

SCALING THE GOVERNANCE BARRIER

SUMMARY

One of the most significant challenges confronting the twenty-first century is the sustainable governance of natural resources. For the more than 30 percent of the world's population who rely directly on natural resources for their livelihoods, barriers to sustainable governance are of more than academic importance. Many vital resource stocks (marine fish stocks, grazing and forest lands) are disappearing or are under significant stress, which in turn increases global poverty and food insecurity. Increasingly, the global community views the problem as one of involving appropriate actors in governance, especially those at the local level. The 1992 Earth Summit in Rio de Janeiro, for example, focused on "broad public participation in decision making" as a "fundamental prerequisite for the achievement of sustainable development" (Agenda 21, Chapter 23.2). A second conclusion emerging from the Rio Summit was that sustainable resource use is achieved through managing for economic, ecological, and social outcomes. These multiple values and outcomes can be attained if management is based on effective governance structures at the grassroots level that in turn are linked with other scales of governance. Much can be learned from comparative analysis of those few cases where such participatory governance has successfully been achieved through community-based management or co-management. This research program relies on both domestic and international experiences to investigate the problem in innovative ways.

We have three objectives. First, we will develop a better understanding of the process of governance and the barriers preventing its effective execution for coastal resources. Second, through a comparative analysis of innovative cases that overcome such barriers, we will build an integrated theoretical framework for understanding and analyzing cross-scale governance. In these cases, vertical linkages (across levels of social and political organization) and horizontal linkages (across the same level) permit wider ecological, regulatory and economic interconnections to be addressed. Third, we will employ existing partnerships with domestic and international grassroots organizations to apply learned insights in a collaborative way and to provide practical, field-based tests of the theory. Our primary methodology involves learning communities, which in this context we define as place-based, resource-dependent groups that have developed shared values and effective problem-solving techniques through iterative, practice-based learning. In each learning community, this iterative process will have engaged with particular barriers, providing many examples to serve as the basis for comparative analysis. We are particularly interested in the ways that cross-scale linkages can help to address interconnected ecological, regulatory and economic barriers to governance. Using new communications technology as well as face-to-face interactions, the program will facilitate the 'scaling up' of lessons learned from this comparative research. We will create learning alliances across both geographic areas and resource stocks by linking together actors involved in a variety of governance structures including community and policy worlds.

Given that our objectives are both theoretical and practical, and given the global scale of the problem, we will train graduate students as critical theorists of governance and management by involving them in careful and systematic field research, both within Canada and abroad. We will do so by involving them closely in research that we will conduct with the help of partners in Canada, the Caribbean, South and Southeast Asia, and Latin America. We will arrive at and disseminate our research findings in collaboration with "centres of research excellence" around issues concerning resource governance. Among our partners is the International Development Research Centre (IDRC) that has already committed financial support to the research program. Aside from applied dissemination, significant theoretical output is planned in the form of major interdisciplinary and collaborative publications. Given that our program is not merely multidisciplinary, but interdisciplinary, the resulting publications will provide a truly integrated theory of natural resource governance and management.

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Objectives and Significance of the Proposed Research Program

In 1992, at the Earth Summit in Rio de Janeiro, 178 states agreed that "broad public participation in decision making was a fundamental prerequisite for the achievement of sustainable development" (Agenda 21, Chapter 23.2). This was predicated upon compelling evidence that both ecological sustainability and economic development was a complex problem of managing for multiple values and outcomes, and that this in turn required systematic input from those 30 percent of the global population who are directly dependent on the environment for their livelihoods. The commitment to broad public participation required a transformation of governance structures and more meaningful processes of engagement among and between different sectors of civil society. Some progress has been made. But ten years later at the World Summit in Johannesburg, there was little evidence that broad participation of people in the decision-making processes had been achieved in any of the 178 signatory states. This gap between hopes and accomplishment constitutes a significant challenge in the worldwide problems of resource degradation, social equity and livelihoods (Sachs *et al.* 2002).

Our proposed research program directly addresses this challenge. We will focus on the conditions that enable effective governance of coastal resources (complex interactions of several natural environments with decision-making at multiple levels) to address gaps in information, knowledge, and theory as a means to generate practically relevant theoretical insights. Our objectives are:

- to identify the processes critical to the effective governance of coastal resources, including barriers that may impede it;
- to build an integrated theoretical framework for understanding and analyzing cross-scale (horizontal and vertical) governance or its absence;
- to establish partnerships with domestic and international actors to conduct collaborative research and to encourage practical, field-based applications of our research findings.

We take governance to mean the mechanisms and processes by which power is shared. Sharing power for wise natural resource management must rely on both vertical linkages (across levels of social and political organization) and horizontal linkages (across the same level) in order to manage wider ecological, regulatory and economic interconnections effectively (Berkes 2002, Cash and Moser 2000). Thus, much can be learned from the few exceptions where participatory governance has emerged and successfully connected with institutions at other levels. Both community-based management (where management decisions are made at the community level) and co-management (where management powers are shared between two or more levels) are examples. Evidence shows that grassroots participation is essential to manage resources for multiple values and outcomes such as market efficiencies, community development, sustainability, adaptability, and ecological health (Berkes and Folke 1998, Berkes *et al.* 2001, Kearney in press, F. von Benda-Beckmann and van der Velde 1992, Spiertz and Wiber 1996). This evidence also suggests that good governance requires incorporating a wider range of knowledge, better understanding of the multiple types and sources of power and authority (Wolf 2002), and more effective tools for engagement.

The proposed research program thus has both national and international reach and significance. It will investigate the problem of good governance of natural resources by building a comparative, cross-cultural, collaborative study of learning communities, i.e. communities that are attempting to establish effective governance and are willing to self-study and share their findings with similarly-situated communities (Somers 1998). Definitions of learning communities are available from many contexts (Fisk *et al.* 1998, Kilpatrick *et al.* 2003, Bennell *et al.* 2000), but in the context of natural resource management we define learning communities as inclusive, place-based groups that solve governance problems through collaborative, iterative processes of learning by doing. The knowledge and empowerment flowing from learning communities can lead to an acceptance of change, effective

communication, improved economy and social justice, as well as greater levels of trust that bind communities, making them more resilient. Since governance and management are ongoing processes, the research program will facilitate the ‘scaling up’ of lessons learned from this comparative assessment, by building learning alliances across geographic areas and resource stocks, linking together effective learning communities in order to bring about change in governance structures, community engagement, and government policy.

Research Questions and Methods.

An extensive review of the literature on community-based resource management (CBRM) indicates that scholars have identified multiple barriers to effective governance. These include competing models of governance (Cyert and March 1963, Clarke and McCool 1996, Songorwa *et al.* 2000, Degnbol 2003), multiple legal and policy regimes with ill-specified targets (Hara and Nielsen 2003, Pinkerton & Keitlah 1990, Kofinas 1998, Michaels 1962), insufficient attention to community capacity (McFarland 1987, Pinkerton 1992), highly asymmetric political relations within communities (Li 2000, Agrawal and Gibson 1999, Ribot 2004, Davis & Bailey 1996, Hara & Nielsen 2003, Acheson 2003), and the absence of information necessary for governance (Wilson *et al.* 1994, Schlager and Ostrom 1993, Finlayson 1994, Holm 2003, Wilson 2003, Palsson 1995, Neis and Felt 2000).

In addressing these barriers, the existing literature has contributed important pieces of a broader governance theory such as the relationship between different property rights institutions and governance outcomes, the positive role of enabling legislation, and the importance of environmentalist values in reducing costs of enforcement. But there are also areas in which knowledge remains weak and fragmented. Even more importantly, we lack an integrated framework that can connect the different parts of the governance puzzle or explain the general lack of involvement for local users and stakeholders despite their obviously critical role in ensuring resource security.

Existing frameworks have tended to focus narrowly on a few of the many causal variables relevant to governance, as in the nature of the resource (Netting 1981, Ostrom, Gardner and Walker 1994, Schlager and Ostrom 1993), characteristics of different managing and stakeholder groups (Baland and Platteau 1996), institutional arrangements in communities (Berkes 2002, Pinkerton and Weinstein 1995, Ostrom 1990, Pinkerton 2003, Kearney *in press*), markets, and states, and the overarching context (Agrawal 2002, Plummer and Fitzgibbon, 2004). However, these frameworks suffer from four problems that our research will address through four themes. First, they do not carefully conceptualize the relationships among different variables and often present outcomes as being a linear function of causal variables without sufficient attention to the contextual conditions that configure their impact (Law and Policy Theme). Second, they do not account for dynamic interactions across social and ecological scales (Cross-Scale Linkages Theme). Third, although one objective of governance is to change human actions, we know little about how similar institutions can yield different outcomes depending on the values and preferences of individuals and changes in them with shifts in governance arrangements (Change Theme). Fourth, much of the literature relies on data drawn from specific regions and a small number of cases rather than a large number of cases in cross-cultural or North-South contexts (Learning Communities Methodology). These lacunae yield three overarching questions that parallel our research objectives, and must be addressed.

1. What knowledge on the process of cross-scale governance is still required to create an integrated theoretical framework for understanding and analyzing natural resource management?
2. How can an integrated theoretical framework be developed that accounts for multiple cases in a variety of contexts that change over time?
3. How can this integrated theoretical framework be translated into field-based practice and policy change?

Our focus is thus multiplex. Our research will examine: (a) the importance of political-legal, socio-economic, and ecological context as it relates to critical variables such as group size, heterogeneity, and

resource dependence; (b) cross-scale linkages as they affect the capacity of local actors to authoritatively alter conditions of resource use and governance; (c) the dynamic and changing nature of the relationships between governance at multiple levels, collective values, and individual identities. These issues are related to the first three gaps we have identified above and constitute a provisional guide to addressing our first research question. We will use participatory and collaborative research to investigate how different influences shape resource governance outcomes, and to develop a more comprehensive theoretical framework that moves beyond a simple listing of causal influences.

The first and fourth lacunae mentioned above (the diversity of contexts, and the need for comparable evidence from multiple instances) have important implications for our research design and methods in addressing the second research question. We need to carefully select multiple cases and study them over time, and these cases should display significant variation in their political, socio-economic, and ecological contexts. To do this, we will establish partnerships with learning communities in 8-10 locations, ensuring that the selection accounts for theoretical concerns about how context conditions causal relationships. Each learning community would comprise several coastal habitats (open ocean, bays, lagoons, mudflats, marshes, woodlots, etc) and a variety of resource users (offshore and inshore fishers, aquaculturalists, intertidal harvesters, whale watchers, woodlot owners, etc) in multiple organizations, management structures, and levels of governance. Within each learning community we can select a number of cases that represent diverse contextual conditions. For example, in our selection process we can choose cases based on the predictability and stability of the ecological environment within which users are operating (volatile vs. stable), and then subdivide those cases by the degree of dependence of users on the resources being governed (low vs. high). This would yield at least four cases for study and result in 32-40 cases across all the learning communities. Within each location, we will collect evidence on the suite of variables identified as important in the existing literature on CBRM. By examining how these variables work in the diverse contexts, and by drawing on local expertise to help frame our analysis, we will identify how our theoretical framework needs to be modified for different contexts.

Our focus on learning communities also addresses our third research question. Learning communities are not only the sites for data collection, but also for field collaboration with community-based organizations and government agencies. They provide a highly effective mechanism to examine how variations in field conditions, organizational structure, and resource abundance affect the practical utility of research findings. Our strong interest in policy and past experience in policy-related research has made us critical of conventional research methods that put a distance between researcher and the subjects of research. Instead we will work closely with actors in our field sites, involving them in all aspects of the research. This process of co-learning has in the past greatly helped to apply research findings to reconfigure local practices. We will test this approach further by distributing our preliminary findings among a range of similar resource-dependent organizations in order to examine whether the findings are used by those outside research process, and to systematically assess how research participation by learning communities affects the policy influence of policy-relevant research.

In addition to focusing on learning communities, we will employ two complementary methodological approaches. First, an indicators and community-based monitoring effort will provide a set of performance indicators to assess the success of researchers and learning communities in meeting their objectives, and a decision support system for learning communities and others to monitor local conditions and the impact of changes. In both cases, indicators will encompass a broad range of ecological and social impacts in order to contribute to a “full-cost accounting” of resource management and policy. Second, a case-writing effort will draw data and comparative analysis coming from the work in each of our theme areas and produce a series of working papers for discussion among collaborators and partners in the learning communities, and to help to develop the theoretical framework, the implementation of adaptive management, and refined monitoring approaches.

To ensure a tighter synthesis and interdisciplinarity, we have agreed on the following themes and domains for the research:

Barriers in Context: Given the importance we have given to understanding how context shapes the influence of specific factors and thereby outcomes by studying multiple cases, we have identified barriers and context as an important crosscutting theme for our proposed research.

Cross-Scale Linkages: Stern *et al.* (2002) observe that “Although there are large literatures on resource institutions at small scales... and... international to global scales, knowledge about how to meet the challenges of vertical linkages across scales is still rudimentary”. Horizontal linkages of institutions at the same level of organization are “perhaps even less well understood than that of vertical linkages”. Despite some efforts to remedy this gap through a focus on boundary organizations (Cash and Moser 2000), and co-management processes (Pinkerton 1989; Pomeroy and Berkes 1997; Pinkerton 2003), “we do not have a systematic examination or clear understanding of variations in [cross-scale] relationships and how [they] affect the nature and outcome of common-pool resource management” (Agrawal 2002). To attempt to understand governance processes through cross-scale linkages, therefore, represents a refocusing of the CBRM paradigm. This shift of perspective conforms well to our emphasis on learning communities since there is ample cross-scale variation in their constitution for us to study and understand how cross-scale effects influence outcomes (Olsson, Folke and Hahn 2004; Olsson, Folke and Berkes 2004).

Dynamics and Change: Resource governance is shaped by a striking variety of factors, but even more crucially, by changes in these factors over time. We propose to assess the role of three spheres of changes that are central to resource governance, and that remain under-investigated in the existing literature: changes in ecological variables, shifts in social and institutional arrangements, and transformations of individual and collective values and identities. Since these are not necessarily independent of each other, we want to understand how and under what conditions government agencies and community organizations can come to view power-sharing as delivering net benefits as a result of changes in the external environment, or learning over time (Clarke and McCool 1986, Poncelet 2001). To ensure adequate representation of changes in these three spheres over time we will gather evidence from the learning communities for at least two time periods in any given case. Again, collection of diachronic data will be significantly aided by field-based collaborations. We will charge specific individuals in each learning community with data collection and supervision of data collection arrangements, governed by memorandum of agreement.

Law and Policy: Good governance hinges on transparency, accountability and participation; good management should yield sustainability, biodiverse resource-scapes, and positive growth. Under this theme, we will focus on the links between governance -- the mechanisms and processes by which power and decision-making are allocated amongst different actors, and management -- the decisions about use patterns as well as about transforming the resource by making improvements (Béné and Neiland 2004). A number of our selected research locations are characterized by “legal pluralism,” with multiple rules and norms linked to customary law, state law, international agreements, and NGO developed norms (Griffiths 2002, Wiber 1993, F. von Benda-Beckmann 1999). This legal complexity is often related to governance problems, and ultimately, poor management outcomes. Law is also intimately related to knowledge of resources because it regulates access, interactions, and use (F. von Benda-Beckmann 1999). Linking multiple forms of knowledge (Agrawal 1995, Berkes 1999) is therefore critical to overcoming gaps in regulation and to assessing how law and policy shape outcomes.


The Research Team – Grounded in Community

The proposed research program will draw on the wealth of experience of the six co-applicants, and will synthesize diverse insights from a number of theoretical perspectives, including participatory research (Wiber *et al.* 2004, Wiber 2004), co-management (Pinkerton 1992, 2003), community-based management (Berkes 1989, Agrawal and Gibson 1999, Kearney *in press*), common property (Agrawal

2002), sustainability and policy (Charles 2001, Copes and Charles 2004), property theory (F. and K. von Benda-Beckmann and Wiber, in press), resilience and adaptive management (Berkes, Colding and Folke 2003), indigenous knowledge (Agrawal 1995, Berkes 1999) and learning communities (Wiber and Kearney, in press). The research team is distinguished by both their academic and community experience with work grounded in learning communities that connect academics and practitioners.

Figure 1 indicates the roles for each co-applicant in the research program.

Figure 1

Research Themes	Program Direction: <u>Kearney</u>	Methodology
Barriers: <u>Pinkerton</u> , Wiber, Charles, Agrawal		Learning Communities: <u>Kearney</u> , Agrawal, Wiber, Berkes
Linkages: <u>Berkes</u> , Charles, Wiber, Kearney		Indicators: <u>Charles</u> , Wiber, Pinkerton
Change: <u>Agrawal</u> , Berkes, Kearney, Pinkerton		Case Writing: <u>Wiber</u> , Kearney, Agrawal, Pinkerton, Berkes, Charles
Law and Policy: <u>Wiber</u> , Charles, Pinkerton		

John Kearney is Program Director of the research program, and leader of the Learning Communities methodology. For nearly 25 years, he has combined academic research with community engagement as a leader in the initial establishment of community-based management in Canada's fisheries, and in CBRM efforts internationally. As Program Leader of one of Canada's two centres for CBRM, he has been crucial in establishing the MCRI team of co-applicants, collaborators and partners all over the world. He has extensive fund-raising and project management experience, having administered large-scale projects with multiple partners both in Canada and internationally. His skills in knowledge transfer and mobilization are critical for successfully linking theory with field-based practices.

Arun Agrawal is leader of the Change theme. He is a political scientist who has made contributions to commons theory and has extensive research experience in India and Nepal. His current research examines how changes in institutions and policy regimes are linked to changes in individual and collective identities.

Fikret Berkes is the Graduate Education Coordinator of the program, and leader of the Linkages theme. He works at the interface of social and ecological systems, and has contributed to research and theory on common property, resilience, and traditional knowledge. He holds a Canada Research Chair in community-based resource management.

Anthony Charles is the leader of the Indicators and Community-Based Monitoring methodology. He has background in resource economics, integrated coastal management and sustainability assessment, with close ties to national and international research bodies. He currently leads the SSHRC/DFO Ocean Management Research Network.

Evelyn Pinkerton is the Research Coordinator for the program, and the leader of the Barriers theme. She is a social anthropologist who pioneered co-management research, with key publications on fishery, forestry and coastal management. Her more than 30 refereed publications on co-management cross disciplinary boundaries.

Melanie Wiber is the Publications Coordinator for the program, and leader for the Law and Policy theme and Case Writing methodology. She is an internationally recognized scholar in legal anthropology and property rights, with a research connection with the Max Planck Institute in Social Anthropology (Germany).

Collaborators: A significant number of collaborators have also joined the research team, so that the program's research personnel numbers 29, with 20 based in Canadian institutions and 9 in the United States, the Caribbean, South America, or Southeast Asia (Table 1). We account for 18 different disciplines, and include both academic and community researchers, with several decades collectively of

field work, community involvement and participatory research. The collaborators have been selected carefully to contribute to the specific research thrusts of the MCRI, to fit within specific learning communities envisioned in the program, and to complement the disciplinary, sectoral, and geographical composition of the six co-applicants. Specifically, we have researchers from anthropology, economics, political science, planning, public administration, organizational theory, biology, geomatics, and various interdisciplinary fields, notably participatory research and natural resource management. The research team also brings to the program experience on all three of Canada's coasts as well as Asia, Latin America, and the Caribbean. Finally, there is a mix of resource sectors represented, notably fisheries, forestry, agriculture, and both watershed and coastal zone management.

Table 1

Collaborators	Discipline	Institution	Region
Derek Armitage	Geography	Wilfrid Laurier University	Arctic Canada
Cheryl Bartlett	Integrative Science	University College of Cape Breton	Atlantic Canada
Yvan Breton	Economic Anthropology	Université Laval	Caribbean
Arthur Bull	Participatory Research	Saltwater Network	Atlantic Canada
Rosaline Canessa	Geomatics	University of Victoria	Pacific Canada
Iain Davidson-Hunt	Resource Management	University of Manitoba	Arctic Canada
Rod Dobell	Public Administration	University of Victoria	Pacific Canada
Sabrina Doyon	Social Anthropology	Université Laval	Latin America
Alison Evans	Coastal Planning	Dalhousie University	Atlantic Canada
Elmer Ferrer	Community Development	University of the Philippines	Southeast Asia
Daniela Kalikoski	Resource Management	Universidade Federal do Rio Grande	Latin America
Louis Lebel	Applied Social Science	Chiang Mai University	Southeast Asia
Robin Mahon	Resource Management	University of the West Indies	Caribbean
Patrick McConney	Resource Management Science	University of the West Indies	Caribbean
Chris Milley	Participatory Research	Mi'kmaq Confederacy of PEI	Atlantic Canada
Jim Morrison	Organizational Development	Jim Morrison and Associates	Pacific Canada
Gary Newkirk	Zoology, Resource Management	Dalhousie University	Southeast Asia
Robert Pomeroy	Resource Economics	University of Connecticut	Southeast Asia
Murray Rudd	Fisheries Sociology	Fisheries and Oceans Canada	Caribbean
Renée Lyons	Community Health	Dalhousie University	Atlantic Canada
Cristiana Seixas	Resource Management	Universidade Estadual de Campinas	Latin America
Truong Van Tuyen	Community Development	Hue University	Southeast Asia
Martin Weinstein	Marine Sciences	'Namgis First Nation	Pacific Canada

Partners

Partnering represents a critical aspect of this program and we have spent considerable time in developing a prospective set of learning community and local collaborator partnerships, including First Nations, industry and community organizations, government, environmental groups, resource and research centres, management boards, and networks involved with CBRM (Table 2). These partners are involved through their close connections with program researchers, their understanding of the importance of research and community-based resource management to meeting their own objectives, and their ability as leaders in the formation of learning communities in their own geographical areas. Together these partners bring a wealth of experience in and commitment to CBRM, and coverage of a diversity of resource sectors. The partners have expressed enthusiasm for taking part in a participatory process to develop the program further.

Partnering internationally will build on our strong existing collaboration with the International Development Research Centre, one of the program partners. IDRC has already provided \$75,000 in funding to support the development of a full program proposal, in anticipation of its support for an international component of this research program. IDRC sees this as an opportunity to work with SSHRC to jointly support a research program that has equally important national and international impacts. IDRC has worked with the applicants to support meetings on the development of this program

in Vancouver, Ottawa, Toronto and Oaxaca, Mexico. In collaboration with IDRC, we have begun to develop additional partnerships with research institutions, governments, NGOs, and community-based organizations in the Caribbean, Latin America, and South and Southeast Asia (in addition to the ones listed here). Many of these potential partners have been pioneers in developing learning communities and learning institutes, and have developed a rich set of case studies they can share with their Canadian counterparts.

Table 2

Organizations by Coast	Location	Contact
<i>Atlantic-Gulf of Maine</i>		
Bay of Fundy Marine Resource Centre	Nova Scotia	Martin Kaye
Bear River First Nation	Nova Scotia	Chief Frank Meuse, Sherry Pictou
Conservation Council of New Brunswick	New Brunswick	Janice Harvey
Fundy Fixed Gear Council	Nova Scotia	Chris Hudson, Hubert Saulnier
Fundy North Fishermen's Association	New Brunswick	Greg Thompson
Northwest Atlantic Marine Alliance	Maine, USA	Craig Pendleton
Saltwater Network	New England-Maritimes	Arthur Bull
<i>Atlantic- Sydney Bight/Gulf of St. Lawrence</i>		
Mi'kmaq Confederacy of Prince Edward Island	Prince Edward Island	Chris Milley
Unama'ki Institute of Natural Resources	Cape Breton	Charlie Dennis
<i>Pacific- British Columbia</i>		
British Columbia Community Forest Association	British Columbia	Jennifer Gunter
Ecotrust Canada	British Columbia	Greg Kehm
West Coast Vancouver Island Aquatic Management Board	British Columbia	Andrew Day
<i>Arctic- NT</i>		
Canada/Inuvialuit Fisheries Joint Management Committee	Northwest Territories	Andrea Hoyt, Kevin Bill
Gwich'in Renewable Resources Board	Northwest Territories	Robert Charlie, Jari Heikkila
<i>Southeast Asia</i>		
Community-Based Natural Resources Management Learning Center	Philippines	Elmer Ferrer
Participatory Management of Mangrove Resources Project	Cambodia	Kim Nong, Dept. of Environment
<i>International Research Centres</i>		
International Development Research Centre	Ottawa	Brian Davy
WorldFish Centre	Malaysia	Mahfuzuddin Ahmed

The WorldFish Centre (part of the Consultative Group on International Agricultural Research) has partners based in Bangladesh, the Mekong Basin and parts of Africa and has also confirmed its desire to be a part of this program.

Since the research program will focus on a set of 8-10 learning communities, a key activity will be a participatory process to identify an appropriate combination of learning communities from among those partners involved. Many of the program's co-applicants and collaborators already have working relationships with the partners, and this will aid in the integration of the objectives of the research with those of the communities. The partners and researchers, their interdisciplinary mix and combination of theoretical and practical expertise, provide the critical mass of knowledge and experience to study CBRM in all its complexity, and thereby to increase opportunities for critical breakthroughs in understanding and capacity for participatory governance.

Student Training

The research program will provide many training opportunities at undergraduate, graduate and postdoctoral levels given the combination of diverse experiences, disciplines, and institutions involved. We are planning to support two master's students, four doctoral students, and one postdoctoral fellow per year over the life of the program. IDRC is interested in supporting additional graduate students from Southern countries. Students will be selected to ensure that a range of disciplines and of natural resource environments is covered. All students will have a choice of specializing in theoretical, applied,

participatory or integrative research and will be part of an interdisciplinary team formed around each cross-cutting theme. They will have a choice of academic supervisors and graduate schools drawn from the co-applicants' team, while the learning communities will provide them with many potential topics of research in a variety of geographic areas. Fikret Berkes will serve as Graduate Education Coordinator in order to ensure that these objectives are met.

As noted earlier, training and learning go well beyond the graduate student level. The learning communities, as experiments in social learning, are places where professors, students, community researchers, government officials and various stakeholders each set their own learning objectives. In the achievement of learning objectives, all participants increase their aptitude for collaboration and capacity for effective action.

Program Governance

The program confronts two major challenges: the development of an integrated theoretical framework for the governance of coastal resources, and the integration of a large number of participants in the governance of the program. Our governance structure, therefore, must reflect our program objectives by ensuring the integrity of the research design while promoting the participation and respecting the objectives of grassroots learning communities. Meeting these dual objectives will be achieved in the formation of a Governance Council, coordinated by the Program Director, John Kearney, and encompassing a wide participation of the research team and each of the learning communities. The Council will be the sphere in which the overall objectives of the program will be decided and coordinated, learning objectives negotiated, memoranda of agreement drawn up, deliverables decided upon, and spending decisions reached with appropriate financial oversight. A Research Committee in which a mix of program participants, led by the Research Coordinator, Evelyn Pinkerton, will develop the overall research design, select case studies, ensure ethical standards are maintained, monitor research activities, and serve as a research resource for all program participants. The learning communities will be self-governing, facilitated at the local level by partner organizations which will enhance opportunities for joint activities and cross-scale linkages through learning alliances. The Program Director, with the advice of the Governance Council and the Research Committee, and with the assistance of a Program Manager (employee), will ensure mechanisms are in place to facilitate exchanges between community members, the research team, and other learning communities.

Dissemination of Results

Our plans for dissemination of results are three-fold. We will prepare and publish scholarly articles and books as a result of our collaborative efforts. We will also work closely with partner organizations and other funding agencies such as IDRC to ensure practical and policy applications for our results are widely disseminated both in Canada and overseas. Finally, we shall be directly involved with learning communities and alliances which will allow program partners and collaborators to play a role in disseminating results very widely within their own networks and communities. As Publications Coordinator, Melanie Wiber will play a leading role in implementing the dissemination plans.

In cooperation with the learning communities, we will encourage the formation of "centres of research excellence" for sustainable resource management. These centres, a knowledge transfer and capacity building component to the program, are predicated on sharing between partners and collaborators, building practical lessons into the electronic and face-to-face dissemination through existing research networks (such as the Oceans Management Research Network and IDRC), web pages, wiki sites, conferences, workshops and on-line discussion fora. An annual workshop will be held to help ensure dissemination activities throughout the life of the program. Just as importantly, the program is oriented toward the everyday dissemination of research results in the adaptive practices of the learning communities and the new policies initiatives which they inspire.

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List of Stakeholders

The number of stakeholder organizations that have already confirmed their participation as partners in the research program attests to its relevance to a diverse array of groups involved in a variety of resource and environmental sectors. Below is a sample of the statements of support of our proposal by stakeholder organizations:

“This proposal is an exciting opportunity for such communities as ours to link information and support one another, and we would welcome the opportunity to share our experiences and knowledge on an international scale and as well as receiving information which can only broaden our capacity, abilities and perspectives.” (Unama’ki Institute of Natural Resources)

“We believe our experience in community-based management concepts for fisheries and forests puts us in a good position to contribute. We trust our presence....will open many opportunities to collaborate with others on these and other marine conservation issues.” (Conservation Council of New Brunswick).

“The proposal, ‘Scaling the Governance Barrier’ is strongly in keeping with the mandate of Ecotrust Canada whose efforts to support communities in the conservation economy revolve around improving ecological integrity, economic opportunity, and social equity. We are interested in building partnerships with like-minded organizations and collaborating on joint research that will help us build synergies across geographic regions and reach new audiences. We would be happy to contribute to team efforts in applying our practices to the ‘learning communities’ concept.” (Ecotrust Canada)

“We are committed to this project because it will help us build on our past work, by giving our members access to learning opportunities and knowledge through collaborations with universities and with other community-based management groups.” (Fundy Fixed Gear Council)

“‘Scaling the Governance Barrier’ is timely...a way to allow communities responsibility in the decision-making process must be found.” (Fundy North Fishermen’s Association)

Outside of the group of partner stakeholders, we have held two workshops to evaluate interest in the objectives of the research proposal. The first was for government officials in Fisheries and Oceans Canada, Environment Canada, Parks Canada, and the Nova Scotia Department of Natural Resources. They told us of the timeliness of research on participatory governance and recommended that more workshops be held that would include a larger number of officials and government agencies.

The second workshop was held during the biennial conference of the International Association for the Study of Common Property in Oaxaca, Mexico. During this one-day workshop, about 30 community-based and South-based university researchers and NGOs, actively engaged in issues of grassroots governance of natural resources, evaluated our proposal, identified key themes, and suggested changes to the research objectives. They agreed that obstacles to participatory governance must be addressed on an urgent basis and encouraged us to develop the learning community concept.

We see the following categories of stakeholders as particularly interested in this research program:

- First Nations
- Industry associations
- Environmental and conservation NGOs
- Federal, provincial, and municipal agencies
- Development and donor agencies
- Foundations in the resource and environmental field
- Fisheries management boards
- Community associations
- Resource centres involved with conservation and natural resource use
- Research centres oriented toward coastal resources
- Community and environmental networks