(Source: John Robinson and Alberto Cayuela, "Accelerating Urban Sustainability in BC: Creating the Centre for Interactive Research on Sustainability (CIRS)", paper forthcoming in Bill Dushenko, Pamela Robinson and Ann Dale, eds. *Urban Sustainability - Reconciliation and Reconnecting Place and Space*, Vancouver: UBC Press)

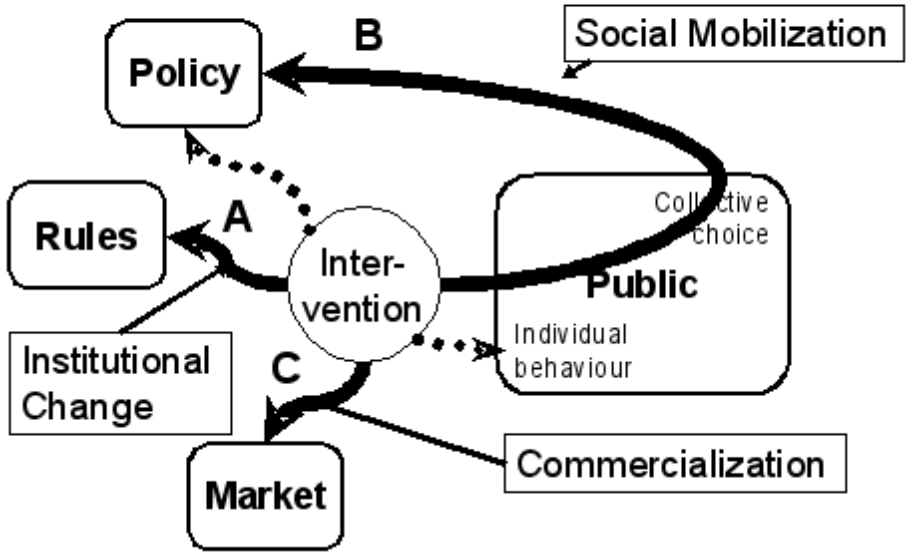
2. A Framework for Intervention

Much literature exists on the question of socio-technical transitions to sustainability (e.g. . This work suggests that significant institutional and organizational changes are required to have any chance of fostering transformative societal change. In this paper, we argue that new forms of partnership among the private, public, NGO and research sectors, based on new 'rules of engagement', are needed, and that, if such partnerships are to have any likelihood of success, there is need for ongoing institutionalization of intervention in new cross-cutting organizations dedicated to achievement of sustainability goals. Subsequent sections of this paper will return to these organizational and institutional issues. Here a framework is presented of the types of research and intervention that are being proposed for the CIRS program and initiative.

The goal of contributing to positive social change in the direction of increased sustainability is of course not a new one. Two routes of intervention have been commonly pursued (Figure 1). The first is the well-established process of *policy analysis* aimed at providing useful advice to decision-makers. This is a major focus for academic contributions to public policy issues. Whole journals are devoted to the publication of such policy analysis, and there is also a large consulting industry that performs analysis of this kind, in response to a continuous stream of requests for proposals from decision-making organizations in the public and private sector. The second is the development of *information and education programs* aimed at the public, which have the purpose of changing individual consumer behaviour. This is the preferred route for much environmental education and also NGO activism.

These two approaches to intervention are well-established (and not just in the sustainability field), and are likely to continue to be popular. However it is not clear that they are likely to lead to the kind of transformative change described above. In the interests of broadening the scope of intervention, the CIRS program focuses on three other routes for contributing to the sustainability transition (Figure 2).

Figure 2 Alternative Approaches to Fostering Societal Change



The first route (shown as B in Figure 2) focuses on community engagement tools and processes. Rather than changing individual behavior, the emphasis is upon social mobilization processes intended to inform stakeholders about the trade-offs and consequences associated with different collective decisions. The bases of this approach are twofold. First, many of the decisions that will strongly affect future sustainability for a given region do not happen at the level of individual consumption but instead at the level of collective decisions about such issues as land use, urban form, density, transportation infrastructure, and energy and water systems. And second, the policymakers responsible for such collective decisions are not easily able to change the existing trajectory of such decisions if there is not a political constituency for such changes. They can more easily continue in the same direction since the political interests and constituencies for such decisions are already in place. Non-incremental change requires challenging well-established interests and is difficult to accomplish without the existence of strong political constituency for such change.

These two points suggest the importance of developing tools and processes of community engagement that are aimed at building such constituencies through social capital and agency. Recent developments in the technology and organization of community engagement suggest the possibility of contributing to such processes in fruitful ways (see also Lister, Chapter 3; Moore et al., Chapter 4 and Hanna and Slocombe, Chapter 2 this volume).

The second route (A in Figure 2) has to do with institutional and organizational change. Though a strong focus of much sustainability research and intervention is on contributing to policy change, there are many changes that can have powerful effects on the achievement of sustainability that don't require changes in policy. The institutional rules that govern how

organizations act in the world can usually be changed endogenously, that is, without change in the enabling policy or legislation that created those institutions. A good example in the sustainable building field is the existence of building codes, which can usually be changed without any necessary change in the underlying policy context (see also McDonald, Chapter 7, this volume). More generally, there exist a set of institutional rules, including codes, standards, job descriptions, performance evaluation criteria, assessment metrics, etc. which have a large effect on what decisions get made by organizations. Institutional change aimed at changing these rules can therefore be an important method of contributing to transformative social change, iIndeed, as with social mobilization, such institutional change is likely a prerequisite to the kinds of changes required.

The third and final route for intervention (C in Figure 2) shifts the focus from the realm of public policy and institutions to the marketplace. It is clear that the private sector is the locus of much of the behaviour that transforms our world, for good or ill. It is therefore critical that a strong emphasis be given to making private sector investment and behaviour more sustainable. While government policy and regulation is one way of influencing such behaviour, the focus here is instead on processes of commercialization and market transformation. In essence, the argument is that to the extent that it is in the economic interest of private sector organizations to invest in, produce, and market more sustainable products and services, then the market itself can become an engine of change in the direction of greater sustainability. Moreover, if this can be accomplished, it can set up a self-perpetuating and self-amplifying process that has the potential for transformative effect.

Not all sustainability issues lend themselves to market-based solutions. And such solutions do not themselves obviate the need for policy change. However, it seems clear that the sustainability transition will not be accomplished if the private sector is not enlisted actively in the process of change.

As illustrated in Figure 2, the three routes of intervention interact with each other. Clearly successful social mobilization or agency in support of changes in collective decisions will lead to policy changes, many of which in turn will contribute to institutional changes. Institutional changes themselves can occur in the private as well as the public sector, and in so doing contribute to commercialization and market transformation. And successful processes of commercialization of sustainability technologies and services will give rise to products that will make possible individual behaviour change and also support changes in collective decisions.

The three routes of intervention shown in Figure 2 are not intended to be exhaustive. No doubt there are other possible routes to supplement policy analysis and education programs aimed at individual behaviour change. However, these routes seem to offer a fruitful way to think about transformative social change.

In many ways, the framework outlined in Figure 2 represents a logical extension of work done at the University of British Columbia (UBC) in a number of participatory integrated assessment projects in the late 1990s and early 2000s (. In particular, the Georgia Basin Futures Project (GBFP) involved developing highly interactive processes of partnership with a number of

private, public and NGO sector organizations to explore the potential for achieving sustainable futures at the regional level . An important component of that project was the development of interactive gaming tools to allow the creation and exploration of alternative future scenarios for the Georgia Basin that would allow non-expert users to see the trade-offs and consequences associated with different collective policy choices . This is analogous to the use of mapping approaches to explore future scenarios as discussed by Lister (Chapter 3, this volume).