The Rio promise here is to support the development of this new field of law and the measures necessary to implement it and prevail should there be a conflict of laws or obligations.

If the parties to the Kyoto Protocol continue to have implementation difficulties, Agenda 21 would support the right of the UN General Assembly to recognize the United Nations Environmental Program (UNEP) as a specialized UN agency, with capacity to seek Advisory Opinions from the International Court of Justice, as the Assembly and other UN agencies currently enjoy. The new Environmental Chamber of the Court could declare Protocol measures take precedence over conflicting obligations, such as found in the **2001 WTO Doha Declaration** and other trade agreements, presumably after an honest attempt at sustainability impact assessment, under each regime. **The Doha Declaration** has a number of conflicting obligations to the Protocol including: the "carve out" of trade measures to apply only to Parties of an environmental agreement, and the goal of free trade in fossil fuels by the removal of tariffs and other non-tariff barriers, such as government procurement and consumer labelling programs aimed at achieving Kyoto.

But why has addressing climate change been so difficult given the emerging \$500 billion Kyoto world market in emission reduction technologies, an apparent "win-win-win"?

INDICATOR

-Trade and Investment Objectives

Since a good indicator is one that other indicators will depend on, the indicator chosen to measure progress in achieving sustainable energy development is Canadian trade policy. How compatible is it with promoting energy efficiency and green power? Unfortunately continued policy incongruence is apparent when weak performance in Canadian foreign and domestic policy to achieve Agenda 21 and Kyoto targets is compared to the enthusiastic participation in

1 The main focus is on Agenda 21: Section 1: Part 7 Protecting Human Health Programme Area E. Promoting Sustainable Energy and Transport Systems in Human Settlements and, Section 2: Part 9. Protection of the Atmosphere Programme Area B Promoting Sustainable Development 1. Energy Development, Efficiency and Consumption.

2 To meet the Kyoto target requires a 180 Megatonne (Mt) CO₂ equivalent emission reduction from the forecasted level of 760 Mt. Sources of reductions include about 40% from energy efficiency, and 30 % from fuel switching to green power sources, especially in the electricity sector.

3 Agenda 21, Chapter 39, Objectives 39.3, a) and h).

a trade agenda of free trade in fossil fuels, in government procurement and services, together with the removal of trade restricting measures as found in multilateral environmental agreements or labelling programs.

WHERE WE WERE IN 1992

When Canada committed itself to Agenda 21 and the Climate Convention, it already had trade obligations under both the 1947 GATT as well as the 1989 Canada-US Free Trade Agreement (FTA). These trade agreements prohibit the setting of minimum prices for exports and imports of fossil fuels. Chapter 9 of the FTA on Energy went further and prohibited export taxes, licenses or fees on energy products, required proportional sharing with the US of Canadian supplies in the event of domestic restrictions, or until the resource is exhausted and protected government subsidies for oil and gas development from trade disputes.

It is not surprising therefore that from 1990 to 1994 Canada's GHG emissions grew 5.6 percent, far exceeding the OECD average. According to government analysis, more than half of this increase was attributable to export driven growth in the oil and gas industry.⁴

Instead of addressing the root cause of increased GHG emissions, that is undisciplined fossil fuel development, use and export, Canada has continued to rely upon a weak Voluntary Challenge and Registry to meet emission reduction targets. Sporadic funding for R&D into renewables does not replace the need for green power targets - like 20% of primary energy supply by 2012, to achieve Rio goals. Meanwhile government subsidies and tax incentives for GHG intensive energy development proceeds unabated, despite emerging and more lucrative green power markets, with a positive correlation between eco-efficiency and economic performance.⁵

Two years after Rio, Canada signed the 1994 North American Free Trade Agreement (NAFTA) creating a continental market in energy services as well as goods, and transforming electricity into a good rather than (as in the GATT) a service. Adding to FTA obligations, Chapter 6 on Energy prohibited both minimum and maximum import or export prices, subjected energy regulators to the discipline of national treatment and

granted NAFTA investors under Chapter 11 the right to sue governments behind closed doors if a lawful measure is deemed to be "tantamount to expropriation" by unaccountable trade and investment experts.

In Canada, to comply with these NAFTA provisions, the National Energy Board was stripped of its "vital-supply safeguard" powers that required Canada to maintain a 25-year surplus of natural gas. NAFTA export applicants are no longer required to file an export impact assessment.⁶ To not require environmental impact assessment of fossil fuel development in order to satisfy the needs of export energy markets must be an affront to local environmental justice and Rio principles.⁷ The International Court might be asked to speak to appropriate methods of sustainable impact assessment.

STATE OF THE INDICATOR IN 2002

Given this context, it is no surprise that in 2002 Canada's GHG emissions are 15% above the 1990 the Kyoto Protocol baseline and are projected to be 27% above by 2010, 30 % above by 2002 and "in the absence of policy changes" 41% above by 2020.⁸ The majority of all Canadian oil and gas development continues to be exported to the US.⁹ Despite global green power growth of 15% during the 1990s and that investment in green power creates 50% more jobs than by traditional and dirty energy sources, wind and solar technologies account for only 0.2% (or 127 megawatts) of total Canadian electricity generation.¹⁰ Yet according to Royal Dutch Shell, renewable energy sources could supply 50% of the world's energy by 2050.

WHERE ARE WE GOING?

Recall that many of the actions outlined in Agenda 21 to protect the global climate commons and human health are exactly the same initiatives trade objectives seek to eliminate: reducing GHG emissions, fuel switching to renewables and energy efficiency, government procurement, services and consumer labeling programs.¹¹ Whether the forum is the WTO at Doha,¹² NAFTA or the FTA for the Americas - where the 34 heads of state at Québec City specifically removed implementation of the Kyoto Protocol from the 2001 Action Plan - the conflicting obligations of the UN system and global trade regimes require urgent resolution.

4 Rio Report Card, Sierra Club of Canada, 1996, see www.sierraclub.ca/national/Rio.; 5 Canadian Green Budget Coalition, Low-Impact Renewables Strategy, Pembina Institute 2001; 6 1994 NEB Review, GH5-93 and Québec v. Canada [1994] 1 S.C.R. 159 (Hydro Quebec case).; 7 Rio Principle 17 "Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a national authority", see Principle 10 on public participation and access to information.; 8 Canada's Emissions Outlook: An Update, www.nrcan.gc.ca/es/ceo/outlook, p. 42. and Climate Change Position Paper, David Suzuki Foundation, 2000, www.davidsuzuki.org/climate.; 9 As of 1998, Canada produced about 2.1 million barrels per day (b/d) of crude oils and exported 1.5 million b/d to the U.S. and produced 6.1 trillion cubic feet (tcf) per year of natural gas and exported--via established and new pipeline capacity--more than half or 3.3 tcf. Gas exports approached 4 tcf in 2000.; 10 Supra fn. 6.; 11 Among other concerns, pending GATS negotiations to ensure free trade in so far undefined "environmental services" might include providing electricity from incinerator waste or nuclear power and not from green power sources, see An Environmental Impact Assessment of the GATS, Christine Elwell, forthcoming.

We all know action is required to meet Kyoto targets. Yet the 5 year Canadian federal Action Plan to cut GHG emissions by 65 Mt. by 2010 with a government procurement plan to buy 20% of its electricity from green sources, is vulnerable to trade disciplines.¹³

Regulations requiring the production of specific quantities of green power known as a Renewable Portfolio Standard (RPS) or set rates are already in place in the US, the UK and Germany and are currently vulnerable as unacceptably discriminatory.¹⁴ Even though economic modeling by the stakeholder National Climate Change Process showed a modest and cost-effective RPS of 3 to 5 % of total energy could achieve a 10 MT emission reduction of the 80 MT required from the electricity sector by 2010 - except for Québec - no federal or provincial leadership has been shown to implement this common regulatory measure.¹⁵

Any energy price increase related to the federal Action Plan are low when one considers that energy costs are less than 5% of the budget of most consumers, that higher prices would stimulate more energy efficiency technologies and fuel switching to green power and that the costs of inaction on climate change are staggering. The continuing need to internalize the life-cycle costs of fossil fuel production, including for export, is apparent. A fair sustainability impact assessment of all current and proposed trade agreements is the first step to achieve the Rio promise of sustainable energy development.

GLOBAL CONTEXT

Canada's current path of unbalanced export led growth in fossil fuel development and consequent GHG emissions is seen as contributing to Kyoto's possible collapse or as undermining the agreement in the case of inaction despite ratification. The negotiators of free trade in fossil fuels and the removal of trade restrictions have failed to consider the negative aspects when there is no minimum floor of environmental protection associated with trade liberalization. While it has been suggested that the trade regimes are beginning to take into account environmental protection and sustainable development, the truth remains that the agreements and the disputes continue to undermine both domestic and global environmental efforts. According to Agenda 21 these barriers must be removed.

Canada should support a campaign to have the UN General Assembly and/or a reconstituted UNEP seek an opinion from the International Court of Justice on how to proceed with a public sustainability impact assessment of the apparently conflicting obligations under the Kyoto Protocol and the WTO agreements.

TRANSPORTATION

By Kevin Washbrook, Better Environmentally Sound Transportation

TRANSPORTATION SUSTAINABILITY INDICATOR: Transit trips per capita

RATIONALE

The trend in transit trips per capita is an important outcome indicator for transportation sustainability because it provides some indication of the extent to which individuals are choosing alternatives to the automobile that are less polluting and energy intensive, and more equitable and economically viable. A more complete picture of trends in transportation sustainability would require comparison of several indicators; however, trends in transit trips per capita can be used to infer both the effectiveness of policies which aim to increase the availability and use of alternatives to the automobile, and the willingness of individuals to take personal responsibility for sustainability.

TRENDS 1990-2000

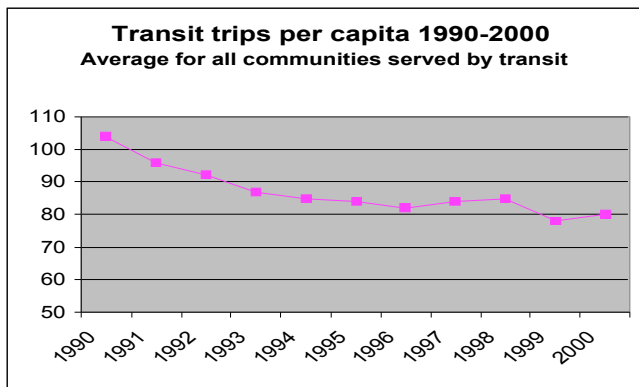
The current trend for this indicator is not promising. As the figure below shows, average transit trips per capita in Canada declined steadily from 1990 to mid decade, and have remained relatively stable since then, for a total decline over the decade of 23 percent. Given that the trend in total trips per capita is increasing, this indicates that transit's share of total trips fell and that, for the most part, use of the automobile became more widespread in the 1990's.

While per capita transit trips have also declined in the United States since 1990, the rate of decline has been less than that in Canada.¹ There are many reasons why transit usage has declined over the last decade.²

13 Carbon sequestration in the agriculture and forests would account for an additional 20%, with another 25% is expected from Kyoto mechanisms, including that of emissions trading.
14 See North American Commission for Environmental Cooperation, Article 13 report on Electricity Restructuring, http://www.cec.org/programs_projects/other_initiatives/electricity/

15 Electricity Industry Issues Table, Options Paper, 1999, p. 73, www.nccp.org

1 A. Perl and J. Pucher, Transit in Trouble? Cited in Tax Exempt Status for Employer-provided Transit Benefits. IBI Group, report to the Transportation Table of the National Climate Change Process, 1999.



These include:

- continuing high investment in infrastructure to serve private automobiles;
- provision of free or inexpensive parking in city centres;
- continuing development of low density, automobile-dependent suburban communities;
- dispersion of employment from high density urban centres to low density suburban business parks;
- decreasing cost of owning and operating private vehicles;
- aging populations with a preference for the automobile;
- declining investment in transit infrastructure and declining government funding for transit service operation;
- declining levels of transit service and increasing cost of transit fares;
- declining bus travel time performance due to increasing congestion on roads; and
- increasing cost of transit service provision due to expansion of service into low density suburbs.

On a more positive note, in some urban centres where the mix of jobs, housing and shopping have improved, transit usage has gone down because more people are walking and riding bikes. Generally speaking, however, neighbourhoods that are pedestrian and bicycle friendly are also transit friendly, and the three modes are complimentary rather than competitive.

WHERE WE ARE GOING FOR 2012?

SETTING A NATIONAL TARGET FOR TRANSIT TRIPS PER CAPITA

Reversing the decline in transit trips per capita will not be easy, considering the many ways in which society has become dependent on the automobile for access, and the extent to which we associate car use with mobility, freedom and independence. In Canada, delivery of transit programs and services has largely been a regional and municipal responsibility with different levels of provincial funding for operating and capital costs; the federal government has not played an active role in funding urban transit systems or setting transit ridership goals. Increasing transit trips per capita will be the responsibility of local and provincial governments, which will need to develop their own solutions to the interrelated problems of removing subsidies for the automobile, investing in improving transit services, and developing land use policies that attract and sustain use of sustainable transportation alternatives and discourage auto use. In some areas, such as low density suburbs better served by carpools, or walk and bike friendly city centres, increasing transit ridership may not be the most important transportation sustainability target to aim for; nonetheless, for most of urban Canada, increases in transit ridership will be a positive transportation outcome.

A challenging but achievable national target for average transit trips per capita would be 156 rides per person per year by 2012. This represents a 50 percent increase over per capita ridership in 1990, and is equivalent to taking transit three times a week.

ACTIONS REQUIRED AT THE NATIONAL LEVEL

1. Federal funding for urban transit services

The action most urgently required at the national level is the establishment of stable long term federal funding for urban transportation. Such action will help to eliminate the budget shortfalls facing urban transit systems, which are estimated reach almost seven billion dollars by 2006.³ Currently, Canada is the only G7 country that does not provide substantial transit funding at the federal level.⁴ In the 2001 Speech from the Throne, the Government of Canada outlined its commitment to cooperate with provincial and

² Sources: IBI group *ibid*, H. Kohn Factors Affecting Urban Transit Ridership (Statistics Canada 53F0003-XIE), J. Pucher "Back on Track. Eight Steps to Rejuvenate Public Transport in Canada" in *Alternatives* 24(1): 26-34

³ Issue paper 1. Investing in Transit: Canada at the Crossroads. Canadian Urban Transit Association.

⁴ Issue paper 1. *ibid*

municipal partners to help improve urban transit infrastructure. Also, a review panel reporting on possible changes to the Canada Transportation Act proposed “unprecedented federal action and funding” for urban transit. Other federal review process which may have results for transit are also underway, but so far few concrete actions have been taken in this area beyond showcasing new technology.

The Canadian Urban Transit Association has estimated that a commitment of two cents per litre from the federal fuel excise tax would provide a billion dollars per year that could be used for investment in transit system expansion and replacement of aging equipment.⁵ This would eliminate transit system budget shortfalls over time and, combined with substantial and stable funding from the provinces, would put Canadian municipalities in a position to provide expanded, high quality transit services as an alternative to the automobile. Federal funding could be used by regions and municipalities to develop a wide variety of transit-supporting infrastructure, including rapid transit guideways, stations, and vehicles; express bus traffic signal priority technology, priority lanes at bridge and highway on ramps, and curb bulges and shelters at stops; bicycle racks on buses and trains; and bicycle storage facilities at transit stops and stations. Such actions will help to reverse declines in transit trips per capita and put Canada on the path to a more sustainable transportation system.

2. Tax-exemption for employer-provided transit benefits

A second action that can be taken at the national level is for the federal government to change the Income Tax Act to make employer-provided transit benefits (such as transit passes) tax-exempt. Research estimates that providing this tax exemption could increase transit use from 11 to 35 percent in 10 years,⁶ which would go a long way to reversing the decline in transit ridership per capita seen in the 1990’s.

CANADA IN THE GLOBAL CONTEXT

Canada is the only G7 country without substantial federal funding for urban transit. In comparison, the United States federal government provides US \$7 billion dollars per year to state and municipal governments for transit investment.⁷ The US also allows tax-exempt transit benefits. Given these differences, it is not surprising that in the 1990’s transit ridership per capita declined faster in Canada than in the United States. Canada has proposed a set of Sustainable Transportation Principles to be used as a starting point in development of a sustainable transportation annex to Agenda 21. These principles, which include access, equity, individual and community responsibility, integrated planning, and pollution prevention, directly support the goal of increasing transit trips per capita by establishing stable federal transit funding and providing a federal tax exemption for employer provided transit passes.⁸

5 Issue paper 1, *ibid*.

6 Fact Sheet February 2002. Employer-provided tax-exempt transit Benefits. Canadian Urban Transit Association.

7 Issue paper 1, *ibid*.

8 Sustainable Transportation. Environment Canada and Transport Canada 1997. Ottawa: Canada Sustainable Transportation Monograph 2

SECTION 3: STRENGTHENING MAJOR GROUPS



A WOMEN'S PLACE IS IN DECISION MAKING: GENDER, GOVERNANCE AND THE IMPLEMENTATION OF AGENDA 21.

By Zonny Woods, Action Canada for Population and Development

INDICATOR: Number of women in decision making

WHAT AGENDA 21 SAID ABOUT WOMEN IN DECISION MAKING

Chapter 24 of Agenda 21 acknowledged the importance of the involvement of women in decision making for the successful implementation of Agenda 21. Before and after 1992, many other United Nations (UN) documents had stressed the same point, including the 1985 Nairobi Forward-looking Strategies for the Advancement of Women (FLS). Chapter 24 of Agenda 21 called for national governments to not only implement the Nairobi FLS but to pay particular attention to women's participation in national ecosystem management and control of environment degradation; and increase the proportion of women decision makers, planners, technical advisers, managers and extension workers in environment and development fields. Specifically Chapter 24 called for governments to take "Measures to review policies and establish plans to increase the proportion of women involved as decision makers, planners, managers, scientists and technical advisers in the design, development and implementation of policies and programmes for sustainable development." At the United Nations Fourth World Conference on Women (Beijing 1995), the importance of the involvement of women in decision-making was once again reiterated by the international community, setting a goal of 30 percent of women in national decision making positions. In 1995 Canada formulated a national plan for the advancement of women, both within its own borders and globally titled: Setting the Stage for the Next Century: The Federal Plan for Gender Equality (1995-2000). The Federal Plan is both a statement of commitments and a framework for the Future, linked to

the twelve critical areas outlined in the Platform for Action (PFA) from Beijing conference, and included a section on the incorporation of women's perspectives in governance.

CANADA IN 2002

In 2002, women constitute only 20.6% of Canadian members of Parliament. Women's representation in politics in Canada has been increasing since the 1980s, when women represented only five percent of federal members of Parliament. In 1998 women comprised 19.9%, of the elected members in the federal House of Commons. As of April 1999, there were nine female Cabinet Ministers. In April 2002, that number is down to two.

Beyond the numbers of women in elected office, it is a bit more difficult to monitor the number of women involved in other levels of decision-making. Since Rio, Canadian women have made some advances in numbers and influence in political, economic and social decision-making, however, these advances have been hampered by massive cuts to social services and equality seeking women's groups. At all levels, it has become increasingly difficult for Canadian women's groups to respond to new policy initiatives and make their voices heard given their limited financial and human resources. While the Canadian government often engages in consultation processes with civil society, women are increasingly absent from these activities as a result of the limited resources available for them to engage in this work.

The Government has stated that "Canada is committed to including women's perspectives on achieving sustainable development."¹ In fact, Canada's ability to enact and enforce environmental and health protection laws are restricted by two forces: international trade agreements and the increasing "cost-recovery" system of turning health research and quality control over to private business with financial interests in the outcomes.²

Women remain under-represented in decision-making positions, especially at senior levels in the public and private sectors. In addition there is a low participation rate of women in science and technology and women remain a minority among professionals working in such fields as the natural sciences, engineering and mathematics.

1 Status of Women Canada 1999: 65

2 http://fafia.org/Bplus5/sideg_e.htm#economic

Globally, according to the Interparliamentary Union, Canada ranks 30 out of 189 countries. Sweden is at the top, with 42.7 percent of women in parliament. According to a report by the Women's Environment and Development Organization:

"Governments have pledged, in a number of international agreements, to ensure that women's empowerment and gender equity is made a priority. The UN has designated 30 percent as the 'critical mass' required to maintain the impetus to truly equal, 50/50, representation. Some countries have reported progress, but measurable data on governmental efforts to increase the proportion of women in decision-making on sustainable development is quite limited. The general lack of gender-disaggregated data does not allow for adequate assessments".

Women's increased participation in decision making will require a better understanding, at all levels, of the barriers that hinder their participation. Gender analysis and the collection of appropriate indicators are important tools that can provide the accurate information, highlight barriers and assist in proposing policy alternatives for overcoming barriers to the participation of women. The Gender Empowerment Measure (GEM)³ is useful when assessing the degree by which men and women are able to participate in economic and political life. It measures, for example: seats in parliament held by women; the proportion of women in management; technical and professional workers and a women's share of earned income.⁴

Women cannot become involved in decision-making in equal proportions to men when they remain primarily responsible for child-rearing, when they are economically disadvantaged by their care giving role, and when they have fewer economic resources to run for office. It is not just a matter of changing attitudes, it is a matter of changing underlying structures which keep women poor.⁵

TARGETS AND STRATEGIES FOR 2012

Canada and the international community have set targets for the involvement of women in decision making. The political participation and representation of women is essential to achieve the ends of Agenda 21 and the outcomes of the WSSD in Johannesburg.

During the negotiations leading up to the WSSD, Canada has played an important role in promoting the incorporation of gender and a rights-based approach throughout the document. This is significant given the that the current political trend, led by the United States, the Holy See and Sudan, is to roll back international commitments to gender equality from the UN Conferences of the 1990s. It is important that Canada continues to demonstrate leadership in this area.

While the underrepresentation of women in decision making is the result of many complex factors there are a number of strategies that can be adopted to "correct the balance" In 1991 the Royal Commission on Electoral Reform and Party Finances recommended that incentives be provided via the election expenses reimbursement system to encourage parties to elect more women.⁶ Adopting this recommendation would certainly be a step in the right direction.

³ <http://www.socwatch.org.uy/indicators>

⁴ Thais Corral and Pamela Ransom, "Women and Information for Participation and Decision Making in Sustainable Development in Developing Countries.", WEDO, January 2001

⁵ http://fafia.org/Bplus5/sideg_e.htm#economic

⁶ FAFIA, "Alternative Report on Canada: Prepared for the Special Session of the United Nations General Assembly June 2000 to review progress in implementing the Beijing Platform for Action", June 2000

STRENGTHENING MAJOR GROUPS: YOUTH¹

By Clarisse Kehler Siebert and Lindsay Cole, Youth Summit Team

“Youth comprise nearly 30 percent of the world’s population. The involvement of today’s youth in environment and development decision-making and in the implementation of programmes is critical to the long-term success of Agenda 21.” Agenda 21, 25.1

INDICATOR

At the Rio Earth Summit in 1992, Canada agreed to a series of commitments relating to United Nations Major Groups. Chapter 25 of Agenda 21 is concerned with the Major Group of children and youth. This chapter deals with children and youth issues of that time, including employment, equitable access to education, capacity-building for participation in decision-making processes and others. For the youth participants involved in the Rio conference, this was an important victory in international sustainable development initiatives. It was a formal opening created for the input of youth perspectives into the complex world of international politics. For this reason, **youth engagement in decision-making** will be used as the indicator to measure the strengthening of “youth” as a major group. This will be measured by assessing federal departments’ commitments to:

- promote youth engagement
- create youth consultation strategies on legislative, policy and programming issues, and
- have task forces or committees on sustainable development and youth members on sustainable development-related advisory committees

STATE OF THE INDICATOR IN 1992

It is no coincidence that Chapter 25 made youth inclusion in decision-making a primary focus. In Canada as in other countries, mechanisms for youth inclusion were virtually non-existent at the time. On matters of sustainable development, this was recognized as

particularly paradoxical, as youth should have a vested interest in sustainable development. The “without compromising the needs of future generations” clause of the Brundtland Report’s definition of sustainable development is particularly poignant for the Major Group comprised of youth.

CURRENT STATE OF THE INDICATOR

Canada has outwardly promoted ideas of incorporating youth into policy- and decision-making processes at both the national and international levels. One of the most recent examples was at the 21st session of the United Nations Environment Programme Governing Council where Canada led the way in passing a decision on youth engagement in decision-making in UNEP. There is some concern, however, that while youth are being consulted and given opportunity to participate, space has not been created to engage in decision-making processes, and many departments have yet to bring youth perspectives into their policy and decision-making work. **Table 1** (following) defines the distinction between “participation” and “engagement”.

To assess the current state of youth engagement in decision- and policy-making, in November 2001, members of the Canadian Youth Summit Team investigated the main departments within the federal government. Two departments in particular presented positive results. Environment Canada (EC) houses the National Youth Round Table on the Environment. The group of approximately 15 young people from across Canada is selected by EC staff each year, to meet several times each year to comment on EC programs and work plan, as well as develop their own action items. EC also includes an official youth delegate on their delegations to the UN Commission on Sustainable Development, and has a full-time staff person dedicated to youth outreach programs.

The Canadian Centre on Foreign Policy division of the Department of Foreign Affairs and International Trade (DFAIT) has as one of its funding criteria, that all projects involve youth. DFAIT is pushing to develop a youth component in every department.

In preparations for the World Summit on Sustainable Development, the Canadian WSSD Secretariat has been instrumental in supporting the

¹ The information and research in this chapter is based on the Canadian Youth Summit Team position paper on “Youth Engagement in Decision-Making” (December 2001). It is available at <http://www.youth2002jeunesse.unac.org>

Canadian youth preparatory process through funding, and asking a youth to sit on the Reference Group mandated to prepare Canada's National Report for WSSD. This is a good indication that youth engagement - in some departments - is improving. Other departments that have strong ties to Canada's ability to progress towards sustainability - notably industry and finance - have shown very little commitment to youth engagement in their decision-making processes.

TARGET FOR 2012

The 1992 Rio UN Conference on Environment and Development established infrastructure and made commitments on sustainable development issues through Agenda 21 and the Rio Declarations. A focus of WSSD must be the implementation of these commitments. To implement Rio commitments specific to youth, Canada must take incremental steps to establish youth engagement strategies in all federal Departments by the year 2012. Strategies and mechanisms for youth engagement should be mandated at the provincial and territorial levels, and at the municipal level through the Federation of Canadian Municipalities and provincial/territorial departments of municipal affairs.

NECESSARY ACTIONS

The following are some suggestions from the Canadian youth community on how they might better be engaged in decision- and policy-making processes domestically:

- Each department should create a youth engagement strategy and implementation plan. This strategy could include: establishment of Youth Round Tables similar to that of Environment Canada, inclusion of youth on delegations sent to bilateral and multilateral meetings, description of how youth perspectives on policy issues will be gathered and used. Meaningful employment opportunities for young people in the civil service as well as internship opportunities could be described in this strategy and implementation plan as well for a more complete picture of departmental youth engagement. Each department should create permanent, competitively waged positions for young people where they will develop outreach, education and engagement programs designed to link their peers to specific departmental activities.

- The Canadian government should establish a central, coordinating body to engage youth in national policy and decision-making work. A great potential home for this body would be in the Privy Council Office. This body would be responsible for soliciting and reporting on youth perspectives on key policy issues of concern to the youth community, as well as perspectives on policy work currently underway in the Federal government. A focus should be on long-term engagement and capacity- and relationship-building rather than time and issue specific short-term 'consultations.'

- A space should be created for youth input into the work of the Commissioner on Environment and Sustainable Development. This is particularly important in the context of the upcoming WSSD. The CESD is responsible for holding the federal government responsible for their sustainable development commitments, and youth need to be at this table making sure our perspectives are heard.

- The office of the Secretary of State for Children and Youth Affairs needs to be expanded. It should be staffed with young people, and have sub-departments to address particular issues of concern to youth, like sustainable development. The mandate, resources and capacity of this department must be expanded in order to truly reflect the values of Canadian youth.

- The mechanisms by which the Senator on Youth Affairs outreaches to the youth community needs to be improved. This person is an important information conduit between the youth of Canada and the Prime Minister, and the role is not currently effective.

- More resources for youth initiative must be made available by the federal government, to promote capacity building of youth organizations.

- The new websites for youth being developed by the federal government need to be improved. These sites should allow for substantive contribution of youth on policy issues and other issues of concern. The government must then be held accountable to youth using the site to act on their concerns and report back on their activities.

TIMELINE

- Prime Minister to commit to attend WSSD - post Prep Comm III (April 2002)
- Announcement of a youth engagement strategy at WSSD - August 2002
- Youth engagement to be built into next departmental Sustainable Development strategies (2004), with broad consultation of the youth community
- Establishment of FCM/ICLEI partnerships - ongoing
- Longer term (2004,2005) provincial efforts to engage youth
- 2007 review of what has happened and report back to the international community at WSSD + 5

CANADA IN THE GLOBAL CONTEXT

Compared to other countries, Canada is progressive in terms of including youth in sustainable development processes. At CSD 10, serving as the third Preparatory Committee for WSSD, Canada was one of six countries to have a youth on their official delegation. There are still several other countries that do better than us regarding actual engagement. In countries with state Youth Councils, such as Australia, Sweden, the Netherlands and Denmark, the substantive contributions youth are able to make in relation to government positions is much greater. Further, Canada's good record is limited to environment. Other areas like trade, international development, finance, education and industry, all integral to achieving sustainable development, have a long way to go.

Table 1. Participation vs. Engagement in Decision- and Policy-making

Characteristic	Participation	Engagement
Description of those involved	"Participants" who are invited to participate in an already defined process	"Partners" who decide how they want to be engaged
Time for preparation/comment	Short	Sufficient to meet needs of all partners
Resources supplied for involvement	None/few	More, depending on needs. Greater degree of access to information.
Respect for diversity	Insufficient time/attention paid to this issue, thus often only a few perspectives (like active lobby organizations) are represented. This means that the youth perspective is often forgotten.	This is recognized as vital to the process, and considered a requirement. For us, for youth, by-youth driven initiatives work best.
Nature of relationship between government and others involved	Short-term/one time, no follow up done, no relationship or trust built.	Relationship is nurtured and trust built throughout the process, involvement occurs over a lengthier time period thus follow-up is required.
Nature of input	Limited to commenting on already developed documents, positions, papers, etc.	Involved in the original shaping of the document, position or paper.
Accountability	None. There is often no information given on how comments received during the consultation will be reflected in the work being done. No mechanism in place for follow-up.	Necessary. Process must be transparent and accountable throughout the process. Partners must be able to see their views reflected in the work.
Flexibility	Very little. Process is often rigid, comments and participation limited to specific formats, times, and mechanisms.	The ultimate goal of engagement is to get a clear picture of the perspectives of partners, thus flexibility is required as much as is demanded by partners.
*Accessibility	Often limited to those who know the right people, who understand political/issue jargon and have an intimate knowledge of what's being discussed, and who can jump through the hoops set out for them	Open to all with an interest/concern with the issue of discussion. Everyone is given a safe space to actively become engaged.
Who are the ultimate decision-makers?	For most government consultation processes, it is government representatives (or a single government minister) that have the last say.	This model requires diversity and representation in the decision-making body as well as in those involved in the process throughout.

STRENGTHENING MAJOR GROUPS— ABORIGINAL PEOPLES

By Karen Wristen, Canadian Arctic Resources Committee

INDICATOR

Agenda 21 contains numerous objectives for strengthening aboriginal communities and their ability to participate in land and resource development decisions. Most of these objectives by far defy quantitative assessment, either because of their nature or because of the absence of records relative to the objective. I have chosen the following commitment as an indicator, because our progress on this one will leverage our ability to meet the balance of objectives for aboriginal communities:

Establishment of a process to empower indigenous people and their communities through measures that include:

- Adoption or strengthening of appropriate policies and/or legal instruments at the national level;
- Recognition that the lands of indigenous people and their communities should be protected from activities that are environmentally unsound or that the indigenous people concerned consider to be socially and culturally inappropriate.

STATE OF THE INDICATOR IN 1992

While it is difficult to generalize about this indicator, given the diverse relationships between the federal government and Canada's aboriginal peoples, it is fair to say that in 1992, there was little apparent recognition of the principles set out above. Most decision-making concerning the fate of Crown lands subject to aboriginal title claims was undertaken by the federal, Territorial or provincial governments, often with little or no consultation with aboriginal people. Reserve lands were similarly administered, with critical decisions concerning the use and disposition of lands often being made without complete understanding of the facts or the long-term interests of the aboriginal population in question. Environmental assessment did

not formally recognize the need for consultation at the political level on development decisions.

STATE OF THE INDICATOR IN 2002

Some progress has been made on these issues and is worthy of note. For example, the Arctic Environmental Strategy, initiated in 1991 by the Department of Indian and Northern Affairs, has proved hugely successful in addressing pressing issues of toxic contaminants. The AES may well be credited with the leading role Canada played in the successful conclusion of the Stockholm Convention on Persistent Organic Pollutants. The Strategy fully involved five aboriginal peoples; it was well funded and its goals were clearly laid out. It worked co-operatively with circumpolar partners. While it remains to be seen whether or not that success can be brought to ground through the implementation of the Stockholm Convention, it is clear that the partnership approach developed on the contaminants issue as part of the Strategy itself is a model worth replication.

Progress has also been achieved on the treaty-making front, though progress is slow and complicated by the provincial interests at stake. Substantial guidance and direction has been given by the Supreme Court of Canada since 1991, confirming, for example, the existence of aboriginal title in British Columbia and the duty to consult meaningfully before taking decisions that may affect aboriginal title.

We remain far short of effective recognition that aboriginal lands should be protected from development that is environmentally unsound or socio-economically undesirable, however. In order to achieve this, it would be necessary to have in place the following:

- Processes to permit effective participation of aboriginal people in land use decisions
- Funding to ensure participation can be meaningful
- Plans and policies to govern the making of land use decisions
- Baseline data to permit effective assessment of development proposals
- Monitoring and enforcement programmes to ensure compliance with permit conditions

Commitments of this nature are constitutionally enshrined in some treaties; yet the government of Canada is far behind in its ability to deliver on them. For example:

- there are no approved land use plans in the Yukon or NWT, or in parts of Nunavut;
- such plans as exist do not contain protected areas or zoning to control development;
- the Cumulative Impact Monitoring Programme, part of the Gwich'in and Sahtu comprehensive land claims agreements, is fully five years behind schedule and to date has not even developed indicators for monitoring;
- the development assessment process under the Yukon Umbrella Final Agreement is years behind schedule and there are no legislated provisions for intervenor funding as part of environmental assessment for the NWT and Nunavut;
- the free entry mineral rights disposition for federal lands in Yukon, NWT and Nunavut continues in place leading to land and resource use conflicts.

The situation is far more complex in the non-treaty lands of British Columbia and Alberta, where land use decisions are made by the provincial governments. Recognition of even the basic duty of meaningful consultation has been painfully slow to come. The provinces continue to refuse to acknowledge the existence of aboriginal title attached to any particular

territory, insisting that acknowledgment will only be achieved by the conclusion of a treaty or by order of a court. This means that land use decisions continue to be made against the wishes of First Nations and often in derogation of their constitutionally protected rights.

DESIRABLE STATE OF THE INDICATOR IN 2012

It is probably unrealistic, given the involvement of the provinces and the progress of the Treaty Process to date, to expect that within 10 years the federal government will be able to achieve the conclusion of legal instruments resolving the outstanding land claims and sovereignty claims in Canada. Therefore, it is suggested that the most effective way for the federal government to achieve the objectives of Agenda 21, without compromising further its constitutional obligations to Canada's aboriginal peoples, would be to concentrate resources on attaining agreements in principle and joint management agreements that permit effective aboriginal veto over land use decisions in their territories pending the conclusion of final agreements and treaties.

RECOMMENDED COURSES OF ACTION

- Maintain and increase funding to treaty and joint-management processes;
- Work with any of a number of successful models of co-management to establish effective decision-making bodies to govern lands subject to aboriginal title or claims of sovereignty;
- Focus resources on the development of policy and higher-level plans to govern regional development;
- Fund the research, monitoring and enforcement necessary to ensure that development does not further degrade the environment; and
- Capacity building to ensure Aboriginal people have the tools required to effectively participate in land use decision-making.

THE VITALITY OF CANADA'S VOLUNTARY SECTOR/NGOS

Jointly prepared by: Stephane Bordeleau, Société Parkinson du Québec, Grace Burns, ALS Society; Lara Ellis, Canadian Nature Federation; Marlo Raynolds, Pembina Institute for Appropriate Development; Paula Speevak-Sladowski, Volunteer Canada; Bernard Voyer, Taoist Tai Chi Society.

The Canadian voluntary sector is comprised of 77,000 registered charities, 100,000 legally incorporated non-profits and an estimated 886,000 grass-roots organizations across the country. Created and governed by caring citizens, they are vastly different in both size and structure and include large multi-service agencies with unionized staff, small collectives, community organizations with highly specialized professionals, and ad-hoc groups of like-minded people. Some have a national, provincial, or regional scope, while most have local community mandates.

According to the **2000 National Survey on Giving, Volunteering and Participating**, of Canadians over 15 years of age, 27% volunteer their time (a total of 6.5 million people) 91% make donations (a total of 22 million people), and eight out of ten Canadians participate in at least one organization. Close to two million Canadians have paid employment in the voluntary sector and more and more colleges and universities are offering specialized programs for voluntary sector leaders, managers and practitioners.

Dynamic and diverse, the voluntary sector in Canada collectively provides services and programs to all ages aimed at improving the quality of life of its citizens in:

Human rights	Education
Environmental protection	Heritage preservation
International development	Faith and spirituality
Health and social services	Philanthropy
Arts and culture	Sports and recreation

Many organizations within these sub-sectors fall within provincial jurisdiction in terms of funding, legislation, and professional regulatory bodies. While there are long-standing coalitions, networks, and

associations within these sub-sectors, we are only now beginning to see the emergence of broader voluntary sector coalitions, chambers, councils, and civic forums. This movement to build **cohesion in the broader voluntary sector** is motivated by a collective will to have greater input into public policy, build the capacity of the sector, raise the profile of the sector, and promote collaboration and partnerships within the sector.

On December 5, 2001, the Government of Canada signed an Accord with the Canadian Voluntary Sector recognizing the complementary roles the public and voluntary sector play in building civil society. The Conference Board of Canada and the Canadian Centre for Philanthropy have conducted research and are championing Corporate Social Responsibility and promoting corporate and voluntary sector relationships. More than ever, the voluntary sector is being acknowledged for the critical role it plays in promoting sustainable communities along with its public and private partners.

VOLUNTEERISM AS A MEASURE OF CIVIL SOCIETY

The rate of volunteering is one measure of civil society and considered by some as a key indicator of the overall vitality of the voluntary sector. This indicator was selected because the data is current and available and not because it has widespread acceptance as the definitive measure of the strength of the voluntary sector. Various levels of government as well as the academic community have recognized the value of research on the voluntary sector. Several important research projects are now underway and cover areas such as funding mechanisms, human resource practices, the scope of the voluntary sector, typography of voluntary organizations, social justice and grantmaking, and voluntary sector collaboration.

Over the years, there have been some interesting shifts in the rate and type of volunteering that Canadians do. In 1997, 31% of Canadians volunteered an average of 149 hours per year yet in 2000, only 27% volunteered but they contributed an average of 163 hours. Less people volunteering more time is also reflected in the worrisome statistic that 6.3% of volunteers contribute 78% of the volunteer hours.

VOLUNTEER RATE				
	1992 Estimate	1997	2000	2012 Target
Volunteer Hours given during the year / per capita	45 hours / year per capita	46 hours / year per capita	44 hours /year per capita	52 hours /year per capita
Percentage of People over the Age of 15 who volunteer	30%	31%	27%	34%

CHALLENGES OF USING VOLUNTEER RATE AS AN INDICATOR

First, there is some disagreement about what is counted as both formal and informal volunteering particularly in rural settings, and cultural communities. Second, while the number of people volunteering has dropped, the level of giving and participating (i.e. membership, affiliation, monetary donations - not shown in above table) has increased. So even though the volunteer rate has declined, it would seem that the overall level of **citizen engagement** is increasing.

To bring about systemic change, some Canadian and international NGOs believe that the two streams of voluntary sector activity - direct service to alleviate suffering and advocacy to influence public policy - need to work more effectively together. The complexities of the Canadian federated state system as well as the organization and cohesion of the broader voluntary sector being in early development create unique challenges to relationship between government and the voluntary sector.

TRENDS AND STRATEGIES TOWARDS REACHING THE 2012 TARGET

In response to the changing nature of work (e.g. fewer permanent jobs and services; more contracts and projects) the sector is challenged to create short-term volunteer assignments rather than long-term volunteer positions. Mobilizing workplace-supported volunteers and collaborating with the private sector on their corporate social responsibility initiatives is a growing trend for the voluntary sector and one that has the potential to positively impact the volunteer rate. Voluntary organizations are also faced with a growing number of mandatory community service programs

(e.g. high-school programs, court-ordered service, social assistance / “workfare” programs) and there is a need to explore the philosophical and practical implications of this type of participation.

HOW DOES THE CANADIAN VOLUNTARY SECTOR CONTRIBUTE TO SUSTAINABLE COMMUNITIES IN A GLOBAL SOCIETY?

The authors of this report are students of the McGill-McConnell Program (Master of Management for National Voluntary Sector Leaders). The “Global Sustainability” group has produced a report on a number of voluntary sector case studies of different models of collaboration developed to increase sustainability. It also identifies other indicators of voluntary sector vitality. The report will become available on the web.

Sources:

National Survey on Volunteering (Statistics Canada, 1987), National Survey on Giving Volunteering and Participating (Statistics Canada, The Canadian Centre for Philanthropy, Volunteer Canada, Human Resource Development Canada, and Heritage Canada 1997, 2000), A Portrait of Canadian Charities (National Voluntary Organizations 1994), The State of Voluntary Sector Research in Canada (Canadian Centre for Philanthropy 2000), Attitudes of Canadians on Charities (Muttart Foundation 2001), Canadian Centre for Philanthropy Web-site (www.nonprofitscan.org February 2002).

LOCAL AUTHORITIES

By Nola-Kate Seymoar, International Centre for Sustainable Cities

INDICATOR: Implementation of Local Agenda 21 (LA21)

RATIONALE FOR INDICATOR

According to Secretary General, Nitin Dessai there are three areas of focus for the World Summit for Sustainable Development (WSSD): implementation, partnerships and rebuilding political commitments. While implementation of Agenda 21 on a national level has fallen short of expectations, in Canada, successes have been achieved at the local level. Chapter 28 of Agenda 21 stipulates that “by 1996, most local authorities in each country should have undertaken a consultative process with their population and achieved a consensus on a local Agenda 21 for their communities.” The International Council for Local Environmental Improvements (ICLEI) was the original author of Chapter 28 and serves, along with partners representing elected officials, as the focal point for gathering international data on progress at the local government level. ICLEI has published the results of two international surveys of progress on Local Agenda 21 (LA21), in 1997 and in 2002. ICLEI defined LA21 as “a participatory, multi-stakeholder process to achieve the goals of Agenda 21 at the local level through the preparation and implementation of a long term strategic plan that addresses priority local sustainable development concerns.”

Local Agenda 21 processes are characterized as including the following milestones that are to be achieved through a participatory process:

1. Establishment of a multi-stakeholder group to oversee the LA21 process.
2. Completion of a local sustainability audit
3. Completion of a sustainability community vision, based on the audit and an assessment of community priorities
4. Implementation of an LA21 action plan, identifying clear goals, priorities, measurable targets, roles and responsibilities, funding sources and work activities
5. Establishment of community based monitoring of progress using local indicators.

WHERE CANADA WAS AT IN 1992

Local government was part of the Canadian delegation in Rio, and Canada benefited from the fact that ICLEI was headquartered in Toronto. As the concept of LA21 was born at Rio, no cities had yet formally adopted such a plan, but there was a clear expectation that Canada would make significant progress on this chapter.

WHERE WE ARE AT IN 2002

According to ICLEI’s recent survey Canada has 14 cities that are well along in implementing LA21. Of these, two - Hamilton/Wentworth, and the Greater Vancouver Regional District (GVRD) have received world wide recognition for their long term strategies. Canada however, is far behind most European countries. In order to explain Canada’s poor showing on this indicator it is important to consider whether it is a definitional problem or truly represents a lack of action. In the author’s opinion it is both.

The GVRD, for example, has a well developed Livable Region Strategic Plan that encompasses all of the LA21 measures and represents 22 local authorities, not just one. The Federation of Canadian Municipalities (FCM) started a climate change action program called the 20% club that later merged with ICLEI’s world wide “Cities for Climate Protection” campaign and became known as Partners for Climate Protection (PCP). 91 Cities, representing about 60% of Canada’s population, are active participants in the program. One third of the membership represents mostly small and rural communities. This program is based on multi-stakeholder participatory processes and FCM/ICLEI are pushing the communities to broaden their involvement and embrace a larger LA21 or LA21+ type approach. In Manitoba, close to 80 Community Round Tables along with a strong provincial Round Table were developed with the support of the Provincial Government. Their efforts have been shifting in focus over the past few years from economic development to environmental and social well-being. The roundtables have a broad mandate and use multi-stakeholder participatory processes. It appears therefore that the ICLEI survey results identified local authorities that knew of LA21 and saw how their actions fit with the definitions, but may have missed the kind of activity represented by the community round tables or the PCP participants. This fact however - the lack of identification by

Canadian municipalities with a major part of Agenda 21 remains a significant problem.

According to the analysis of the "Second International LA21 Survey report", there is a strong correlation between national support for LA21 and the number of communities participating. This is regardless of the formal structure of national, provincial/state, and local governments. After Rio, in Canada, the federal Green Plan provided energy, focus and resources to implement Agenda 21. While the change in government in the mid nineties shut down the Green Plan, the Minister of Environment under the new government championed LA21 processes in her city of Hamilton/Wentworth. The results show. Hamilton/Wentworth won the prestigious Dubai Award for best practices in Human Settlements in 2000.

At a national level, the federal government has long avoided direct involvement with municipalities, leaving that to the provinces under whose authority they lie. Over the last three years FCM has accelerated its programming role to support municipal efforts to address climate change. CMHC saw its mandate as too limited to provide effective leadership - either at Habitat II or in implementing Rio. ICLEI, while based in Toronto, was focused on its international mandate. The International Center for Sustainable Cities was among the federally supported independent bodies introduced in response to the Earth Summit but that lost its funding when broad cut backs were made in the mid nineties. ICSC turned to contracts for foreign aid projects to continue its work internationally. Thus there was a national vacuum around the issue of domestic delivery of Local Agenda 21. The activities that did occur - and as noted above there were many, were not identified as LA21 and did not benefit from the synergy that comes from shared experiences.

There is evidence that this situation is changing. FCM have received funds (Green Municipal Funds) and are administering them to support sustainable community development including green infrastructure projects. They see the need for communities to have broad sustainable development plans in order to maximize the impact of those funds, and will be supporting the development of community energy plans, local action plans and sustainable community plans. The Prime Minister has established a Liberal task force to recommend actions on urban issues. The National Round Table on the Environment and the Economy (NRTEE) surveyed the "urban tsunami" and

recommended that Canada establish a Sustainable Cities Initiative (SCI) aimed at building teams of Canadians from the public, private and civil sectors that could address urban problems and capture markets for urban expertise and technology at home and abroad. Five government departments cooperated in developing the international SCI and Industry Canada launched it in three cities in 1998. A review of its success has led to recommendations to expand it to a larger number of foreign cities in the future. The NRTEE has established an urban task force and is actively examining ecological/fiscal reforms. Several NGOs focused on urban issues have undertaken joint projects, and Smart Growth is emerging as a movement in Canada.

TARGETS FOR 2012

Given that the majority of Canadians live in urban areas, it would be reasonable to set as a target that 80% of the population be covered by local authorities that have undertaken formal LA21 processes, if they have not already done so, moving beyond the setting of the agenda and into action. LA21 needs to be adapted to small, medium and larger cities but the process is common. It is reasonable to build on the existing programs and expand their scope.

STRATEGIES AND ACTIONS TO GET THERE

Given the importance of a national campaign and the need for champions of the LA21 process, it is recommended that a combination of forces be mobilized.

- The National Round Table on the Environment and Economy has expertise and interest in multi-stakeholder consensus building processes. A key step to establishing a viable LA21 is the creation of such a body to oversee the local programs. The NRTEE is well placed to serve as the organizing focal point for the creation of Community Sustainability Councils (CSCs) to serve in this capacity.
- FCM is well placed to expand the PCP program and use the influence of the Green Municipal Funds and other funds to help communities, through their CSC's or equivalent bodies, to define and implement their sustainable development strategic plans.

- ICLEI is well placed to provide the content, coaching and capacity building for this LA21 process.
- In order to strengthen the role of Canadian NGOs in this field, all three groups, NRTEE, FCM and ICLEI should be encouraged to work with Canadian urban organizations to deliver the necessary training and capacity building domestically. These include but are not limited to the International Centre for Sustainable Cities, the Canadian Urban Institute, and Groupe interuniversitaire de Montreal.
- A federal initiative similar to the international SCI needs to be designed to address and support domestic activities related to sustainable communities. It should have the financial authority and ability to provide grants and seed money to both the local CSC's and to initiatives outside of the CSC's which are in keeping with the objectives of local agenda 21.
- Financing is necessary to provide the human resources for the groups identified above to deliver a program, and seed money is also needed to initiate actions once plans have been made. Funds similar to the Neighborhood Grants programs operating in Seattle have been shown to be highly cost effective.

development and multi-stakeholder and public participatory processes. Ironically we may be better at facilitating LA21 processes in other countries than we are at home.

Despite having been the home of the conference which established the UN Centre for Human Settlements in 1976, Canada is no longer active in support of Habitat, the United Nations Programme for Human Settlements.

If as many of us believe - local action is the key to implementation of Agenda 21, and the next century will see a major demographic shift to urban areas, the challenge for Canada is to refocus its efforts nationally to bring national support behind the achievement of sustainable development at the community level. At the same time Canada could reassume her world leadership in the field, support Habitat, and use the thirtieth anniversary of the founding of Habitat to host a tri-sectoral summit on urban sustainability in Vancouver in 2006.

GLOBAL CONTEXT

According to the ICLEI survey there are at least 6,416 local governments in 113 countries involved in LA21 activities, a significant increase from the 1,812 that were active in 1997. With only 14 cities identified, Canada is far behind, although as indicated above, many communities may be undertaking similar activities under another name or framework. The USA reported 87, Germany 2042, and Italy 429, whereas Estonia has 29 and Mongolia has 22. Developed countries have more than three times the number of LA21's compared to 1997. Regionally Europe leads the world with 5,292 municipalities involved.

Internationally, through the work of the International Centre for Sustainable Cities, FCM, the Canadian Urban Institute, Agra Team, Groupe interuniversitaire de Montreal and many others supported by CIDA and other donor funds, local government capacity building activities in developing countries feature strategic planning for sustainable

SUSTAINABLE WORKPLACES

By David Bennett, Canadian Labour Congress

In Agenda 21, arising out of Rio in 1992, the notion of sustainable development was articulated and given a global presence in environmental thinking. In subsequent years, sustainability was further articulated and given three poles or pillars: a sustainable environment, a sustainable economy and sustainable communities or a sustainable society. But the notion of sustainable workplaces and the health of workers was nowhere on the radar screen. This was in one respect not surprising since workers as a group are invariably the last to be considered in environmental health deliberations, e.g. over the health effects of chemical pesticides. But in other respects the failure is quite astonishing, since it ought to be self-evident that most environmental problems are focussed on workplaces, such as resource inputs and utilization, energy use and, above all, environmental pollution. So the omission stands in need of explanation.

In Agenda 21, there was a short, later chapter on cleaner technology but no attempt to focus on the workplace as the source and the potential resolution of a host of major environmental problems. In the subsequent work of the UN Commission on Sustainable Development, there was some international movement on risk reduction as a part of Agenda 21, Ch. 19: The Environmentally Sound Management of Chemicals. The labour movement was also a party to an international standard for the right to know about chemical hazards, arising out of Ch. 19, Part B, The Globally Harmonized System for Chemical Classification and Labelling. This consensus standard, which covers a wide range of products including industrial chemicals, pesticides, consumer goods and pharmaceuticals, is now being implemented by the UN Economic and Social Council (ECOSOC). The provision, if properly implemented, will bring the worker and community right to know to a wide range of less developed countries world-wide. This is a great advance, in many ways modelled on Canada's Workplace Hazardous Materials Information System (WHMIS) but far less well-known than it ought to be.

But in all this, there was little attention to Pollution Prevention, which is an essential part of sustainable development.

INDICATOR: The implementation of Pollution Prevention.

Pollution Prevention is defined by the Government of Canada as:

The use of processes, practices, materials, products or energy that avoid or minimize the creation of pollutants and waste, and reduce overall risk to human health or the environment.

While there are several different formulations, this definition is as good as any. But federal government action since 1995, when this definition was made official, has been minimal, even disingenuous. Pollution Prevention was the avowed aim of the Canadian Environmental Protection Act (CEPA, 1999) but the requirements for Pollution Prevention Planning are slight and so far inconsequential. One reason for this is that Pollution Prevention deals with processes within workplaces when the matter of what goes on inside workplaces is largely under provincial jurisdiction. Thus Pollution Prevention is something very difficult for the federal government to do effectively.

LOOKING BACK

The CEPA (1999) has Pollution Prevention as its avowed aim. Yet, because the approach of CEPA is to address individual substances or classes of substance rather than looking at toxic substances holistically within workplaces, Environment Canada's programme is not convincing. So far it has proposed mandatory Pollution Prevention planning for a very small number of substances, e.g. dichloromethane, on Schedule I of CEPA. Schedule I is itself a short list of 52 substances. Thus the approach cannot address the dozens or hundreds of toxic substances used in a typical workplace. Since most of these workplaces fall under provincial jurisdiction, the Pollution Prevention planning requirements are feeble or circumspect. Federal inspectors are unable to enter these workplaces to verify the effectiveness of Pollution Prevention plans.

The limited evidence available shows that Pollution Prevention activities as defined by the government are minimal. Of 2,190 facilities reporting pollution emissions under the National Pollutants Release Inventory (CEPA-NPRI) at most 9.6% reported activities that would genuinely count as Pollution Prevention,

while only about 3% engaged in any form of materials/product reformulation or chemical substitution.

This means that voluntary measures have only limited success. This in spite of efforts of national bodies to promote voluntary initiatives. The independent Canadian Centre for Pollution Prevention does valiant work on a shoestring. The federal government's National Office of Pollution Prevention tries to do good work but is bullied by big business which contends (quite wrongly) that Pollution Prevention is bad for the economy. Several provinces such as Ontario and British Columbia have produced comprehensive guides to Pollution Prevention. But without legislation and the adoption of the precautionary approach to chemical management and control, these efforts do not amount to much in practice. The stranglehold of free trade agreements and the place in them of Quantitative Risk Assessment (QRA) would make it difficult for governments to implement Pollution Prevention - if they even tried.

CANADA IN THE GLOBAL CONTEXT

At the international level, the recent Stockholm Convention on Persistent Organic Pollutants (POPS) which has been signed by Canada, requires the phasing out of several of the dozen pollutants so far covered - a very limited number. But it is a start, the banning of chemicals being one obvious Pollution Prevention strategy.

Otherwise, it has been left to the labour and environmental movements to push the issue of Pollution Prevention, on the grounds that it protects workers, the environment and local communities equally. The Canadian Labour Congress produced its National Pollution Prevention Strategy in 1997 and the issue has been taken up by several unions in both the private and public sectors. The Canadian Institute of Environmental Law and Policy (CIELAP) has done good work on Pollution Prevention in its Citizens' Guide. Other environmental organizations have adopted Pollution Prevention and used it in their strategies, for instance over water quality and the public reporting of Pollution Prevention measures undertaken by polluting industries.

The record over sustainable production is even worse. It has been left to bodies outside Canada to develop the idea of sustainable production of goods

and services, such as the Lowell Centre for Sustainable Production. The most culpable agencies here are Industry Canada and the Department of Foreign Affairs and International Trade. The agencies have opposed all forms of chemical regulation and precautionary approaches (though they pay lip service to them) on the grounds that these are bad for the economy. They have also misconstrued the scientific grounds for government intervention, insisting on risk assessments before any action can be taken. This again reflects a business position on what critics, in a slight understatement, have called corporate junk science. The fact is that Pollution Prevention initiatives in workplaces do not require risk assessment as a precondition of action, Pollution Prevention being one essential element in sustainable production. The stance taken by these government agencies in fact stifles innovation and competition, condemning Canada to a stagnating rustbelt economy and a poisoned population at the same time.

The Canadian labour movement has well-articulated policies on Green Job Creation and Just Transition for workers during environmental change. Since the federal and some provincial governments are determined that there will be no such environmental change, e.g. over the ratification of the Kyoto Protocol, such policies have been hard to implement at the national level. In workplaces and in the recent moves towards sustainable communities, these ventures are having more success.

TARGETS AND STRATEGIES FOR 2012

What then must happen if we are to achieve significant progress on sustainable production in the next decade? First, we have to have effective legislation which mandates Pollution Prevention in workplaces rather than addressing individual substances. For workplaces under federal jurisdiction, Part IX of CEPA (federal undertakings) could easily be used.

Second, we need the precautionary approach to be firmly entrenched in national policy, not merely the feeble proposals now being circulated. Third, we have to eliminate those parts of free trade agreements which rule out the precautionary approach in favour of risk assessment, particularly those parts dealing with health and environmental hazards, together with Chapter 11 of NAFTA (Investment).

We also need to build on our successes in environmental policy - including the work environment - such as WHMIS and the NPRI.

Finally, we need to see tangible progress in the move towards sustainable communities, of which production systems are only a part. The direct dialogue which is emerging between the federal government - particularly the Finance Department - and the big municipalities is one such avenue of progress. Another is in the moves that have been made to create municipal investment funds to improve the environmental infrastructure and to address climate change measures in such areas as mass transit and energy efficiency.

CORPORATE SOCIAL RESPONSIBILITY

By Lisa Princic, Canadian Business for Social Responsibility

INDICATOR

Corporate Social Responsibility (CSR) and Sustainable Development are relatively new terms in the business world gaining considerable momentum in the last five years. Canadian Business for Social Responsibility (CBSR), the Canadian Democracy and Corporate Accountability Commission and other CSR experts have determined that accountability is an important component of CSR. Social and environmental (sustainability) reporting is one method by which organizations can be held accountable to their stakeholders. There can be many different reasons for a company to produce sustainability reports including enhanced reputation, reduced risk and strengthened brand and profile. Another possible motivator for producing reports is the increased interest and commitment to transparency and accountability. One indicator that can be used for tracking CSR progress in Canada is the number of companies that publicly disclose environmental and social reports on their operations or include sustainability sections as a portion of their annual report.

STATE OF THE INDICATOR IN 1992

Research in an independent study found that in 1992, 18 Canadian companies published detailed environmental, social or sustainability reports¹ This was

approximately double the number from the previous year. During this period, companies were mainly producing single-issue reports such as environmental reports or ones with limited integration such as Environmental Health and Safety Reports.

STATE OF THE INDICATOR IN 2002

In 2001, 57 Canadian companies produced public sustainability reports. Although the increase in number of public reports has been dramatic at 300%, the total number of companies issuing public reports is still minute. It is interesting to note that while the number of reports increased very little, the scope of these reports expanded as the definition of CSR continued to broaden. There has been a movement towards more comprehensive triple bottom line performance (social, environmental and financial) reporting in recent years.

There have been, and continue to be, initiatives to develop globally applicable guidelines for reporting on the economic, environmental, and social performance of corporations, governments and NGOs. As there are currently in excess of 150 international voluntary codes, Canadian companies struggle to select or develop the "right" code. One such code is the Global Reporting Initiative (GRI), established in late 1997. A goal of the GRI is to make sustainability reporting as routine and credible as financial reporting in terms of comparability, rigour and verifiability.²

In an in-depth evaluation on sustainability reports from 35 companies from 1999-2000, the total 'quality' scores ranges from 28 to 96 out of a total score of 156.³ This survey assessed the quality and comprehensiveness of sustainability information provided in these corporate reports only. It is important to note that very few of these reviewed reports had independent external verification.

This wide range in quality of reporting is not surprising given the plethora of voluntary codes and the absence of a standardized reporting format. The lack of a broader commitment to public CSR reporting indicates that corporate Canada is still struggling with developing clear indicators, benchmarks and reporting standards.

1 Stratos Inc., Stepping Forward: Corporate Sustainability Reporting in Canada 2001 - November 2001

2 Global Reporting Initiative - Revised Guidelines June 2000

3 Stratos Inc., Stepping Forward: Corporate Sustainability Reporting in Canada 2001 - November 2001

WHERE THE INDICATOR SHOULD BE IN 2012

Reporting targets and goals need to move from the aspirational to the practical and tactical. Canada needs a standardized set of indicators which are seen to be credible by business, NGOs and government and which can be tracked, monitored and reported on in a systematic and reliable way. These indicators should be compatible with acceptable international standards.

ACTIONS REQUIRED TO GET THERE BY 2012

Although the business community is resistant and suspicious of increased regulation and government intervention, without substantial changes on these fronts we will see changes continue to happen but only on the margins.

The recent report, *The New Balance Sheet - Corporate Profits and Responsibility in the 21st Century*, calls for regulations to create a set of CSR guidelines requiring mandatory social and environmental reporting by corporations. In addition, pension funds would be required to disclose whether their investment policies take into account these guidelines. Other recommendations from this report include:

- amending corporate laws to encourage private companies of a certain size to provide annual disclosures,
- implementing the above requirements in 1 - 3 years,
- requiring disclosure list of all serious criminal or regulatory convictions in annual reports and
- obliging large public and private companies to produce annual social audits.⁴

FITTING INTO THE GLOBAL CONTEXT

In a global survey, Canada ranks in the mid range on sustainability. Canada had 26% of its top 100 companies producing sustainability reports, thus ranking behind Germany (at 36%), Sweden (34%), UK (32%), Norway (31%), USA (30%) and Denmark (29%).

Canada had a higher percentage than The Netherlands (25%), Belgium (16%), Australia (15%), Finland (15%) and France (4%).⁵

Several European countries have made a systematic effort to increase corporate environmental reporting through specific government requirements and actions. Denmark, Norway and the Netherlands have all mandated a specified form of environmental reporting for many companies. In the UK, the government has motivated many companies to publish environmental reports by amending their pension fund regulations. The new regulations require pension funds to report publicly how they consider environmental and social factors in their investment decisions. This has led them to request environmental and social information from companies in which they invest.

The Canadian government seems to be lagging in comparison to other jurisdictions in terms of having a strategic focus or demonstrated commitment to CSR according to a CCSR report.⁶ Due to its high standard of living, Canada is well positioned to become a leader in CSR. Canada can contribute to CSR by sharing best practices with less developed countries by hosting conferences with the end product of sharing its lessons learned to date.

⁴ Canadian Democracy & Corporate Accountability Commission, *The New Balance Sheet- Corporate Profits and Responsibility in the 21st Century* - January 2002
⁵ Stratos Inc., *Stepping Forward: Corporate Sustainability Reporting in Canada 2001* - November 2001.
⁶ CCSR, *Government Support of Corporate Social Responsibility* - April 2001.

MEASURING SUSTAINABILITY OF FARMING

By Linda Geggie, LifeCycles Project Society

Giving a definition of sustainable farming is much like asking three blind men to describe an elephant. It depends on what end you are looking at. In order to determine the "sustainability" of farming we must look at its inter-related dimensions. A sustainable farming and food system must consider and strive for:

- the livelihood of farmers and the vibrancy of rural communities
- agricultural production systems that are restorative to the physical environment and maintain a productive and dependable land base
- the ability to feed local populations first and provide them with long-term food security

In order to measure progress towards the sustainability of farming in Canada, and the strength of farmers, it is of key importance to understand farming as a web of economic, health, environmental and social relationships. Appropriate objectives set by communities, national governments and international agreements in regards to the promotion of sustainable farming must consider activities that strengthen, and do not jeopardize or act in contradiction to, any one of these important elements. "The number one concern of farmers and allied major groups is to get food security, rural development and sustainable livelihoods onto the agenda".¹

While Canada has taken many distinct actions (such as the creation of the Agri-Environmental Indicator Project,² Canada's Action Plan for Food Security,³ and the initiation of the Canadian Rural Partnership Program⁴), it has failed to adequately address an overarching trend and activity that is perhaps the greatest threat to the sustainability of farming. This threat is corporate concentration through vertical and horizontal integration of the agri-food sector. If we do not address corporate concentration and control of the food sector, and the industrialization and globalization of agriculture then we are not adequately addressing the social, economic and environmental concerns of Canadian farmers and Canadian communities.

INDICATOR

Used in conjunction with other environmental, social and health based indicators, the percentage share of large agribusiness operations of farming activity in Canada may be a tool in measuring an increase or decrease towards greater sustainability of farming in Canada. The relationship of farm size and numbers to such things as: farming practices; diversification of economy; agricultural production based employment; and the health of rural and farming communities; makes it a holistic and appealing indicator.

Independent family farms tend to be more responsible to local environment and community concerns, spend closer to home, ship less distance, employ more people, and have less negative environmental impacts on soil, water and air. "An agricultural structure that was increasingly corporate and non family owned tend(s) to lead to population decline, lower incomes, fewer community services, less participation in democratic processes, less retail trade, environmental pollution, more unemployment and an emerging rigid class structure."⁵

Most agribusiness firms, particularly large ones, when measured against the goals of sustainability are not making significant contributions, mainly due to their centralized nature. The implications of centralization, industrialization and globalization of agriculture are that smaller independent farmers are unable to compete in the market place. There is the loss of farms, greater unemployment in agricultural production sector, decline in rural communities, greater tendencies to methods of farming reliant on higher levels of chemical inputs and energy usage and an increasing infatuation with biotechnology which jeopardizes our physical environment, and the rights of farmers and indigenous communities across the world. It is also doing little to make food healthier or more accessible to all Canadians.⁶ The merits of "economies of scale" fall apart when we consider more than just the bottom line, and look at greater social and environmental costs.

¹ United Nations Commission on Sustainable Development, World Summit on Sustainable Development Organizational Session 30 April - 2 May 2001, Statement of Farmers Concerning Participation, Read by Mr. Thomas Forster

² Report of the Agri-Environmental Indicator Project. Agri-environmental indicators (AEIs) are measures of key environmental conditions, risks, and changes resulting from agriculture.

³ Canada's Action Plan for Food Security, prepared in response to the World Food Summit of 1996, has the following 10 priorities: the right to food, the reduction of poverty, promotion of access to safe and nutritious food, food safety, traditional food acquisition methods of Aboriginal and coastal communities, food production, emphasis on environmentally sustainable practices, fair trade, acknowledgement of peace as a precursor to food security, and a monitoring system for food security.

⁴ Canadian Rural Partnership was established by Agriculture and Agri-food Canada to assist in strengthening and diversification of rural communities.

⁵ Linda Lobao, Locality and Inequality: Farm and Industry Structure and Socioeconomic Conditions, 1990

⁶ In the early 1980's food banks were being established in Canada, and by 1997 the number of communities with food banks was over 500, almost triple the amount in 1989. In 1996 it was estimated that 3 million Canadians used food banks (Canadian Association of Food Banks CAFB).

LOOKING BACK

If we review the changes in the number and size of farms over the past decade in Canada, we see an alarming and accelerating trend.⁷ Larger farms (based on gross farm receipts) represent a rapidly increasing share of all farms in Canada. The number of large farms (>\$100,000 in gross farm receipts) increased by 11% between 1991 and 1996, and by a further 16% between 1996 and 1999, for a total change of 27%. The result is that large farms now represent 40% of total farms (compared to 27% in 1991).

On the other hand small farms (<\$50,000 gross farm receipts) declined by 6% between 1991 and 1996, and a further 22% between 1996 and 1999. This means a total decrease in the number of smaller farms by 28%, so that smaller farms now represent only 33% of all farms in Canada. In addition, by breaking down the percentage changes between the two periods we can see acceleration in the trend over the past decade.

GLOBAL CONTEXT

Over the past decade, the worldwide value of corporate mergers and acquisitions increased from US\$462 billion in 1990 to over US\$3.5 trillion in 2000, roughly 12% of total world economic output. This concentration of corporate power has affected most sectors of the global economy at the same time as disparities between the rich and poor have grown sharply: according to the United Nations Development Programme, the richest 1% of the world's population receives as much income as the poorest 57%.⁸

An example of this in Canada is that, two companies, IBP and Cargill, dominate the beef packing sector with 74% of Canadian capacity. Four companies (DuPont/Pioneer, Monsanto, Novartis, and Dow) control 69% of the North American seed corn market and 47% of the soybean seed market.⁹

On one hand Canada is participating in the World Trade Organization, General Agreement on Tariffs and Trade, Codex Alimentarius, and North American Free Trade Agreement, which have contributed to the effects of this concentration process. While at the same time Canada has committed to Agenda 21 that states that

National governments should promote pricing mechanisms, trade policies, fiscal incentives and other policy instruments that positively affect individual farmer's decisions about an efficient and sustainable use of natural resources, and take full account of the impact of these decisions on household food security, farm incomes, employment and the environment.¹⁰

So while Canada is taking measures in some areas, it is turning a blind eye towards the vertical and horizontal integration of agribusiness that may be most dangerous to the sustainability of farmers and farming. We must decide what row to hoe, and Governments must stop talking out of both sides of their mouths.

TARGETS AND STRATEGIES FOR 2012

It is imperative that we see a reversal of these trends in the next 10 years. If Canada and Canadians are serious about the sustainability of farms and farmers both in Canada and around the world, then we must see a dramatic shift in policies and global trade regimes. We must ensure that independent farms and farming families survive. A target that we could set that would ensure this, and reveal a strong independent farming sector would be to have smaller independent farms holding at least 50% share of the production market in Canada.

⁷ Based on statistics provided by Census of Agriculture (1991 and 1996) and the Farm Financial Survey 2000 (1999/2000).

⁸ Handful of Corporations Dominates Commercial Agriculture, September 10, 2001, Pesticide Action Network Updates Service (PANUPS)

⁹ NFU - Canada testimony to their Senate Standing Committee on Agriculture and Forestry entitled, "The Farm Crisis, EU Subsidies, and Agribusiness Market Power"

¹⁰ Agenda 21 Chapter 32, 32.6.

WHAT STRATEGIES CAN COMMUNITIES AND GOVERNMENTS TAKE?

Some suggestions are to:¹¹

- Argue that international bodies cannot address world food security without addressing corporate ownership, control and consolidation, and call for strengthening the U.N. Food and Agriculture Organization's economic division to monitor the impacts of multinational corporations and new technologies on world food security.
- Support the Seattle Declaration of Via Campesina.¹²
- Support co-op development.
- Support organic production and certification and verification bodies.
- Provide information, and monitoring in terms of business practices.
- Consumer activism - Consumers have historically acted singly and in groups to effect changes in agribusiness practices through such things as selective purchasing or ethical investment.
- Change the characteristics of and regulations governing the corporation such as creating legal changes to the status of the corporation, shareholder control, and restricting mergers and acquisitions (Canada has only one significant legal instrument in place, the Competition Act).
- Make tax revisions
- Increase liability for corporations and broaden their ownership base.
- Choose and support alternative enterprise forms.¹³
- Redesign economic concepts to support sustainability.¹⁴

¹¹ Some of these suggestions are found and more fully outlined in *Strategies to Overcome Institutional Barriers to the Transition from Conventional to Sustainable Agriculture in Canada: the Role of Government, Research Institutions and Agribusiness*, by Roderick John MacRae, PhD

¹² Via Campesina (Seattle Declaration). Available at: <http://ns.rds.org.hk/via/>

¹³ Such as community land trusts (CLT), community supported agriculture (CSA) and local exchange trading systems (LETS), these initiatives are characterized by a delinking from the global economy, an inverting of traditional business infrastructures, and the revitalization of local resources and knowledge (MacRae, R. J.)

¹⁴ Such as the development of ecological economics. The key requirement of such an effort is to retain those aspects of the market that create real (including ecological) efficiencies as well as making economically operational the ecological realities of human activity (whereas for example Non-renewable resources are treated differently from renewable ones, those resources that are irreplaceable are priced very dearly, and environmental, socio-economic and cultural impacts are internalized (MacRae, R.J.))

SECTION 4:
MEANS OF IMPLEMENTATION



INTEGRATING ENVIRONMENT AND DEVELOPMENT IN DECISION-MAKING

(AGENDA 21, CHAPTER 8: EFFECTIVE USE OF ECONOMIC INSTRUMENTS AND MARKET AND OTHER INCENTIVES)

Prepared by Sara J. Wilson, Canadian Nature Federation

INTRODUCTION

Canada has set up consultative processes and committees to develop sustainable development policies and strategies that will integrate environment and development into economic decision-making. There have been achievements over the last decade such as legislated environmental assessment, national and provincial round tables on the environment and economy, sustainable development plans, sustainable development strategies for federal departments, and the establishment of the Commissioner of the Environment and Sustainable Development. However, Canada, like many countries, has not succeeded in integrating these concepts into economic policy decision-making and practices.

INDICATOR – Ecological Fiscal Reform (EFR)

Scale: No Action (1) - Limited Use (2) - Actively Pursuing (3) - Incorporated (4)

Canada's Score = 2

BACKGROUND

In Chapter 8, Agenda 21 calls for the effective use of economic instruments and market and other incentives in order to integrate environment and development into decision-making.¹ The objectives are:

1. To incorporate environmental costs in the decisions of producers and consumers, to reverse the tendency to treat the environment as a “free good” and to pass these costs on to other parts of society, other countries, or to future generations;
2. To move more fully towards integration of social

and environmental costs into economic activities, so that prices will appropriately reflect the relative scarcity and total value of resources and contribute towards the prevention of environmental degradation;

3. To include, wherever appropriate, the use of market principles in the framing of economic instruments and policies to pursue sustainable development.

RATIONALE

According to the National Round Table on the Environment and the Economy, ecological fiscal reform (EFR) is “a strategy that redirects a government’s taxation and expenditure programs to create an integrated set of incentives to support the shift to sustainable development.” The main purpose of EFR is to internalize environmental costs and/or to reward more sustainable behaviour and practices. Ecological tax reform comprises two of the three main components of EFR, referring to increasing or imposing new taxes on environmentally-damaging activities, and reducing existing taxes on income, savings and capital. The third component of EFR is the elimination of existing environmentally-perverse subsidies.² For this report, the main focus is on ecological tax reform because of the information that is readily available. A better measurement of EFR for future reference would be the percent of tax revenues from ecological tax reform and the percent of perverse subsidies removed.

STATUS

The federal government’s approach to implementing economic instruments for environmental protection has been limited, however there have been some measures implemented. For example, Canada has introduced a tradable allowance system to eliminate methyl bromide (ozone-depleting), a pilot greenhouse gas emissions trading project, differentiated excise taxes on leaded and unleaded gasoline, excise tax exemptions for alternative fuels (e.g. Ethanol), tax benefits for gifts of ecologically significant land, and most recently, a production incentive for wind energy producers and a tax roll-over for intergenerational transfers of private woodlots were introduced.

¹ www.un.org/esa/sustdev/agenda21chapter8.htm

² Bregha et al. 1995. Ecological fiscal reform: A review of the issues. (Submitted to the National Round Table on Environment and Economy). Ottawa

GLOBAL CONTEXT

In comparison, European countries have been much more actively pursuing EFR (primarily ecological tax reform). Finland, Norway, Sweden, Denmark, the Netherlands, Austria, the U.K., Italy, Germany, and Belgium (among other countries), have all launched ecological tax reform, as steps towards EFR. These have included carbon, fuel, waste or energy taxes, generally accompanied with reductions in already existing taxes (i.e. revenue recycled).

Canada still is comparatively behind in adopting such measures. The OECD concluded in its 2000 Economic Survey of Canada that,

“there is a need to increase the use of economic instruments (for instance, charges on toxic emissions and waste, and disposal fees for products containing toxic substances) to reinforce the polluter-pays principle.”

TARGET FOR 2012

Comprehensive ecological fiscal reform at federal, provincial and municipal levels.

ACTION NEEDED

1. Strengthen capacity in public (including civil society) and private sector to integrate environment, economic and social policy decisions³

a. Continue to implement mechanisms of interdepartmental, public - private sector consultation and decision-making concerning environmental, economic and social policies; and,

b. Continue to develop a complete and reliable system of information on the state of the environment and develop data on related economic issues (public and private expenditures, employment, sustainable development, production and consumption patterns, environment and sustainable development indicators).

2. Improve alignment of economic signals with environmental policy goals

a. Set up a green fiscal reform committee to complete a comprehensive review and analysis of the current state of incentives created by the fiscal system as it relates to the environment, and move to correct the mis-alignments.

b. Implement specific fiscal reform projects to shift incentives towards behaviours that protect the environment, reward environmental and eco-efficiency choices according to the polluter pays principle, the user pays principle, and the precautionary approach (e.g. introduction of a domestic emissions trading system for GHGs by 2008);

c. Actively pursue the use of economic instruments to prevent pollution and conserve natural resources, in association with regulatory instruments; and,

d. Remove direct and indirect subsidies that are environmentally perverse (i.e. encourage the use of resources that result in fewer environmental and health damages).

Note: Another potential indicator is the development of solid environment and sustainable development indicators (i.e. to complement, and eventually supplement, the GDP) so that progress is measured not only in limited terms of economic growth, but measured based on quality of life (including strong economy, healthy environment and good social conditions).

3 Recommendations drawn from the 1995 OECD Environmental Performance Reviews: Canada. <http://www.oecd.org/pdf/M00019000/M00019898.pdf>

PLANNING FOR SUSTAINABLE DEVELOPMENT

By Anne Mitchell, Canadian Institute for Environmental Law and Policy

INDICATOR

For this brief review, we chose the indicator - Does Canada have a sustainable development strategy and a plan to implement its strategy? We have chosen this indicator otherwise, we may, as Yogi Berra said 'not know when we get there'. We committed in 1992 at the Earth summit in Rio to develop a plan toward sustainable development (SD). This commitment, we undertook along with most other nations in the world.

STATE OF THE INDICATOR IN 1992

In 1992, four government funded institutions were tasked with the objective of delivering Canada's sustainable development plan.

STATE OF THE INDICATOR IN 2002

By 2002, 28 federal agencies and departments, mandated by the Auditor General Act, had developed sustainable development strategies. By 2012 the Canadian Institute for Environmental Law and Policy (CIELAP) would like to be a participant in sustainable development planning in Canada using a process which articulates the SD objective, identifies goals and a means to measure progress.

TARGETS FOR 2012

Canada needs to develop the action plan that it committed to do, ten years ago. We need to make our action plan a road map to the future. As hard as it may be for some Canadian political and business leaders to imagine a prosperous future based on ecological sustainability, the alternative promises to be a great deal worse, as well as costly. This involves new ways of thinking and doing. Working collaboratively - and sustainably - takes time. The institutions and organizations who are committed to moving on to a more sustainable path need to have the capacity to participate.

CIELAP's research in sustainable development has shown us that achieving demonstrable success in sustainable development initiatives in Canada may involve nothing more radical than putting the steps of the process in the right order and permitting participants in the process - especially cities, local communities and small and medium enterprises - to play to their strengths.

CIELAP in its discussion paper Sustainable Development in Canada: A New Federal Plan proposes that demonstrable results toward achieving sustainable development can be had through the application of a four-step process: i) identify the sustainable development objective; ii) set goals and targets and develop rules and tools; iii) measure and evaluate; and iv) test for sustainable results.

ACTIONS NEEDED TO GET THERE BY 2012

The Rio conference raised great hopes that the world would rally against a common cause and forge a global society promoting harmony among human beings and between humanity and nature. Instead, ten years after the Rio conference, Canadians and all the people of the world still look for signs that the promise of Rio has not dissipated into thin air.

Ten years ago, the then conservative government of Brian Mulroney mandated four organizations in Canada to deliver Canada's sustainable development plan. These are the Canadian Council of Ministers of the Environment (CCME); the International Institute for Sustainable Development (IISD); the International Development Research Centre (IDRC); and the National Roundtable for the Environment and the Economy (NRTEE). During the past ten years, what have we accomplished? Many of the provincial governments also set up provincial roundtables for the environment and the economy. None of these exist today. The NRTEE is working on a proposal to develop indicators for sustainable development. The IDRC is funding research for sustainable development. The IISD is doing research on international and trade agreements for sustainable development. But as far as we are aware, there has been no evaluation of their progress towards helping Canada and the world reach sustainable development. Other organizations and communities, for example, the Federation of Canadian Municipalities and the International Council for Local Environmental

Initiatives - and there are others - are trying their best to develop sustainable development planning and programming but there has been no concerted effort or leadership in this direction in Canada.

Canada has as poor a record as any developed country on sustainable development. The most glaring example of underachievement is our failure to address the intense threat of climate change and to reduce greenhouse-gas emissions. Canada's poor performance on sustainable development arises from two separate problems. The first is a challenge confronting all of the northern democratic states with capitalist economies - how to implement sustainable development? The second problem is idiosyncratic to the country itself. Canada's federal structure limits federal government involvement in matters under provincial jurisdiction, such as resource management, land-use planning, public education, health care, primary jurisdiction over lakes and rivers and many other areas intrinsically connected to sustainable development.

The greatest challenge for countries such as Canada is that sustainable development requires that we take steps towards a destination that we cannot currently imagine. While leaders from all parts of Canada can envision a prosperous economic future for the country, they cannot envision one that differs very much from the status quo. Sustainable development by contrast proposes that we find ways to live that meet our needs but that do not compromise the capacity of future generations to meet their needs. Unfortunately, current generations have already compromised the capacity of future generations to meet their needs. There is much less clean water, clean air, and untouched wilderness, than there was even a generation ago. There are fewer viable fisheries, viable forests, accessible fossil fuel resources and much less arable land.

GLOBAL CONTEXT

A key objective of sustainable development is the belief that we can restore damaged ecosystems while also preventing further damage to the ecosphere. The fundamental conundrum sustainable development poses for the Canadian government is how to maintain this standard of living - let alone improve it - when to the best of our understanding it is simply not sustainable. To impose on the planet the burden of 8.5 billion people living in the same way as 400 million North Americans do now would dramatically increase

rather than reduce the threat to future generations. The answer most often offered for solving this conundrum is to maintain current standards of living in wealthy countries while reducing the "footprint" created by this lifestyle through improvements in resource use, urban design etc. However, while this answer appears to be straightforward there are no programs currently in place to reduce the Canadian "footprint".

Policies and programs designed to reduce consumption of Canadians to help us implement sustainable development are difficult to propose, let alone adopt, either as a political position or a policy presumption. Instead, our government appears to hope that sustainable solutions will arise largely through market forces and require no significant changes to the economic status quo. Will it be possible for our government to see a future that is both sustainable and as prosperous as today? Promoting energy efficiency is a way forward.

CONCLUSION

We invite the federal, provincial and municipal governments of Canada, the industry and business sector, and the non-government organization sectors and communities to participate in a process that will define our top three sustainable development outcomes that we hope to achieve over the next ten years; work together to create the means and the capacity to achieve these outcomes; and evaluate and check up on our strategies for effectiveness. To kick start the process we would like to suggest three possible sustainable development outcomes for Canada over the next ten years: 1) to develop an emissions reduction program to reduce CO2 emissions to six percent lower than 1990 levels by 2012 (Kyoto targets); 2) to develop a national food policy which will include the preservation of agricultural land to protect food sources and ensure food security; 3) to develop a national housing policy and program so that no Canadian needs to be homeless.

To do this, the Prime Minister needs to lead the process. The Finance Minister needs to budget for the process. All departments of the government of Canada, provincial governments, municipal governments, businesses and industry, non government organizations and communities need to get behind the process. The first step is to agree on the objectives. We have the resources and we have the knowledge for the task. Do we have the leadership and the political will?

MEANS OF IMPLEMENTATION: ENVIRONMENTAL ASSESSMENT

By Peter Duck

THE INDICATOR

The indicator selected for this category is the degree to which sustainability is being incorporated into environmental impact assessment in Canada. Three components of this indicator have been selected to trace progress over the last ten years. First, are we assessing all development proposals and activities that threaten the environment? Second, for those proposals that are assessed, are we ensuring that we are assessing the need for the proposal and sustainable alternatives for implementing the proposal? And finally, is the public being involved in federal environmental assessment processes in a meaningful way? Due to the variety of environmental assessment regimes among provincial and territorial jurisdictions, examination of the indicator focuses on the federal regime because of its potential to be a trend setting process across the country.

FEDERAL ENVIRONMENTAL ASSESSMENT SUSTAINABILITY TRENDS 1992- 2002

NUMBER OF PROJECTS
REQUIRED TO BE ASSESSED



ASSESSMENT OF MOST THE
SUSTAINABLE ALTERNATIVES



OPPORTUNITIES FOR PUBLIC
INVOLVEMENT



STATE OF THE INDICATOR IN 1992

In 1992 federal environmental assessment was conducted under the Environmental Assessment and Review Process Guidelines Order (EARPGO). This order was formally put in place through an order in council in 1984 although less formal requirements for federal environmental assessment had been in place since 1973.¹

The EARPGO addressed the first component of the indicator by requiring federal departments to assess any

initiative, undertaking or activity for which the federal government had a decision-making responsibility. All development projects and even policies and programs, therefore, required some level of environmental assessment. Allowance was made to both exclude projects with known insignificant environmental effects and to require independent 'public review' of projects with known significant adverse effects on the environment. The second component of the indicator was addressed under the Order through the option for ministerial approval to allow for a consideration of the need for the project and an assessment of the technology involved. However, no specific direction was given to assess alternative ways of meeting the need for the proposal or alternative ways of implementing the proposal that may have less adverse effects on the environment. The final component of the indicator was addressed by Section 4(1) b of the EARPGO. This section required that the concerns of the public be considered for each proposal. No details of how this 'consideration' should happen were included except for proposals that required public review. The public review panel had discretion in whether or not to allow the public to participate in defining the terms of reference for the environmental impact statement. Other requirements for holding the public review were also incorporated directly into the Order.

STATE OF THE INDICATOR IN 2002

In 1995, the Canadian Environmental Assessment Act (CEAA) came into force as the statute that directed environmental assessment of projects under federal jurisdiction. This Act provides much more detail on the factors that are required to be considered in an assessment and the process that federal assessments should follow. While the triggers (definitions for federal responsibility) for requiring assessments under the CEAA are similar to the EARPGO, the new legislation restricts the assessment of proposals to a specific definition of 'project'. With this definition fewer projects become subject to environmental assessment. Assessed projects are restricted to defined physical works or physical activities specified in a regulation known as the Inclusion List. The assessment of programs and policies and many other non-physical federal activities, which have strong influences on planning for sustainability, no longer require assessment.

The CEAA does require that the purpose of the project and alternative means of carrying out the

¹ Hazell, S. 1999. Canada vs The Environment: Federal Environmental Assessment 1984-1998. Canadian Environmental Defence Fund. Toronto

project be considered for projects that require a more detailed level of assessment. This consideration remains discretionary for screening level assessments, which comprise more than 95 percent of the projects assessed under the Act.

While the types of federal activities that require assessment are reduced under the CEAA the opportunities for public involvement are stronger for projects that require public review. Strengthening takes the form of mandatory notice of the completion of assessment reports and specifying that a hearing must be held in a manner that facilitates public participation. The Act also greatly improves public participation by establishing a funding program for qualifying public intervenors and setting up a public registry of information relating to environmental assessments. Unfortunately, these improvements, with the exception of the registry, are restricted to the most detailed levels of assessment. Public involvement is still optional for screening level assessments.

TARGETS FOR 2012

Improvements in all three components of the indicator should be made for 2012. A most important step toward sustainable development can be made by requiring that federal policies and programs be subject to the CEAA. This change would move federal environmental assessment beyond its current project level focus to strategic assessments that have a better capacity to address sustainable development issues. Another improvement will be to ensure that the assessment of the need for the project, alternative ways of meeting the need and alternative ways of implementing the preferred project is required for all projects assessed under the Act. This is necessary if the CEAA is to nurture a culture of sustainable development rather than the current regulatory hurdle perspective on the Act. If the equity and democracy principles of sustainability are to be addressed by the CEAA then drastic improvements to public participation are required. First, the Act must require some level of public involvement for all levels of assessment. Second, the Act must be more specific on requirements for the timing of public involvement (e.g. in the early notification and scoping stages). The nature of public participation must also be specified in legislation in a manner that ensures that consultation with public interests is meaningful. Finally, decisions stemming from environmental assessments must be required to reference the manner in which public concerns have been addressed.

WHAT ACTIONS ARE NEEDED?

The CEAA is currently under review with amendments before Parliament. It remains to be seen how far the amendments will go towards addressing sustainability issues. In the mean time the following continuing actions are recommended.

- Continue to work closely with the Canadian Environmental Assessment Agency to encourage the adoption of amendments to the Act and regulations that promote sustainable development.
- Continue to participate in initiatives that offer opportunities to promote sustainable development through environmental assessment (e.g. Minister's Regulator Advisory Committee).
- Continue to press sustainable development issues through individual CEAA project reviews.
- Lobby for periodic review and amendment of the CEAA in order to provide windows of opportunity to incorporate sustainability elements into federal environmental assessment.

THE GLOBAL CONTEXT

Canada's recent role in encouraging sustainability through environmental assessment in the international context is not encouraging. The trend is towards avoiding or reducing the level of assessment conducted below the level required in a domestic context. Examples over the last 10 years include attempts to avoid assessment and to defer to less credible and less democratic processes. Nuclear reactors sold to China and Cabinet's recent decision to rely on the Export Development Corporation's environmental assessment review process rather than the more democratic CEAA are notable examples. International agreements such as the Convention on Environmental Impact Assessment in a Transboundary Context are only initial steps to ensure sustainability planning is incorporated into international environmental assessment scenarios.

It should be noted that account does not address the type of decision making that results from the information provided through the federal environmental assessment process. Since compliance is inconsistent and there is no requirement in the CEAA to base decisions on specified sustainability principles, actual progress towards sustainability is subjective and questionable.

INTERNATIONAL COOPERATION

By Mike Simpson, One Sky

"The Government will increase overseas development assistance and use these new investments to advance efforts to reduce international poverty and to strengthen democracy, justice and social stability worldwide."

Feb, 2001 Speech from the Throne

"Actual international target for development assistance countries is 0.7%"

"Actual percentage of Canadian ODA to GNP in 2000/01 was 0.27%"

"Actual percentage of Canadian ODA to GNP in 2001/02 was 0.27%"

"Actual percentage of Canadian ODA to GNP for 2002/03 is 0.28%"

THE INDICATOR

The most common indicator used to measure international cooperation efforts is the percentage of Official Development Assistance (ODA) a developed country makes in relation to Gross National Product (GNP). This ratio of ODA/GNP was first proposed by the World Council of Churches in 1958 who proposed that 1% of GNP of developed nations should be loaned or granted to the developing world. The Pearson Commission in 1969 based the target of 0.7% ODA for developed countries on the need for developing nation economies to grow at a sustained rate of 6% and this was adopted by the United Nations in 1970. All of the 22 countries of the OECD that make up the Development Assistance Committee (DAC) combined have never been able to achieve more than 0.4% and this ratio has steadily declined since 1969 with an even more dramatic drop during the 1990's of almost 21% in real terms. However, some particularly responsible individual countries have met and even exceeded the target such as Denmark, Norway and the Netherlands.

There are some significant faults in the indicator as much of Canada's ODA has questionable results for poverty eradication and may, in fact, contribute to a

less environmentally sustainable world simply because the notion of "development" as it is defined by Canada's lead ODA agency (the Canadian International Development Agency, CIDA) often has detrimental environmental impact. The financing of dams, supporting overseas mining operations and the investment in non-renewable or outright unsustainable energy resources such as coal and nuclear power is not a contribution to an environmentally sustainable world so much as an investment in Canadian private sector interests. There have been some key advancements such as the recently initiated Climate Change Program.

CANADA'S PERFORMANCE OVER THE LAST TEN YEARS

Unfortunately Canada's performance, which peaked in 1988 at 0.5% has also seen a steady decline throughout the 1990's and our ratio now stands at a dismal 0.27% which is the lowest level since 1968/69. This represents a cut to less than half of what we were able to contribute in 1988 and it is less than a third of the international target. The Prime Minister announced at the March 2002 Financing for Development conference that Canada will increase its aid budget by at least 8% per year for the next several years.

Less than a quarter of our overall gross bilateral ODA went to the least developed countries in 1997-98 (halfway since the 1992 Rio Declaration). Many organizations would argue that our efforts are not being specifically directed at either poverty eradication or creating an environmentally sustainable world. About 70 cents of every official development assistance dollar is returned to Canada through jobs and the purchase of our goods and services. The jobs of more than 33,000 Canadians are sustained by our aid program and 2,000 Canadian businesses receive aid-related contracts.

Canada, by any analysis, has not only dismally failed to reach the United Nations (UN) target, its performance has actually plummeted over the last ten years to less than half of what it once was. Even tiny Ireland contributed more to international cooperation. Canada's reputation as a generous country willing to both make peace and contribute to sustainable development has long been ill deserved.

Even some specific environmental and sustainable development (ESDP) programs of CIDA which were

initiated at Rio lost considerable momentum over the decade. The ESDP program, which is the international cooperation “environment” flagship program of CIDA, has been cut by over 50% and represents a mere 0.0007 percent of the ODA budget (1.25 million out of 1800 million). CIDA does engage in other environmental initiatives and has significantly scaled up its policy capacity with some emerging programs in West Africa that merit attention. The 20:20 initiative of the United Nations Development Program (UNDP) is another area in which the government appears to be committed in principle. The 20:20 initiative encourages donor countries to allocate at least 20 percent of foreign aid to human priority goals, such as primary education, primary health care, safe drinking water and sanitation. CIDA has implemented a program of “Social Development Priorities” that will shift a considerable amount of resources toward four areas including health and nutrition, basic education, HIV/AIDS and child protection.

TARGETS

The Canadian Council for International Cooperation (CCIC) and the Canadian Ecumenical Jubilee Initiative have called upon the government of Canada to commit itself to a timetable to rebuild Canadian Official Development Assistance to at least 0.35 percent of GNP by 2005/06 and to more directly target these funds toward poverty eradication. We now stand at 16th among 22 donors down from our position of 6th in 1995. The CCIC has set a target of increasing the ODA budget by 400 million dollars over each of the next four years.

Members of the Canadian Environmental Network’s International Program have called for an effective environmental policy matrix or filter to significantly weed out environmentally harmful or detrimental projects within the ODA framework and more directly target environmentally sustainable development with grass roots approaches including the use of appropriate technologies. An example would be to see our support for hydroelectric dams shift toward investments in renewable energy. The issue of reducing unsustainable consumption is tied to poverty eradication and this relationship needs to be reflected in the type of programming that our ODA dollars support.

In addition Canada needs to increase its proportion of aid to least developed countries and increase its

proportion of funding to Canadian civil society to deliver this which is the most effective manner possible. This should include the proposed 500 million dollar Africa Fund. Decisions on how our aid program should develop, such as the most recent “Strengthening Aid Effectiveness” policy paper should prioritize the role of civil society in shaping our international cooperation and development initiatives.

EDUCATION, PUBLIC AWARENESS AND TRAINING FOR SUSTAINABILITY - CHAPTER 36

By Amelia Clarke, Sierra Club of Canada and Dalhousie University

Education for sustainable development was first defined in Agenda 21¹ but was discussed by the United Nations Educational, Scientific and Cultural Organization (UNESCO) as a concept for many years before.² There are three main parts to Agenda 21’s Chapter 36: improve basic education, reorient existing education to address sustainable development and develop public understanding of sustainable development. Chapter 36 is based on the fundamental challenge of “education for all” while embracing different types of learning, value development and lifestyles. Education for sustainable development also includes the implementation of this knowledge, where people assume responsibility as global citizens. This concept includes the three pillars (environment, social and economic) of sustainable development, and is not limited to, but includes environmental education.³

UNESCO was tasked as the key actor in the follow-up on Chapter 36 and began their program in 1994. In 1996, the UN Commission for Sustainable Development decided to initiate an international work programme on education, public awareness and training for sustainability, and outlined priority areas and encouraged participants and alliances. A work programme was adopted in 1998 consisting of 7 sub-programmes and 23 tasks.⁴

¹ McKeown, R. 2002. Education for Sustainable Development Toolkit. Available at: <http://www.esdtoolkit.org>.
² Smyth, J.C. 1999. Is There A Future for Education Consistent with Agenda 21? Pp 69 -82. Canadian Journal of Environmental Education, Volume 4. Canadian Network for Environmental Education and Communication and Yukon College, Canada: Yukon.
³ UNESCO 2002. Web site: <http://www.unesco.org/education/esd/english/education/beyond.shtml>. Accessed April 9, 2002.
⁴ UN CSD 2000b. International Work Programme on Education, Public Awareness and Training for Sustainability. Comments on Draft Management Plan Prepared by the CSD-NGO Committee Education Caucus. April 24 - May 5, 2000.

INDICATORS

% of the population that understands and implements the concept of sustainable development

% of the population trained to live a sustainable lifestyle

The Commission for Sustainable Development has chosen the following indicators:⁵

Driving force indicators:

- rate of change of school-age population
- primary school enrollment ratio (gross and net)
- secondary school enrollment ratio (gross and net)
- adult literacy rate

State indicators:

- children reaching the grade 5 of primary education
- school life expectancy
- difference between male and female school enrolment ratios
- women per hundred men in the labour force

Response indicator:

- GDP spent on education

The NGO Education Caucus of the Commission for Sustainable Development (CSD) has critiqued the concept that basic education is sustainable development education. There is disconnect between the UNESCO approach and the CSD approach as seen by the CSD proposed indicators listed above.

STATE OF THE INDICATOR IN 1992

In 1992 in Canada there was environmental education, some of which included social and economic aspects, but it was not specifically called education for sustainability. In December 1991, Dalhousie University hosted a conference on University Action for Sustainable Development which included a follow-up declaration (the Halifax Declaration) and an action plan to implement sustainability into campus operations and academia curricula.⁶ In 1992, York University hosted a

conference on eco-education where participants defined education as a tool, a means or a resource to reach sustainable development. Many Canadian environmental educators still do not agree with this concept of education for sustainability because they educate for human development which may lead to sustainable development.

STATE OF THE INDICATOR IN 2002

The Council of the Ministers of Education, Canada (CMEC) created a pan-Canadian science curricula that has sustainability learning outcomes throughout. The Atlantic and other provinces are using some or all of this curricula or offering content on sustainability in their curricula. CMEC also produced a report on "Educating for Sustainability: The Status of Sustainable Development Education in Canada" in 1999 which outlines achievements in formal education grades K through 12.⁷ The organization Learning for Sustainable Future was instrumental in helping the CMEC and provinces develop their materials.

There are environmental or sustainability courses in most universities and some colleges in Canada. For example Dalhousie University has an environmental concentrations in Management, Business, Engineering, Environmental Studies and Law degrees. There is also a Masters level Environmental Studies, Environmental Science, or Resource Management degrees at numerous Canadian universities. The Professional Engineering Society of Canada requires a sustainability course as part of the Engineering degree at all schools. York University created a UNESCO Chair for Reorienting Teacher Education Towards Sustainable Development. Some universities and colleges are implementing campus wide environmental policies and environmental management systems in order to practice what they preach. To date there has been no study of percentage of students who graduate in sustainable lifestyle fields.

Within the Government of Canada, Environment Canada was given the mandate for Chapter 36 of Agenda 21. In the last two years a large-scale national consultation was done for a national environmental and sustainability education strategy and to build an alliance of environmental educators. The results of the consultation are online, and the alliance continues to build. The next step will be to draft the strategy and submit it back to Canadians for comment.⁸ This initiative has not been given sufficient profile or funds.

5 UN CSD 1996. Menu of Indicators for Sustainable Development Indicators. In Hardi, P., Barg, S., Hodge, T., and Pinter, L. 1997. Measuring Sustainable Development: Review of Current Practice. Ottawa: Industry Canada and IISD, pp 85-89.

6 Clarke, A. 2002. Campus Environmental Management Systems - Dalhousie University as a Case Study. Master's thesis in progress. Dalhousie University. Canada: Halifax.

7 CMEC 1999. Educating for Sustainability: The Status of Sustainable Development Education in Canada. Council of Ministers of Education, Canada. Available at: <http://www.cmec.ca/reports/index.stm>

8 Environment Canada. 2002. National Strategy on Environmental Education and Sustainability. Web site: <http://www.ec.gc.ca/education>.

Environment Canada is only responsible for informal environmental education, and so partnerships must be built as part of the national strategy development. Implementation must include all federal departments, the CMEC, national university and college associations, museums, provincial governments, environmental education associations, teacher's unions, NGOs, local governments and school boards.. Other than the strategy, different federal departments fund non-governmental organizations to do environmental educational efforts. These programs are linked to federal priorities (such as climate change). The government funds environmental education and education for sustainable development, but has yet to focus on the fundamental reform of education for sustainability.⁹

Many non-governmental organizations (NGOs) have taken on related projects. Green Street, a program of the J.W. McConnell Family Foundation is a partnership between 12 environmental NGOs to reach grades 7 to 12 with environmental education. The youth and student movements are particularly focused on education. The Sierra Youth Coalition runs a Sustainable Campus Project with involvement from students in over 35 Canadian universities. The Canadian Network for Environmental Education and Communication (EECom) holds an annual conference of environmental educators and produces a journal. The Natural Step has been working with municipalities and businesses to educate them on a sustainability framework.

These are some of the many, under-funded, initiatives going on in Canada. They are succeeding in educating and training a small percentage of the population in sustainability. A greater, more comprehensive effort is needed to achieve success in the proposed indicators.

The Youth Summit Team did a survey of over 1,000 Canadian youth ages 15 to 29 in 2002 to determine how many had heard of the term sustainable development. Despite all of the educational initiatives, less than 50% had heard of the term, and even less knew what it meant.¹⁰

TARGETS AND STRATEGIES FOR 2012

By 2012, education for sustainability in Canada should be throughout the formal education system, and a plan implemented for informal education. All students in any level of school over grade 4 should understand the general concept of sustainability. At least 50% of the rest of the population should understand and practice sustainable development.

Provinces need to integrate the sustainability learning outcomes from the pan-Canadian Science Curricula into their provincial systems. Success of these learning outcomes could be evaluated through the pan-Canada equivalency testing.

Universities, colleges and other training institutions should work to include sustainable lifestyle training into all relevant programs, and monitor the success of these programs. Canada should legislate environmental management systems for educational institutions just as they have done for health and safety.

The Sierra Youth Coalition has a list of nine actions they think the Government of Canada, and others should take to further implement Agenda 21, Chapter 36. These include funding for non-governmental organizations working on the challenge of education for sustainability, and educator training for sustainability teaching.¹¹

GLOBAL CONTEXT

The draft report of the Secretary-General for the second preparatory meeting of the WSSD admits that "Few successful working models of education programmes for sustainable development currently exist".¹² The current focus is better financial provision, especially for basic education, educating the poor, revising teacher education, and more emphasis on the non-formal sector. Establishing Educators as the tenth major group might help increase awareness and implementation of education for sustainability at a global level.

⁹ Sierra Youth Coalition. 2001. Education for Sustainability: A review of Agenda 21, Chapter 36. Sierra Youth Coalition, Canada: Ottawa. Probably available at <http://www.sierrayouthcoalition.org>

¹⁰ United Nations Association of Canada. Youth Summit Team survey results. Available at <http://www.youth2002jeunesse.unac.org>.

¹¹ The recommendations are available at: <http://www.sierrayouthcoalition.org>

¹² In Smyth, J.C. 2002. Are Educators Ready for the Next Earth Summit? Millennium Papers - Issue 6. Stakeholder Forum for Our Common Future. UK: London.

CORPORATE RESPONSIBILITY¹

By Duff Conacher, Democracy Watch

INDICATOR

In Agenda 21, Chapter 30, Strengthening the Role of Business and Industry, paragraph 30.8, governments are called upon to “identify and implement an appropriate mix of economic instruments and normative measures such as laws, legislations and standards” to promote the use of cleaner production and responsible entrepreneurship.

As part of this regulatory process, paragraph 30.10 states that “Business and industry, including transnational corporations, should be encouraged to report annually on their environmental records, as well as on their use of energy and natural resources; and to adopt and report on the implementation of codes of conduct promoting the best environmental practice”.

In simple terms, the indicator is whether governments have regulated corporate responsibility through laws (including having corporations report annually on their environmental records and adopt and report on the implementation of codes of conduct) and encouraged compliance through various financial subsidies and penalties.

STATE OF THE INDICATOR IN 1992

In 1992, various environmental laws in Canada existed, but overall enforcement was very weak and penalties for violators or other financial incentives provided by governments were not high enough to encourage compliance with the various laws.

As governments across Canada have cut their spending in the 1990s, enforcement of environmental laws has been generally weakened as well. Penalties have not been increased across the board to compensate for the lack of enforcement, and as a result compliance has become largely optional for many environmental laws. For example, an investigation by the Sierra Legal Defence Fund found that polluters broke Ontario’s water protection laws 10,000 times from 1996 to 1999 but only 11 companies were charged.

If the companies charged faced very high penalties, then these penalties would have a general effect of encouraging compliance. Relatively low penalties combined with a low possibility of getting caught has instead created a system that actually encourages companies to violate the laws, take the chance of getting caught, knowing that the penalty for violating the law will not be as high as the cost of making changes needed to comply with the law.

STATE OF THE INDICATOR IN 2002

The federal government has explicitly rejected proposals to enact an effective overall system that aligns with the Agenda 21 objectives.

First, on the indicator concerning requiring corporations to disclose their environmental records - While the federal government created the National Pollutant Release Inventory, it is limited in scope and application, and has not been copied in other areas of use of energy and natural resources. No other federal or provincial government programs or databases (certainly not easily accessible to the public) have been created tracking companies effects on the environment.

Second, there has also been little progress on the indicator of governments encouraging companies to adopt and report on the implementation of codes of conduct promoting best environmental practice. According to a report released by Stratos Inc. in late 2001, “the vast majority of Canadian companies, large and small, still do not produce environmental, social or broader sustainability reports”. The Stratos study found that only 57 companies (out of the more than 500,000 companies in Canada) produced such reports in 2000-2001.

Through the 1990s, the federal government was considering changes to the Canada Business Corporations Act (CBCA) which regulates 155,000 corporations, including half of the 500 largest corporations in Canada. A bill amending the CBCA was introduced in early 2000, and finally passed by the federal Parliament in June 2001. The new law lowered some of the barriers to shareholders putting forward proposals to other shareholders about perceived irresponsible activities of corporations (including environmental practices), and lowered some of the barriers to shareholders voting on these proposals. This was a step forward because shareholders had been

¹ For more information, please see Democracy Watch’s Corporate Responsibility Campaign page at: <http://www.dwatch.ca/camp/corpdtr.html>

prevented by executives at various corporations from proposing changes to corporate activities. In the past, the executives used various technical and questionable ways to reject proposals, and now the ability of executives to do this has been restricted by the new law.

TARGETS AND STRATEGIES FOR 2012

The federal government has committed to changing specific sector laws through which some companies are set up (for example, banks are set up under the federal Bank Act). This process should be completed well before 2012.

All provincial and territorial governments should follow the federal government in lowering the barriers to shareholder proposals in all their corporate laws as soon as possible, and definitely before 2012.

However, in making changes to the CBCA, the federal government rejected recommendations made by many stakeholders, led by Democracy Watch's Corporate Responsibility Coalition, to change the law in the following ways, all of which are reasonable and align with the stated objectives of Agenda 21 set out above:

- require corporations to report on any violations of any law, including their environmental records, to a government-maintained, searchable database available on the Internet;
- require corporate directors and executives to take into account stakeholders (workers, suppliers, communities, and the environment) when making decisions and undertaking activities;
- enact a full whistleblower protection system for anyone who reports any violation of any law by a corporation;
- require corporations to adopt and report on the implementation of codes of conduct on environmental, labour, human rights and other areas on which corporations have an impact;
- prohibit corporations that are repeat violators of laws from receiving any government subsidy or contract;

- require corporations to facilitate the creation of citizen watchdog groups to watch each industry sector by requiring corporations to enclose, periodically, in their mailings to customers a one-page pamphlet that invites customers to join the citizen watchdog group (as has been done for utilities in the United States); and

- change the corporate crime standard to make it easier to hold corporate directors, and the corporation, liable for violations of laws committed by employees while at work.

The federal government rejected these proposals despite their alignment with Agenda 21 objectives, and despite national surveys in the past few years that have all shown that Canadians support regulating corporate responsibility. Most recently, a survey of 2,006 Canadians conducted in November 2001 by Vector Research found that 75% of shareholders and 80% of the public at large want the government to establish social responsibility standards and to require corporations to report on how they are meeting those standards. No provincial or territorial government has enacted any of these measures either since 1992. No Canadian governments have even enacted voluntary codes for any corporate sector in these areas. These recommendations should definitely be adopted and implemented by 2012.

GLOBAL CONTEXT

The UN established the Global Reporting Initiative (GRI) in 1997, aimed at increasing the commitment of business and industry to reporting on key indicators (the first GRI Guidelines were released in 2000). In 1999, the UN established the Global Compact Initiative, aimed at increasing the commitment of business and industry to acting responsibly. In addition, the OECD first introduced Guidelines for Multinational Enterprises in 1976 but updated them in many ways in 2000. However, the development of all of these international codes, not surprisingly, has been dominated by business and industry lobbyists and as a result all have set very low standards that are voluntary in the GRI Guidelines released in 2000.

In 1996, the Danish government required specific companies to publish a report on the environmental records, and Norway and The Netherlands have followed this model. In 2000, Britain amended pension

fund regulations to require disclosure of whether ethical, social and environmental issues are considered in investment decisions.

Over the past 2 decades, half of the states in the U.S. have changed their state incorporation laws (equivalent to Canada's federal CBCA) to allow corporate directors to take into account stakeholder interests in specific situations. This change has not been strong enough to change corporate decision-making practices generally, but has been a first step. In England, the Companies Act (again, the equivalent of Canada's CBCA) has for several years required company directors to take into account the interests of employees when making decisions and undertaking activities, and this requirement has had an effect on some decisions made by some corporations.

In the U.S., 22 federal laws provided whistleblower protection about specific violations, and 12 U.S. state laws gave general protection to all private sector whistleblowers who report any violation of any state or federal law, regulation or rule. The laws in three of these states also protect whistleblowers who report violations of codes of conduct or ethics codes. In Canada, only New Brunswick has a law that protects whistleblowers who report any violation of any law.

Just before his term as U.S. President finished, Bill Clinton proposed a measure that would prohibit corporations that are repeat violators of laws from receiving any government subsidy or contract. However, the measure was not implemented by Clinton, and has not (not surprisingly) been enacted by the Bush administration.

The other measures listed above have not been enacted by any governments in the world, as far as Democracy Watch has been able to determine in its research.

HARMONIZATION: THE CASE OF MERCURY STANDARDS

By Bruce Lourie and Leah Hagreen, Pollution Probe

Harmonization refers to policy guidance that used to make local, regional or national regulations and rules work in line with higher-level plans such as international agreements including multilateral environmental agreements (MEAs). Harmonization has its roots in trade policy and specifically the OECD Guiding Principles Concerning the International Economic Aspects of Environmental Policies of 1972 that recommend harmonization of environmental standards where valid reasons for differences do not exist and where there are significant obstacles to trade. One of the principles of harmonization is to harmonize 'upwards' to the highest standard, using regulatory measures or targets as minimum standards or 'floors' instead of 'ceilings.' Critics of harmonization point to the potential for downward harmonization, where pressures from jurisdictions with the lowest standard result in a general move to 'the lowest common denominator.'

In Canada, the Canadian Council of Ministers of the Environment (CCME) signed the Canada-Wide Accord on Environmental Harmonization, in January 1998. A sub-agreement to the Accord, the Canada-Wide Environmental Standards (CWS) is a framework to set priorities, develop non-regulatory standards in consultation with stakeholders, and implement work plans to address potentially toxic substances. The CCME endorses "the principles of sustainable development, pollution prevention and the precautionary principle" to manage toxic substances, however the standards are generated by the stakeholders in the process.¹

INDICATOR

The CCME does not have the authority of the federal government to set national requirements for action, but rather provides for "regional flexibility" and allows jurisdictions to use a "variety of regulatory and voluntary measures" to achieve set goals.² These provisions, however, do not always result in significant sector-wide reductions.

¹ CELA***

² Canadian Council of Ministers of the Environment Policy Statement for the Management of Toxic Substances. www.ccme.ca/3e_priorities/3ec_toxic/3ec1_toxic/3ec1a.html#statement.

Five areas of priority have been established for CWS development: benzene; mercury; dioxins and furans; petroleum hydrocarbons; and, particulate matter and ozone. The setting of Canada Wide Standards for mercury reduction has been selected for this report as an indicator of the environmental effectiveness of harmonization in Canada.

Mercury was selected for this analysis, and by the CCME process, due to the scientific and public policy consensus regarding the need to take serious action to control uses and releases.³ Mercury fits the CCME definition for the most harmful substances - persistence in the environment, bioaccumulative and toxic - this would normally require it to be addressed through virtual elimination. Mercury, however, is naturally occurring, which according to Canadian environmental policy invokes "sound management" throughout its life cycle, including generation, use and disposal, in order to minimize releases.⁴

This distinction presents a serious challenge for policy makers given that the physical properties of mercury make it very difficult to manage use without release to the environment. The challenge is made even greater given the lack of a mercury management infrastructure in Canada. To date, there are no known examples where the use of mercury is being managed in Canada to minimize releases. The Canada Wide Standards process is attempting to overcome this challenge.

STATE OF THE INDICATOR IN 1992

Mercury is released incidentally through the refining of metals and the burning of fossil fuels, the two most significant sources of mercury released to the atmosphere in Canada, comprising nearly half of Canada's mercury pollution. Mercury is also used deliberately in hundreds of industrial, commercial and medical applications, from large electrical relays to vehicle switches, thermometers, vaccines and dental amalgam. Releases during manufacturing, use and disposal from mercury-containing products account for the remaining mercury pollution in Canada. Prior to the Harmonization Accord and the initiation of the CWS process, however, the only two regulations in Canada with respect to mercury use or emissions concerned its release from chlor-alkali plants and a restriction on the use of mercury in the paint on children's toys.

STATE OF THE INDICATOR IN 2002

CWSs have been developed for several sources of mercury emissions, including base metal smelting (BMS), waste incineration, dental amalgams and fluorescent lamps. The smelting standard was achieved in advance the CWS process and the mercury reduction represents a "business-as usual" co-benefit resulting from process changes in the industry. Canada's mercury emission reductions from this sector have been very significant, down 94% from 1988. Mercury emissions from incineration have been reduced 60% (two tonnes) since 1990. The proposed standards are among the most stringent anywhere, and if implemented across the country will reduce emissions by 1200kg/yr, or more than 70% by 2006. The standard is achievable in a "business-as usual" scenario based on projected mercury reductions in the waste stream due to the effects of product legislation in the United States and Europe.

A CWS for mercury in fluorescent lamps was signed in May 2001 requiring the average mercury content in lamps sold in Canada to be reduced by 70% by 2005 and 80% by 2010 from 1990 levels. These reductions have largely been met by manufacturers to date and the standard reflects the "business as usual" scenario presented by the lamp manufacturing industry. The CCME estimates that 1150kg/yr of mercury enters landfills from discarded fluorescent lamps but this release is not to be managed, other than encouraging individuals to do so. In contrast, the dental amalgam standard addresses only the capture of mercury in drains prior to entering the sewer system, no standard for mercury use reduction has been contemplated. In neither case has the stated principle of "life-cycle management" been adopted.

Mercury emissions from the burning of fossil fuels remain as the largest, most challenging and potentially costly initiative. The goal of the CCME is to set a standard for electricity production to be announced in 2002.

3 Commission for Environmental Cooperation, 2000; North American Regional Action Plan on Mercury

4 Canadian Council of Ministers of the Environment Policy Statement for the Management of Toxic Substances. www.ccme.ca/3e_priorities/3ec_toxic/3ec1_toxic/3ec1a.html#stateme

MERCURY IN 2012

There has yet to be an example of mercury being properly managed throughout its life cycle in Canada. It is used in many products without restriction and can be disposed of through the consumer waste stream with few restrictions. Limiting emissions through life-cycle management must include both eliminating unnecessary uses and ensuring that proper disposal practices are available and followed to prevent mercury emissions from landfills and incinerators. By 2012, mercury should not be permitted in any consumer products and reductions from incidental releases, including coal-burning, should be 90 percent below present levels.

ACTIONS TO ACHIEVE 2012 TARGET

Measurable mercury reductions can be achieved in Canada with a strategic focus on sectors where near-term reductions are possible, combined with a long-term goal of elimination of emissions. In addition to the identification of target sectors and the development of a comprehensive mercury reduction and recovery program, there are a number of regulatory and policy issues that need to be addressed. These include:

1. The adoption of a virtual elimination framework for mercury.
2. The creation of a supportive regulatory structure to address mercury use, release and disposal:
 - a. Restrictions on the use of mercury in non-essential products, or where viable alternatives exist, such as mercury switches, thermometers and thermostats.
 - b. Requirements for proper labeling and disposal of mercury-containing products, including permanent retirement options for mercury.
3. Multi-pollutant standards on coal-burning that consider cost-accounting on the environmental and health costs associated with coal, with the goal of reducing mercury emissions by 90 percent from this sector.

GLOBAL CONTEXT

Canada is lagging behind the United States and Europe in establishing a policy framework to address mercury use and releases. The harmonization process and related Canada Wide Standards have done little more than to confirm in writing industry commitments to follow-through on their plans. To date, a significant portion of the achievements seen in Canada's reductions in mercury use and release have stemmed from regulatory actions outside of Canada and "business as usual" technology changes. At least 14 US states have implemented regulations limiting the use and/or disposal of mercury-containing products. The European Union has implemented directives to eliminate the use of mercury in many applications.

The United Nations Environment Program is undertaking a global assessment of mercury and its compounds, including an inventory of current programs and regulations, to be presented to the UNEP Governing Council in 2003. This assessment may highlight Canada's limited efforts to date to address domestic mercury use and releases. It may also point to Canada's reliance on international actions that contribute to Canada's domestic reductions.

CONCLUSION

Clearly, Canada has failed over the past decade to develop sustainably. We emerged from Rio ten years ago as leaders amongst our peers, in process if not in action. Today these echoes of process have been silenced by the resounding absence of concrete actions. This report identifies some of Canada's successes and remaining challenges over the past decade in an effort to move forward with a sense of commitment and effectiveness.

Throughout the report several consistent themes emerge:

- Canada needs to improve environmental governance and harmonize federal and provincial jurisdictions regarding regulations and standards.
- Canada must cease its increasingly obstructionist role in international negotiations.
- Canada lacks national inventories and databases particularly with environmental information that show trends over time.
- Canadians need to reduce their ecological footprint in numerous areas through sustainable production and consumption patterns.
- Canada lacks concrete implementation and monitoring strategies to effectively play its part in implementing Agenda 21.

For Canada to develop sustainably we need national leadership and a solid plan of action. Where we have been obstructionist we need to now ratify and implement existing multilateral environmental agreements. Specifically this report calls for ratification and implementation of the Kyoto Protocol, the Convention on Biological Diversity and the Cartagena Protocol on Biosafety. In order to monitor and make informed decisions we need a renewed commitment to environmental reporting and the establishment of national inventories.

Repeatedly the report calls for us to uphold the precautionary principle and to reduce our unsustainable consumption patterns. We are challenged to become leaders in renewable energy and zero waste. Many of these challenges are not new and what the report makes clear is that if the next ten years are going to

move beyond the last we will need clear targets, timelines, means of implementation and monitoring. In 1992 we were given a compass and a map. Today we are still climbing but our steps have slowed, our motivation is lagging. Although we have made some progress and we still agree on the direction established at Rio, the journey toward sustainable development has clearly become more difficult.

The World Summit on Sustainable Development is a key point in history, a chance to get back on track. With the right leadership, and honest conviction, Canada could play the crucial role required to move us forward...to reach the summit of our international aspirations. As the WSSD approaches, it is time for the Prime Minister of Canada to step forward and show leadership. We hope that the WSSD will inspire the political will and renewed commitments required to move us towards sustainable societies in a sustainable world. Our hope is that this report will serve as a tool toward that goal and to greater successes when we look back in 2012.