



BRIEFING NOTE ON WATER

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Introduction

Let me start by saying how pleased I am with the format of this project. Though no more knowledgeable (and no less prejudiced) on Canada - US relationships than others who changed as adults from American to Canadian citizenship, I am less interested in projects that focus exclusively on water problems. There is an unhappy tendency among us water specialists to write as if water policy can be developed by focussing politically on the water sector and geographically on the watershed. The water sector and the watershed are indeed important perspectives, but they are rarely sufficient for policy. Tony Allan, at the School for Oriental and Asian Studies, University of London, writes that water resource management “will fail if it is not recognized by practioners and policy-makers that sustainability is as much about the social and the economic as about the water in the environment.”¹ Elsewhere, he points to experience in the Middle East, which he correctly calls “the most water-challenged region in the world,” as “a spectacular demonstration that natural resources such as water do not determine socio-economic development; on the contrary, socio-economic development determines water management options.”²

This briefing note will point to several issues. Throughout, my two primary points are:

- First, although both Canada and the United States face major water issues or “threats” (as they were called in a recent report from Environment Canada), the issue is water quantity or water quality,

*the future lies with efforts to moderate demands
for fresh water, not to increase supply.*

Is Canada Water-Rich and the United States Water-Poor?

Canada receives just under 3000 cubic kilometres of

⁴ However, all these nations are water-rich compared with most of the world. True, not all the water is conveniently located to population densities.

estimated 12% of Canada, or 1.2 million square km , is covered by lakes and rivers, but only 3% of the area covered by water in Canada is located in inhabited regions. The Great Lakes rank among the 15 largest lakes in the world, but the bulk of their volume is a stock that is not available for use. It is not evident that Canada is notably more water rich than the United States.

Perhaps, however, the United States is, by virtue of its greater population and economy, water poor in a sense that Canada is not. This position too is hard to justify. Western states are facing real shortages, but so too are western provinces. Until about 1970, water withdrawals in the

long-term and integrated strategy, not just as a temporary adjustment in emergencies. Contrary to what is commonly alleged:

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draw supplies from renewable resources and seek methods of waste disposal that emulate natural processes. Hard paths rely on nonrenewable resource supplies and use chemicals and fossil fuels for waste treatment and disposal. The literature on soft path concepts and analytics for fresh water is small but growing.¹⁵

In summary, we have lived for a long time on a huge water subsidy provided to us by nature. Our historical patterns of economic development are based on a myth of abundance that is no longer viable as a guide for policy, but that has left us a legacy of barriers, including the prevalence of the myth itself.

Developing Nations

This project focuses on Canada and the United States, not developing countries. However, both Canada and the United States have active programs of international assistance, and those programs put a lot of emphasis on fresh water. Therefore, I want to caution against any simple extension of our approaches to lower income nations. At the macro level, water efficiency and water conservation in industrialized nations should yield absolute reductions in water use. Not so in developing nations, where they are more likely to improve equity – to transfer water from farmers at the head of an irrigation canal to those at the end, or from richer people on a water pipeline to poorer people who buy water in cans from vendors. At the micro level, we typically recommend lining irrigation canals to reduce losses to seepage. In developing nations, that seepage may be the best source of potable water for the poorest people in the village.

Other Issues

Other issues that cannot be covered here deserve attention in the context of Canada - US relationships. For example:

- Work is urgently needed to map groundwater resources, and to define linkages between ground and surface waters. Even in the Great Lakes basin, knowledge is scanty,¹⁶ and this limits our ability to manage water efficiently and sustainably.
- Both Canada and the United States need guidelines and probably regulations on how much water must be left *in situ*, and how to time withdrawals and releases, to protect ecosystems.¹⁷ These flows (in the case of a river) or volumes (in case of lake or aquifer) would have to remain beyond the reach of any internal or international obligations to supply or divert water.
- Decentralization of management for wastewater and for stormwater, along with the use of ecological rather than chemical methods, are neglected areas of work. There are many projects in Canada but they represent scattered success stories compared with the better funded and better organized efforts in the United States through the National Decentralized Water Resources Capacity Development Project and the National Community Decentralized Wastewater Demonstration Projects funded by the U.S. Environmental Protection Agency. This work can identify opportunities to reduce the risks from and the high costs of wastewater flows, and possibly to harmonize approaches on such areas as the Great Lakes.

Conclusion

There is no shortage of work needed to improve water management at all levels in Canada and the United States, nor is there any shortage of opportunities to coordinate our efforts. Such coordination will be mainly in four forms:

- sharing of research results and data collection;
- joint management where waters are found along, over, or under the border;
- re-conceiving policy approaches to management of fresh water resources; and
- trade in commodities, not water.

Sharing research and data do not occasion much problem though both have been severely (and inadvisably!) hindered by budget cuts since the 1990s. Joint management is already working reasonably well, mainly through the work of the International Joint Commission, a governance concept that may be “exportable” to other regions.^c The Great Lakes Commission and other regional bodies also deserve credit.

Less progress is evident with policy. Demand management is beginning to be taken seriously, particularly by water-constrained municipalities. Soft path studies are being undertaken by several non-governmental organizations, notably the Pacific Institute in Oakland, California, and Friends of the Earth Canada in Ottawa, Ontario. However, water management at the provincial/state and national levels still treats demand as secondary. For one current example, neither the draft Great Lakes Basin Sustainable Water Resources Agreement (“Annex 2001”) nor its accompanying draft Great Lakes Basin Water Resources Compact requires that requests for new withdrawals be accompanied by evidence showing that potential efficiency gains, to say nothing of conservation, have been fully explored before new withdrawal will be considered.¹⁸

The fourth area of Canada-US interaction, and arguably the most significant and contentious of all, is trade. Trade of commodities grown or made with water – “virtual water” as it is called¹⁹ – has been, and will continue to be, our “bulk water exports.” And, when it comes to trade of commodities, the toughest bargaining will not be between Canada and the United States but within each nation. For example, one of the best ways for the United States to reduce its demand for irrigation is to import more grains from Canada, but this will affect some very powerful economic and political interests in the United States.

Finally, it is time that both Canada and the United States reduce their egregiously large demands on limited supplies of fresh water. Whether from ecological, economic or social perspectives, the potential gains are enormous. Just as with trade, however, the political barriers to greater water efficiency and water conservation are also enormous. Only by focussing on those barriers, rather than specific technologies or narrow regulations, will we make the real gains in water management that can support for sustainable development in each nation, along with resolution of shared water issues.

^c Friends of the Earth Canada and Friends of the Earth Middle East have put forward a joint proposal for exchange visits and staff training to adapt the IJC model for Israeli, Palestinian and Jordanian interests in the Dead Sea basin. The Centre for Contemporary Jewish Studies at the University of Miami in Florida believes that the IJC model is applicable to the entire rift valley including those portions in Syria and Lebanon.

16. Gerald Galloway and Ralph Pentland, *Managing Groundwater Resources in the Great Lakes Basin: Securing Our Future – Draft Vision and Principles* (Toronto: Munk Centre for International Studies, University of Toronto, Working Paper 2, 2003).

17. Sandra Postel and Brian Richter, *Rivers for Life: Managing Water for People and Nature* (Washington, DC: Island Press, 2003). Megan Dyson, Ger Bergkamp and John Scanlon, *Flow: The Essentials of Environmental Flows* (Cambridge, UK: IUCN Publications Services, 2003).

18. The draft Agreement and draft Compact are available at: <http://www.cglg.org>.

19. J. A. Allan, Virtual Water – the Water, Food and Trade Nexus: Useful Concept or Misleading Metaphor? *Water International*, 28:2 (March 2002), 4-11..