

Why Keep a Community-Based Focus in Times of Global Interactions?

Fikret Berkes

IT IS A GREAT PLEASURE for me to give this address at the International Congress of Arctic Social Sciences. The guiding theme of this meeting, “Connections: local and global aspects of Arctic social systems”, is clearly the inspiration for my title. I will start with a story.

A few years ago I was involved in a team project in Sachs Harbour in the Canadian western Arctic, the Inuit Observations of Climate Change study. The lead agency for the project was the International Institute for Sustainable Development (IISD). My role was to provide advice regarding the conduct of community-based research, especially with regard to local and traditional knowledge. Our IISD colleague who was in charge of the project planning meeting, came up with a very “Western looking” workshop plan, with direct questions regarding climate change, involving the filling of index cards, and the generation of hypotheses with cause-effect linear thinking. I advised against some parts of the plan, and he did make some revisions. But the workshop was still carried out along what I thought were Western, rather than Inuit, lines of thinking and doing things.

Imagine my surprise when he came back with what looked to be a lot of good workshop results and evidence of enthusiastic participation (Ford 2000). I had further surprises later when I went to Sachs Harbour myself and found out that the Inuvialuit people of Sachs were quite comfortable in the “white man’s” style of meetings. Some of them laughed at my concerns about culturally sensitive study designs and said that these were “1970s kind of concerns”. They were no longer considered to be burning issues here; the first Mackenzie Delta - Beaufort Sea oil boom in the 1970s had transformed Sachs Harbour into an English-speaking community. I did not need a translator, they said, even with the elders.

I should qualify a few things. The Sachs Harbour experience is certainly not shared in all parts of the Canadian North. For example, in

the eastern Canadian Arctic the use of Inuktitut is still strong. Even in Sachs, as it turned out, proper translation from the local language was needed not only for reasons of cultural sensitivity but also for precision of environmental terminology. To talk about sea-ice, permafrost thawing and changes in animal migrations and distributions, we often had to go back to the original Inuvialuktun terminology. For example, in vernacular English, the people of Sachs Harbour referred to “icebergs” (when there are no icebergs in the technical sense in the Canadian western Arctic because there are no glaciers). The crucial distinction between first-year ice and multiyear ice did translate into common English but we had to double-check against the exact terminology of the elders to make sure (Nichols et al. 2004).

Nevertheless, the main point of the story is that many Northern communities are comfortable with global discourse and languages. Arctic societies and ecosystems are connected to global process perhaps more than ever before, making them vulnerable to pressures and incentives that may originate at other levels of social and political organization. Thus, one might ask if community-based management is appropriate at a time when Arctic social and ecological systems are so closely connected to the rest of the world. Is community-based management perhaps “hopeless romanticism” in a globalized world? I argue that local-level emphasis is still important even when we do not think of communities as simple, isolated entities. However, community emphasis is not sufficient by itself. Rather, in my work in the Canadian North and elsewhere, I have found it useful to think of community-based management as a shorthand for governance that starts from the ground up but deals with interactions across levels of organization.

My area is natural resources and my starting point is commons theory, or common property theory, as the context for community-based management. I propose a four-step conceptualization of Arctic communities in a complex world. First, not only are communities part of a larger world, but communities themselves are complex systems embedded in larger complex systems. Second, communities respond to various influences, making it important to identify drivers of change originating outside of the Arctic system. Third, we need to study cross-scale linkages between communities and other levels of political organization. Fourth, we need to investigate the various ways in which we can help build adaptive capacity at the local level to increase resilience in the face of change. Following a brief discussion of commons theory, I deal with each of these four points.

Communities and the Commons

Commons theory has undergone a major transformation since the 1980s, from the “tragedy of the commons” with its prognosis of gloom and doom, to the idea that resource users are capable of self-organization and self-regulation. A great deal of research in the last three decades has focused on commons institutions and defining the conditions that lead to the solution of the tragedy of the commons.

The new commons theory was developed mainly through the study of communities and community-based resource management cases. Small-scale common property systems were often chosen because these relatively simple systems could be used as “laboratories” to build theory. For example, Ostrom (1990: 29) comments that her strategy has been to study small-scale common property situations “because the process of self-organization and self-governance are easier to observe in this type of situation than in many others.” Hence, I start with commons theory because it has a great deal to say about community-based management.

The work since the 1980s has led to increasingly more precise definitions of the issues and their solutions. Common property (common pool) resources share two characteristics: (a) exclusion or the control of access of potential users is difficult, and (b) each user is capable of subtracting from the welfare of all other users (Feeny et al. 1990). These two universal characteristics of commons are referred to as the *exclusion problem* and the *subtractability problem*, respectively. Thus, Ostrom et al. (1999) define *common-pool resources* as “those in which (i) exclusion of beneficiaries through physical and institutional means is especially costly, and (ii) exploitation by one user reduces resource availability for others.”

Exclusion refers to the ability to exclude people other than the members of a defined group. Some northern land and resource tenure systems are designed to deal with exclusion but many use common-sense notions of respect for the traditional area of a social group. In contrast to the tightly regulated marine land and marine tenure systems of Oceania, for example, the direct regulation of exclusion is often not an issue with northern indigenous groups. Social values for sharing often override non-sharing, and neighboring groups are often too far away to pose a threat to local resources. Nevertheless, the important conclusion of the commons literature, regarding the legal recognition of communal resource rights as a key to success, holds true for the North as well as other areas. Without legal protection, conflicts among

competing groups for resources such as migratory marine mammals and waterfowl, as discussed by several papers at this conference and elsewhere, become inevitable. Problems of exclusion become especially important in an increasingly interconnected world in which local resource rights are under pressure. Hence, attention shifts to cross-scale institutional interactions to deal with impacts at several levels.

Subtractability refers to the ability of social groups to design a variety of mechanisms to regulate resource use among members. In many community-based management systems, users have devised rules for self-governance, monitoring mechanisms, and sanctions. Such self-organized rule making by communities is very common in the North and have been documented by generations of anthropologists and human ecologists. Much of the common property literature addresses the subtractability issue, and the ability of groups to make rules-in-use (institutions). For example, Ostrom (1990) lists eight design principles for effective community-based institutions. But the total number of enabling conditions that are important for the success of commons institutions may be considerably more, depending on how one may classify and count them.

Many systems of community-based resource management address exclusion and subtractability problems by devising institutions of collective action. The key is the ability of a community using a common resource to limit the access of outsiders, and self-regulate its own harvest. Common property management works through incentives. If members of a group are assured that future harvests would be theirs by right, and not end up being harvested by another group, they have the incentive to self-regulate. Common property analysis focuses on institutions; many of these are informal local rules-in-use. It looks at access and self-regulation, and asks questions about rules and who has rights and control over a resource. These rights and relationships are rarely static. Rather, they tend to change over time in response to various influences, both internal and external. Before turning to external drivers, I highlight an often-neglected issue – the internal complexity of communities.

Communities as Complex Systems Embedded in Larger Systems

Not only communities are part of a larger world; communities themselves are complex systems embedded in larger complex systems. Communities are not simple entities but show some of the characteris-

tics of complex systems: they may be multi-level and may include competing groups and different interests. The notion of community is often used without an adequate critique of its geographic, political and normative dimensions.

Communities are often heterogeneous. There may be different interests by social group or ethnic group, as well as differentiation by gender and age. Of the ten or so communities I know in the Northwest Territories and in northern Manitoba, Ontario and Quebec, I have not encountered one that could be characterized as socially homogenous. In the James Bay Cree community of Chisasibi, for example, there were minority groups of Inuit and Metis. Among the Cree themselves, there were two groups, the coastal people and inlanders, with distinctly different subsistence preferences. In the Canadian western Arctic, the people of the Inuvialuit community of Sachs Harbour were descendants of the Inupiat of Alaska, and the people of Victoria Island and the Mackenzie Delta. The adoption of English as the common language in Sachs Harbour in the 1970s was in part a solution to the problem of dialect differences. Most, if not all, indigenous communities in northern Canada bring together small social groups that historically belonged to different lands. Hence, community heterogeneity is the norm rather than the exception.

The second aspect of complexity is that communities are embedded in larger systems. These once remote communities are being integrated into increasingly privatized, individualized, commoditized socio-economic systems. These are not new or even necessarily recent trends, but one can argue that the speed of change has been accelerating (Myers et al. 2005). The upshot is that these changes have been influencing property rights dynamics at the local level, the role of traditional governance, and social values. The general shift from subsistence use of local resources toward the pursuit of economic opportunities has been creating rifts within communities and conflicts with the outside world.

The interests of northern communities have been colliding with the interests of a larger system of resource users. As the spatial scale of resource use increases, heterogeneity of users also increases, and commons governance becomes multi-scale and multi-jurisdictional. Examples are many and include migratory geese, Pacific salmon and bowhead whales. The issue of persistent organic pollutants (POPs) is a special case of commons governance becoming multi-scale and multi-jurisdictional (Downie and Fenge 2003) but in this case impacts are unrelated to indigenous resource use.

Cross-Scale Governance

Commons research has often sought the simplicity of community-based systems to develop theory. But in reality, resources tend to be used by competing communities and user-groups, and the scope of inquiry needs to be broadened by dealing with cross-scale linkages between communities and other levels of governance. It is difficult to find a resource management system that does not have some cross-scale linkages and drivers at different scales (Berkes 2002). This is particularly so in a globalized world. Globalization has a major impact on local-level resource management through such mechanisms as the creation of international markets for example for narwhal ivory (Berkes et al., 2005).

Using the terminology of Young (2002), *institutional interplay* draws attention to the linkages among institutions, both at the same level of social and political organization and across levels. It includes the linkage of institutions *horizontally* (across geographical space) and *vertically* (across levels of organization). We have used this institutional interplay analysis, for example, to examine cross-scale linkages in the management of narwhal in Nunavut.

The case is an experimental community-based management process designed to devolve decision-making to community-level institutions, and to encourage the integration of western science and traditional knowledge. Established in four communities in the Nunavut region in 1998, the process involves vertical linkages from the local level (Hunters and Trappers Organizations), to the regional level (Regional Wildlife Organizations), and the national level (the Department of Fisheries and Oceans Canada and Nunavut Tunngavik Inc., a claims implementation organization). Connecting the levels is the main co-management body created under the Nunavut land claims agreement, the Nunavut Wildlife Management Board (Berkes et al., 2005).

As can be seen from this example, cross-scale governance deals with management at multiple levels and expands the notion of co-management which is often conceived as a simple two-way linkage between a unitary government and the community. The notion of cross-scale governance retains the community emphasis and the need to create political space at the community level through such mechanisms as the establishment of the right of self-governance (as Dalee Sambo Dorough pointed out in an earlier plenary) and land claims agreements (Berkes et al. 2001). But at the same time, it highlights the need to

consider other linkages, both horizontal and vertical, that enable community-based management.

External Drivers

Driver, as defined by the Millennium Ecosystem Assessment (MEA 2003), is “any natural or human-induced factor that directly or indirectly causes a change”. Arctic communities have had to respond to various environmental drivers over the years, including radioactive fallout in the 1950s, POPs in the 1980s (Downey and Fenge 2003), and climate change in the 1990s (Krupnik and Jolly 2002). As well, there have been sweeping changes due to numerous social and cultural drivers. For example, Myers et al. (2005) identified the following changes in the past 40 years in the modes of production and consumption of traditional foods in the Canadian North: centralized settlements; adoption of mechanized transportation; individualized hunting; commercialization of resources; involvement in wage labor and the formal economy; harvesting as part of a mixed economy; the need for income-generating economic options; the availability and accessibility of market foods; and new knowledge about contaminants and about the continued desirability of country foods.

Identifying external drivers that impact a community is not easy because of the confounding effects of multiple drivers of social and cultural change, such as ‘imported’ or non-indigenous values, the formal education system, TV and mass media, as well as environmental drivers, economic drivers such as market forces, and government policy itself.

We do not often think of government policies as external drivers. But consider, for example, the impacts of centralization, imported resource management prescriptions, and — as the Alaska elder, Rev. David Salmon, pointed out in the plenary as a particularly serious negative impact — the creation of dependency. On the other hand, potential positive impacts could include legislation for self-determination and community-based management, the establishment of resource and environmental co-management mechanisms, and the recognition of traditional knowledge. I say “potential” because the process of implementing co-management and learning to respect indigenous knowledge has been anything but smooth (Berkes 1999; Nadasdy 2003).

Building Adaptive Capacity to Deal with Change

The many impacts and rapid changes in the Arctic raise questions about adaptations: is it possible to investigate the various ways in which

one can help build adaptive capacity at the local level to increase resilience in the face of change? The concept of resilience is a promising tool for dealing with change because it provides a way of analyzing the dynamics of how systems persist, transform themselves or collapse. In brief, resilience is the capacity of a system to tolerate impacts of drivers without irreversible change in its outputs and structure, or to tolerate disturbance without collapsing into a qualitatively different state (Gunderson and Holling 2002). A resilient ecosystem can withstand shocks and rebuild itself. Borrowed from ecology, the concept of resilience as applied to social systems, includes the capacity of humans to anticipate and plan for the future.

The notion of anticipating future change and building adaptive capacity to deal with change is relatively recent. In a document prepared for the Johannesburg Earth Summit, Folke et al. (2002) argued that such planning could be done in part through the creation of flexible multi-level governance systems that can learn from experience and generate knowledge to cope with change. As applied to the Arctic, building adaptive capacity may mean strengthening local institutions, fostering international institutions (such as the Arctic Council), and building cross-scale linkages from the local level to the international.

To expand on the above, there are three aspects of building resilience (Berkes and Folke 1998; Gunderson and Holling 2002). First, improving the ability to deal with shocks and stresses depends on developing coping and adaptive strategies, retaining “memory” to be able to reorganize after a perturbation, and making use of opportunities created by change processes. Many Arctic societies are of course experts in adapting to change, and elders hold system “memory”. In the case of recent changes, such as climate change, there is evidence of short-term or coping responses being developed by various Arctic communities (Krupnik and Jolly 2002).

Second, improving capability for self-organization requires capacity-building and institution-building at various levels. It requires healthy community institutions for collective action, as in Ostrom’s (1990) design principles for commons management. Here, the policy challenge is to strengthen community-based institutions in the Arctic (which may involve reversing current trends in most regions), while at the same time building new institutions at other levels and their cross-scale linkages.

Third, improving the capacity for learning and adapting requires creating political space for community-based management so people

can learn from their own successes and failures. Rather than following the prescriptions of conventional top-down management, local managers and co-managers need to be encouraged to experiment and generate a diversity of experiments. Nurturing social and institutional memory requires the creation of flexible multi-level governance systems that can learn from experience (adaptive management), and generate knowledge to cope with change by combining different kinds of knowledge, both local and scientific (Berkes and Folke 1998; Folke et al. 2002).

Resilience thinking is in many ways consistent with a worldview of constant change and evolution, and consistent with indigenous conceptualizations of the universe. It has been used in ACIA Chapter 9 (Huntington et al. 2005) to supplement vulnerability analysis. By emphasizing uncertainty and constant change, and by looking at change as opportunity, resilience thinking challenges widely held notions about stability and resistance to change.

In conclusion, community-based focus is, perhaps paradoxically, key to social health even though Arctic societies are connected to global processes more than ever before. Arctic societies are vulnerable to pressures and incentives that originate outside the Arctic, at higher levels of political and economic organization. This vulnerability can be reduced by keeping a community focus, with attention to complex systems phenomena such as levels and linkages. In cross-scale commons management, dealing with the two fundamental problems of commons, exclusion (control of access of potential users) and subtractability (exploitation by each user reducing resource availability for others), also requires an understanding of complex systems.

Much evidence indicates that institutions that are close to the resource, flexible, diverse, and receptive to feedback from the environment, stand a better chance of success than top-down, centralized management systems (Berkes and Folke 1998). In my own research, I am finding it useful to think of “community-based resource management” as shorthand for governance that starts from the ground up but deals with cross-scale interactions. A community-based focus helps build grounded theory and practice, and at the same time helps develop a more sophisticated understanding of how cross-scale linkages and external drivers shape the interactions that are the subjects of our various fields of study.

References

- Berkes, F. 1999. *Sacred Ecology*. Taylor & Francis, Philadelphia and London.
- Berkes, F. 2002. Cross-scale institutional linkages for commons management: Perspectives from the bottom up. In: *The Drama of the Commons* (E. Ostrom, T. Dietz, N. Dolsak, P.C. Stern, S. Stonich and E.U. Weber, eds.) National Academy Press, Washington, DC, pp. 293-321.
- Berkes, F., N. Bankes, M. Marschke, D. Armitage and D. Clark 2005. Cross-scale institutions and building resilience in the Canadian North. In: *Breaking Ice* (F. Berkes, R. Huebert, H. Fast, M. Manseau and A. Diduck, eds.) University of Calgary Press, Calgary, pp. 225-247.
- Berkes, F. and C. Folke, eds. 1998. *Linking Social and Ecological Systems*. Cambridge University Press, Cambridge, UK.
- Berkes, F., J. Mathias, M. Kislalioglu and H. Fast 2001. The Canadian Arctic and the Oceans Act: the development of participatory environmental research and management. *Ocean & Coastal Management*, 44: 451-469.
- Downie, D., and T. Fenge, eds. 2003. *Northern Lights Against POPs*. McGill-Queen's University Press, Montreal and Kingston.
- Feeny, D., F. Berkes, B.J. McCay and J.M. Acheson 1990. The tragedy of the commons: Twenty-two years later. *Human Ecology* 18: 1-19.
- Folke, C., S. Carpenter, T. Elmqvist, L. Gunderson, C.S. Holling, B. Walker, et al. 2002. *Resilience and Sustainable Development: Building Adaptive Capacity in a World of Transformations*. ICSU Series on Science for Sustainable Development No. 3. <http://www.sou.gov.se/mvb/pdf/resiliens.pdf>
- Ford, N. 2000. Communicating climate change from the perspective of local people: a case study from Arctic Canada. *Journal of Development Communication* 1(11): 93-108.
- Gunderson, L.H. and C.S. Holling, eds. 2002. *Panarchy: Understanding Transformations in Human and Natural Systems*. Island Press, Washington, DC.
- Huntington, H.P., S. Fox, I. Krupnik and F. Berkes 2005. The changing Arctic: indigenous perspectives. Chapter 9 of *Arctic Climate Change Impact Assessment*. The International Arctic Science Committee of the Arctic Council (in press).

- Krupnik, I. and D. Jolly, eds. 2002. *The Earth Is Faster Now*. ARCUS, Fairbanks AK.
- MEA 2003. *Ecosystems and Human Well-Being*. Millennium Ecosystem Assessment. World Resources Institute/Island Press, Washington, D.C.
- Myers, H., H. Fast, M. Kislalioglu and F. Berkes 2005. Feeding the family in times of change. In: *Breaking Ice* (F. Berkes, R. Huebert, H. Fast, M. Manseau and A. Diduck, eds.) University of Calgary Press, Calgary, pp. 23-45.
- Nadasdy, P. 2003. *Hunters and Bureaucrats*. University of British Columbia Press, Vancouver.
- Nichols, T., F. Berkes, D. Jolly, N.B. Snow and the Community of Sachs Harbour 2004. Climate change and sea ice: Local observations from the Canadian western Arctic. *Arctic* 57: 68-79.
- Ostrom, E. 1990. *Governing the Commons*. Cambridge University Press, Cambridge, UK.
- Ostrom, E., J. Burger, C.B. Field, R.B. Norgaard and D. Policansky 1999. Revisiting the commons: Local lessons, global challenges. *Science* 284: 278-282.
- Young, O. 2002. *The Institutional Dimensions of Environmental Change*. MIT Press, Cambridge, MA.

