

ARCTIC RESEARCH IN THE PUBLIC INTEREST: WHO OR WHAT ARE THE PUBLIC(S)

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The theme for the session raises one immediate question, what is meant by the 'public interest'? The discussion of research in the public interest must establish the nature of public. In the government of Canada science is performed for the 'public good'. This is interpreted broadly as science and research performed to fulfill the mandates of departments established in law and to support the development of policy within the government to address new and emerging issues. It includes monitoring and observation networks to fulfill national and international obligations.

The Council of Science and Technology Advisors (CSTA) to the Government of Canada has conducted studies at the request of the Cabinet and has reported to cabinet and parliament on a series of issues surrounding the performance of science and research in the national government. The role of science in government, human resource issues for government science, communication of government science, and the need for linkages within government departments and externally to government in the conduct of science have been highlighted in these reports (SAGE, BEST, READ, STEPS, EDGE, SCOPE, LINKS). The CSTA is composed of representatives from non-government members of advisory boards to science based departments and agencies.

Who therefore is the public? or perhaps more appropriately in relation to science and research Who are the publics? There are numerous drivers for research, all of which are legitimate on their own, and the research responds to their own 'publics'. The most general interpretation of public is directly related to the life of the population at large incorporating quality of life and lifestyles. Health, food security, economy, contaminants, are obvious examples of these domains of research. Other domains of research have less direct implications for everyday life and much academic research is curiosity based. Astronomy and astrophysics for example relate to the inherent need of the population for knowledge. It is advisable therefore to consider the range of publics for which arctic research is conducted.

The 'publics' associated with national responsibilities lie at one end of a continuum. Under international protocols a nation is required to provide information to networks for climate, navigation, trade etc. In the Arctic information is required not only by the other circum-arctic nations but by the rest of the world for weather prediction and climate modeling. Some of this information may have little direct impact on the local population. The gathering of information and its interpretation requires an investment in

the science behind it, and this science can be conducted in places distant from the Arctic. The population at large may be totally unaware of the research but familiar with its product.

The Meteorological Service of Canada, part of Environment Canada, provides weather forecasting and ice condition forecasting for all parts of the country. In order to do this effectively in the long-term research is needed on the technology of measurement, the physics of the atmosphere, space based and terrestrial platforms, and climatology. Forecasting is based on the experience of what has happened in the past and the availability of real time data. The fact that the population at large is not aware of the research, and even when it is aware does not appreciate its importance, is part of the reason why governments often find it difficult to support some research in periods of budgetary constraint. In Canada concern about eroding capacity has been expressed in the climate community for over two decades. The recent publication of "Beyond the Breaking Point", a document detailing the severe rust-out conditions of infrastructure and erosion of research, under the signatures of both government and non-government scientists is a demonstration of the lack of recognition of the importance of some research to the population.

In Canada Arctic research has received a low priority of federal concern over three decades, a situation which has only recently started to be redressed. The reasons for this started with the decreased importance of the Arctic in security issues until the perceived emergence of terrorist threats three years ago.

The migrations of marine mammals, fish, and birds are quite well documented. Many of the species about which we have some knowledge base are food sources of populations in the Arctic and will come under increasing harvesting pressure in local economies and in the global economy. The research in culture, ecology, and economy required to assess these resources is international in scope, requiring extensive collaboration between nations. This collaboration will occur through collaborations established by scientists, through international agencies and societies such as the International Arctic Social Science Association and the International Arctic Science Committee and also through political affiliations such as the Inuit Circumpolar Conference and the Arctic Council.

The research required may never be widely disseminated but the applications of its findings may be fundamental to the lives and lifestyles of populations.

Strengthening the links between science and policy, whether in the Arctic or elsewhere, has been the subject of discussion for decades. A gulf still exists and this situation may lie at the heart of the discussion of Arctic Research in the Public Interest. A Canada EU seminar on "Environmental Assessment, Climate Change Research, and Policy Implications in the Arctic" held in Brussels in March 2004 attempted to address this issue. Keith Finlayson, at that time with UNEP/GRID Arendal, made two significant comments.

"The real issue is that as a research community we are only too happy to hand off problematic situations to the policy and decision makers and expect them to take the next step"

"The political will to do something about climate change does not exist on its own merit"

The communication of research can also be faulted for poor demonstration to communities and people of the importance of the research, although we are more becoming more accomplished at communicating the content of the research. The research community has made some strides in the communication of research in plain language when this is interpreted as the language of the audience, but has failed in the communication of the relevance of the research. Research with a glamorous image; Mars rovers, polar bears; whales; is often an easier sell than research with no image; krill; glacier hydrology; parasitology. Communication of the need for research is therefore just as important as communication of the details of the research.

Government research is frequently based on crisis response rather than vision. Governments must of course be able to respond to crises such as BSE but a firm vision is required for promotion of research beyond the immediate event and the four-year election span.

Fundamentally much research in the Arctic needs to focus on the regional to local level not just on the pan-northern issues. Responsibilities to the health and well being of the population are paramount in regions where climate change, contaminants, and cultural change have focused impacts. Climate modelers have already recognized the importance of regional models and are working on regional syntheses for the Mackenzie Basin and the Arctic Archipelago. This research can clearly be seen to be in the interests of the local population but is often not a priority of national funding. It is also critical that the capacity be developed within these communities to lead this research.

A final major public domain for research is the intellectual public focused primarily through the universities and colleges. The search for fundamental knowledge, which may or may not have immediate applicability to the population at large, is behind the ivory tower image. In the Arctic study of the sedimentary record of the Arctic Ocean on the Lomonosov Ridge is fundamental to an earth scientists understanding of how the Arctic Ocean Basin evolved. Much of the research is difficult to explain in the 'public interest' of populations but lies at the heart of the academic public. In Canada the orientation of funding to the southern-based university system, there is no university north of 60 in Canada, has long been a barrier to certain domains of northern research.

All research must however include continuing and meaningful interaction with Arctic populations, helping to develop education programs in science leaving a clear and accessible legacy in infrastructure and information systems. Communities responding to governance and economic issues are overburdened with legal and administrative issues, facilitating the information transfer from one 'public' to another 'public' will promote all aspects of Arctic Research.

CSTA Reports

- Linkages in the National Knowledge System (LINKS) 2005
- Science Communications and opportunities for Public Engagement (SCOPE) 2003
- Employees Driving Government Excellence (EDGE) 2002
- Science and Technology Excellence in the Public Service (STEPS) 2001
- Reinforcing External Advice to Departments (READ) 2001
- Building Excellence in Science and Technology (BEST) 2000
- Science Advice for Government Effectiveness (SAGE) 1999