

## Northern Research Legacies and the Future: A University Perspective

I am writing as a Canadian who was involved in northern research as a post-doctoral student in the 1970s and who, since then, has been involved as a researcher and educator in southern university-based northern studies. My goal is to bring together some comments on research databases and the lost generation of northern researchers, while being keenly aware that many ideas about northern research are not new. It was Mark Twain who said: "What a good thing Adam had. When he said a good thing, he knew nobody had said it before." I am also keenly aware that many individuals have been searching for northern knowledge outside of the university community. Researchers have been working effectively under the auspices of governments, industry, and nongovernmental organizations. Poking fun at universities is legitimate. Even A. Lawrence Lowell, president of Harvard University from 1909 to 1933, indulged in it: "Universities are full of knowledge; the freshmen bring a little in and the seniors take none away, and knowledge accumulates." University-based researchers might see themselves as a main source of new knowledge; but, in reality, academic institutions have always been a partner in seeking new knowledge. This has never been truer than at present.

The North and Northerners have always faced major changes; in the 20th century, these included the air industry, the DEW Line, hydroelectric dams, mines and roads. Now Northerners are facing the greatest acceleration of changes on landscapes and in communities since the 1970s. On landscapes remote from communities is a diamond industry that could supply the world with 15% of its diamonds within three years; several thousand people will be employed. Petroleum exploration (seismic and drilling) is operating today at the highest level since the 1970s. Pipeline construction projects of a size greater than ever seen in North America are being proposed: the "Texas of the North" is the new vision. From a community perspective, wage employment in the Northwest Territories is higher than ever before (especially in the larger communities), and land claims and self-governance are in place or are being developed rapidly. But there is some unease. Climate change is a major, geographically widespread and multidimensional issue; contaminants are still a threat; and other health, education, and environmental protection issues are numerous. Some would argue that we are seeing accelerated cultural genocide with economic colonization; individuals argue that language, culture, and heritage need more protection than ever before. I would suggest that the 1970s issues are still with us today, and the urgency to find solutions is even more critical and pressing.

What are the research needs? Researchers are being urged to collect more and better data and to make better predictions. They are urged to adhere to ethics guidelines, to demonstrate the impacts of their research at the proposal stage, and to effectively transmit research results to the community. Those responsible for management policy and implementation in the North are now searching for solutions, and they are finding many gaps in our knowledge. They emphasize that data are obsolete and capacity building is needed. Also, they stress that we have lost a generation of northern researchers. Questions are being asked about jobs for university researchers who work on northern topics: are there opportunities for long-term employment, or are these dead-end jobs? How do we maintain long-term northern research programs—at least one generation in length? How can we develop value-added industries with local benefits that are complementary to the programs of multinational giants? The needs are great!

Who is responsible for research that will lead to understanding, solutions, and management strategies? A few decades ago, the federal government provided research support, management policies, and policing. Now political devolution has resulted in multi-layers of governance in the North. Can we assume that this new governance system will invest in research that leads to new approaches? For example, who will invest in the monitoring of cumulative effects? If the linkage between government regulators and industry is too close, who will provide the long-term perspective so that environmental damage will not accrue to future generations? Partnerships are being encouraged among institutions, research facilities, communities, leaders, and students. Is this developing strong and equal partners, or is this an approach for co-opting economically weak partners? Maybe we should re-think the traditional role of government in light of the new power of industry. Many feel that industry-sponsored university research tarnishes the image of universities as honest brokers.

Who will provide financial support? Without budgets that reflect the realities of expensive northern research, researchers must stay close to their home institutions—and that is what they did in the 1980s and 1990s. During this time, Canada lost its leadership as a northern research nation to other circumpolar countries and especially to the United States, where recent Arctic research budgets of federal agencies were \$242, 240, and 233 million for the fiscal years 2000, 2001, and 2002 (Arctic Research of the United States 15:69–71). Now, with the vision of an economic boom in the North, governments are promoting research through financial partnerships with industry and universities. Does industry now force the research agenda? How can northern research data be gathered and interpreted objectively? Who owns the data, our society or the industrial financial supporter?

To the world, Canada is defined as a northern nation. Yet, since those who view themselves as Northerners are only a small portion of our population, we need to continuously educate Canadian citizens about the North and the northern people. This process can be affected by incorporating up-to-date research information in the curricula at all education levels and at an increasing rate. It is my hope that we can rebuild the lost research generation through more north-south exchanges for many groups in Canadian society. For potential researchers, small numbers of our citizens can be sensitized through field studies where young researchers and leaders are involved. More individuals can be exposed to northern issues through workshops and web-based servers.

I believe we need more northern research endowments in Canada. I think back to the 1970s, when the wastage of funds was well recognized. If only a few percentages of the expenditures during that decade had been captured in endowment funds, we could have supported research in perpetuity. I believe we need more research and think-tank nongovernmental organizations in Canada, and I believe these are increasingly important as the role of government changes from watchdog to stimulator of industry.

There is also a need to reinterpret the 1970s information and to convert it into more usable forms. Much of this information was collected and stored in libraries and databases as private and public research collections were consolidated in the 1980s and 1990s. Major Canadian library databases include the Department of Indian and Northern Affairs Library (INAC database with 66400 records), the University of Alberta Canadian Circumpolar Library (BOREAL database with 59000 records), the Arctic Institute of North America of the University of Calgary (ASTIS database with 50000 records), and C-CORE (with 34300 records). Stored in these libraries are hard-copy reports of such programs as the Arctic Gas project and the Mackenzie Valley Pipeline Inquiry. The largest international and multidisciplinary digital database (almost one million records) is the Arctic and Antarctic Regions bibliography of the National Information Services Corporation (NISC), which includes the holdings of about 12 institutions, including those listed above. We must not forget that these resources are now much more accessible than they were in the 1970s.

Finally, there is a need to capture the experience of many northern and southern people involved in the petroleum industry and many other activities in the 1970s and 1980s. These include community members, industry personnel, and government and university researchers. Many are still available for consultation, and the knowledge they hold goes well beyond their library reports. We need to find ways to bring these people together in think tanks for the benefit of all Canadians—and especially all Northerners.

NOTE: This commentary developed out of Dr. Wein's "Concluding Remarks" at the Northern Research Days Forum, held on 3–4 April 2002 in Edmonton, Alberta, and hosted by the Canadian Circumpolar Institute.

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