GOVERNANCE MODELS AT THE WATERSHED LEVEL IN CANADA

Canada's contributions to the Millennium Development Goals (MDGs) and WSSD water and sanitation targets use Integrated Water Resource Management (IWRM) as an overarching approach to water issues. Within IWRM, Canada's expertise and experience in the area of governance, particularly for transboundary waters, may provide other countries with models which may be adapted, in part or in full, for their social, economic, and political contexts.

Canada is the steward of 7 percent of the world's renewable supply of freshwater, has the world's longest coastline, and has 25 percent of global wetlands. Water makes up more than half of the 6400 km border between Canada and the United States border. Approximately 60 percent of Canada's freshwater drains north toward the Arctic Ocean and Hudson Bay, while 85 percent of the population lives in the south. The degree of precipitation varies by region, with Canada's Atlantic and Pacific coastal areas receiving an average of 1100 to 1400 millimetres of precipitation per year. The southern portions of Canada's Prairie provinces receive less than 400 millimetres per year. Those regions have periodic droughts as well as severe flooding, while massive floods in other parts of the country have affected tens of thousands of people.

From our own experience, we have learned that no single governance model exists which will work for all regions. There are, however, similar features which are essential to achieve an IWRM-based governance model. Due to Canada's highly varied physical geographic characteristics, the governance arrangements that have been developed to respond to water issues are themselves just as varied.

There are 15 jurisdictions in Canada which have some responsibility for water management. Geographical and constitutional boundaries of government jurisdiction do not easily align with a watershed approach to managing water resources. Transboundary water management is emerging as a key issue within an IWRM context, and Canada has longstanding experience with transboundary water issues: domestically, bilaterally with the United States, and abroad through its Official Development Assistance (ODA) Program. Water governance in Canada is shared between the federal and provincial/territorial governments, with the provinces, territories, and municipalities as the primary managers of water.

IWRM represents a fundamental change to environmental management. Widespread consensus has emerged that collaborative, problem-focused, adaptive management is the preferred set of processes for managing water in the face of emerging issues (e.g. increasing societal demand for transparency and accountability, conflicts over declining per capita resources, diminishing returns from traditional management models).

Water governance in Canada continues to evolve: within Canada, at the Canada-United States border, and around the world. Three examples are the Canadian Council of Ministers of the Environment (CCME), the International Joint Commission (IJC), and the Prairie Provinces Water Board (PPWB). Each governance arrangement reflects IWRM processes, and also responds to the needs of a particular region. Some models have benefited from a long existence and are well-entrenched; others have been developed more recently to respond to emerging issues. All

have strong policy and legal frameworks and are characterized by a high degree of collaboration and consensus-based decision-making.

- **Canadian Council of Ministers of the Environment (CCME)**
  With many jurisdictions involved in water issues, collaboration has been an essential ingredient to ensure that initiatives are coordinated and jurisdictions are consulted. The CCME is a formal mechanism to facilitate collaboration on regional and national environmental issues. With its long history (predating the creation of many environment departments in Canadian provinces and territories) the CCME has led initiatives of common interest, such as adoption of a "source to tap" approach, which uses a multi-barrier approach to maximize protection of water sources used for drinking.

  The CCME also coordinates development of the Canadian Water Quality Guidelines (ongoing), and provides a forum for Environment Ministers to exchange ideas, set policy directions, and evaluate the results of their initiatives. It is perhaps the best example of a model which promotes, and succeeds in, collaboration. The CCME is accountable because its members represent Canadian citizens who have elected them, and it derives transparency from its practice of disseminating information after its meetings. The chair of CCME rotates annually, allowing all jurisdictions to lead its work at different times. Using consensus-based decision-making, the CCME promotes equitable participation by permitting each jurisdiction to have a voice in its discussions, while respecting each jurisdiction's authority.

- **Prairie Provinces Water Board (PPWP)**
  PPWB is composed of two representatives of the federal government, and one representative from each of the provinces of Alberta, Saskatchewan, and Manitoba. It relies on consensus-based decision-making, except for major decisions which require unanimity. Based on the Master Agreement on Apportionment (1969), the PPWB initially focused on water quantity as water moves east to Manitoba from the eastern slope of the Rocky Mountains. Under the Master Agreement, Alberta is entitled to 50 percent of the natural flow of an interprovincial river before it enters Saskatchewan; Saskatchewan is entitled to 50 percent of the water which enters the province from Alberta and 50 percent of the flow arising within its borders. Manitoba receives the remainder. This formula is based on the flow occurring over the course of a 12-month period in all eastward flowing streams.
  In 1992, the PPWB's responsibilities expanded to consider water quality issues.

- **International Joint Commission (IJC)**
  The IJC derives its authority from the Boundary Waters Treaty (1909) between Canada and the United States, and oversees many bilateral water boards. The Great Lakes-St. Lawrence River system and major rivers such as the Columbia, Yukon, Red, and Saint John are among the almost 300 waterways and aquifers that traverse or form the Canada-US border.

  In most cases, transboundary water issues are addressed and resolved through bilateral cooperation, often using existing mechanisms involving federal, provincial, and state governments of both countries. The IJC has a consistent record of resolving issues among its six commissioners (three Canadian and three American representatives), and plays several roles under the Boundary Waters Treaty. Depending on the case referred to it, it may perform judicial, investigative, administrative and arbitral functions. In the past, several cases have fallen into the first three categories but it has never been called upon to exercise a role for the fourth function.

Source water protection is an integral part of IWRM, and encompasses wetlands and aquatic ecosystems, in addition to lakes and rivers. Canada supports the increased attention to freshwater issues and initiatives to protect biological diversity, domestically. For example, Environment Canada works with a broad spectrum of governments and communities of interest in pursuit of developing comprehensive solutions to environmental, economic and social problems in six ecosystem initiatives — namely, the Georgia Basin Action Plan, the Northern Ecosystem Initiative, the Western Boreal Conservation Initiative, the Great Lakes Action Plan, the St. Lawrence Action Plan and the Atlantic Coastal Action Program.

IWRM principles are also being adopted in various other ways in Canada, such as the Fraser Basin Council in British Columbia, the Mackenzie River Basin Board, the watershed-based Conservation Authorities in Ontario, and in Canada's Federal Water Policy. However, work needs to be done to better flesh out how to implement IWRM so that water and land management are more closely aligned, and to achieve a greater degree of efficiency through demand management and pricing strategies.

Canada's commitments extend beyond its borders. Access to adequate water supply and sanitation is critical to the achievement of Canada's Official Development Assistance and Official Assistance (OA). Canadian ODA and OA have supported many projects and initiatives designed to address challenges facing developing countries and Economies in Transition, their citizens and priority groups, such as women and the poor. Many of these actions are taking place in regions where limited water supplies and sanitation facilities represent major development considerations. Through the Canadian International Development Agency (CIDA), Canada's development assistance focuses on strengthening institutions and building capacity to deliver adequate water-related services. CIDA investments in the water sector also include projects and programming in water resources protection for human health and to support ecological functions, water and sanitation, river development, waste management/disposal, agriculture water resources, and flood prevention/control.

As part of Canada's support for the G8 Action Plan on Water (June 2003), Canada announced that it would invest $33.7 million over the next 5 years to help developing countries provide their citizens with better access to safe drinking water and basic sanitation in Africa, Asia, the Americas and through multilateral initiatives. This is in addition to the $50 million Canada committed to water-related activities through the Canada Fund for Africa, as part of Canada's response to the G8 Africa Action Plan. The Canada Fund for Africa has committed $15 million to UN HABITAT's Water and Sanitation Trust Fund; $10 million to the Global Water Partnership to fund the development of IWRM plans in selected African countries; $20 million to support the African Water Facility; and $5 million to the African Development Bank to strengthen capacity in water-related activities.

Canada's International Development Research Centre (IDRC) has a strong program on water and governance. It supports research that helps increase knowledge of water management and enhances the access to information required to make sound decisions for all stakeholders, particularly marginalized groups. For instance, IDRC has worked with a research team from Ecuador to define a cluster of potential solutions for resolving conflicts over water in the Northern Andes and with researchers from India and Nepal to define the water management needs of local communities and alternatives to large dams to supply those water needs.

The following websites provide additional information about the governance models and science-based programs:

Federal Websites

Canadian Water Quality Guidelines www.ec.gc.ca/cegg-rcqe/English/Cegg/Water/default.cfm
Canadian International Development Agency www.acdi-cida.gc.ca/index.htm
International Development Research Centre www.idrc.ca
Ecosystem Initiatives www.ec.gc.ca/ecosyst/
Environment Canada http://www.ec.gc.ca/water/e_main.html
National Water Research Institute http://www.nwri.ca
Sustaining the Environment and Resources for Canadians
http://www.environmentandresources.gc.ca
Canadian Waters http://www.dfo-mpo.gc.ca/canwaters-eauxcan/oceans/index_e.asp
Health Canada http://www.hc-sc.gc.ca/waterquality
The National Programme of Action for the Protection of the Marine Environment from Land-based Activities http://www.npa-pan.ca

Provincial Websites

Alberta http://www.gov.ab.ca/env/water/index.cfm
British Columbia http://www.gov.bc.ca/wlap/
Manitoba http://www.gov.mb.ca/conservation/watres/index.html
New Brunswick http://www.gnb.ca/0009/0003-e.asp
Newfoundland and Labrador http://www.gov.nf.ca/env/Env/water_resources.asp
Northwest Territories http://www.pws.gov.nt.ca/waterandsanitation/index.htm
Nova Scotia http://www.gov.ns.ca/enla/water/
Nunavut http://www.gov.nu.ca/sd.htm
Ontario http://www.ene.gov.on.ca/water.htm
Prince Edward Island
http://www.gov.pe.ca/infopei/Government/GovInfo/Environment_and_Land/
Quebec http://www.menv.gouv.qc.ca/ministere/inter_en.htm
Saskatchewan http://www.se.gov.sk.ca/environment/protection/water/water.asp
Yukon http://www.environmentyukon.gov.yk.ca/epa/waterqual.shtml

Other websites

Canadian Council of Ministers of the Environment www.ccme.ca
International Joint Commission www.ijc.org/
Prairie Provinces Water Board www.pnr-rpn.ec.gc.ca/water/fa01/index.en.html
Mackenzie River Basin Board www.mrbb.ca