Resources, People and the Environment: A Regional Analysis of the Evolution of Resource Policy in Canada*

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Context and Theoretical Framework

The last decade of the twentieth century represented a watershed in the economic transformation of rural and resource regions of this country in two important respects. This was a period in which the cumulative consequences of historically high rates of harvesting, fragmented resource management strategies and declining incomes were most clearly manifested. In hindsight, the outcomes were all too predictable. A fault line had developed between traditional approaches to resource extraction and our ability to manage those practices successfully. At the same time, the shortcomings of the past provided a foothold for critical and reflexive approaches to the processes of economic and social development in rural and resource-based regions. Resource policy became more multi-faceted and decentralised, with communities across the country becoming directly involved in prescriptions for change. While hardly a universal phenomenon, the simple development equation tying growth to resource extraction lost much of its currency not only because of the tenuousness of the relationship but also because of the desire to redefine and broaden the foundations for sustainable

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economies. Mostly out of necessity, these nascent approaches increasingly articulated a vision incorporating stewardship of the resource base alongside commodity production.

This paper has its origins in a number of overlapping research projects in which the common theme is defined by a desire to better understand the role of government policy in rural restructuring and community stability. Within this overarching theme, three objectives are pursued:

- to provide a better integration of the theoretical contributions on rural restructuring to date;
- to provide a critical analysis of changes to key resource policies as instruments of structural change -- in particular were these changes real or merely symbolic?; and
- to propose changes in the development and application of resource policy to consider more fully both local or geographical context and the ecological imperative within the policy process.

Some Context

We argue that restructuring of rural economies and community change are best understood against the backdrop of the changing relations of three dominant domains:

- competitive market-based economies; policy/regulatory regimes; and
- natural/ecological systems.

All three have undergone extensive change in the last decade, affecting the viability of resource sectors and, in turn, communities dependent upon those sectors. For example, in the forest products industry, a constellation of coincident forces have had impacts on the viability of communities including declining terms of trade and access to the US market, continued job displacement due to technological change, government policy restricting access to the forest base and local/regional shortages of timber to sustain mill production. These changing relations have played themselves out at different spatial scales from the international down to the local.

While generalisations can be misleading in dealing with such a large diverse topic as restructuring, there is a growing body of evidence to support the contention that first, we are witnessing a transition from an old resource-based economy to a new information-based one, in part due to globalisation with its inevitable processes of uneven development and spatial inequalities. Indeed, a mosaic of economic marginalisation contemporaneous with integration of rural areas into the new economy is typical. Second, rural areas are being confronted by two distinct forms of uncertainty:

- that which historically has been associated with the vagaries of the business cycle -- resource industries are price takers not setters, and commodity prices for unfinished products are notoriously unstable in forestry, agriculture, fisheries and mining; and
- that which is emergent and the result of constraints on supply due to declines in the availability of resource stocks in fishing and forestry or what Clapp (1998) has referred to as the inevitability of the 'resource cycle', as well as increasing insecurity in access to the land base due to Native land claims, and new government regulations, and land use programs.

Clearly, supply-based uncertainties fly in the face of a historical legacy of resource abundance and plenitude. This is a powerful legacy which contributes to a form of cognitive dissonance, a failure to act even when we know that it is in our collective best interests to do so. Coincident with the rise of supply-based uncertainty has been the increasing role of stakeholder groups, which has forced a dramatic reinterpretation of the values associated with terrestrial and marine-based ecosystems, end uses and rights to those uses.

Theoretical Contributions

The scale and persistence of the economic, social and most recently environmental problems of rural and resource regions of Canada have spawned a rich and varied set of interpretations. Important synthetic and retrospective assessments have been provided recently by Pierce and Dale (1999), Rounds (1997), Troughton (1995) and Randall and Ironside (1996). In order to focus discussion on the theme of this paper, we have isolated four independent but related theoretical contributions which together provide a platform to structure and better integrate the policy analysis: staples theory; resource cycle theory; uneven development including the role of both structure and agency; and real regulation theory.

Harold Innis' (1933) *staple theory* provides a uniquely Canadian perspective on interpreting the economic history of Canada -- most notably that economic development was synonymous with the development of a succession of staples with specific spatial and temporal impacts. His characterisations of the process being inherently unstable and cyclical, requiring large externally supplied sources of capital and technology, his notions of core/periphery relations and their implications for economic dependence and his belief in the importance of context through a triad of institutional, transportation and geographical conditions provided the necessary intellectual groundwork for further conceptualisation and advances including the 'staples trap' (Watkins 1963; Weaver and Gunton 1986); heartland/hinterland models of economic development (Bradbury 1983; Barnes and Hayter 1992; Reed 1995) and resource cycles theory (Clapp 1998). As Randall and Ironside observed (1996), Innis'

work goes beyond the interpretation of primary industries to include primary manufacturing linked to these industries. This is important because so much of the current debate about the vulnerability and future of resource dependent communities focuses upon the necessity for diversification and value added strategies to counter restructuring effects.

Clapp's (1998) work on *resource cycles* is particularly appropriate in appreciating: the difficulties facing communities in diversifying; the role of both the market and government policy in accelerating depletion of renewable resources; and the very special need for communities with limited alternatives to resource extraction to anticipate the depletion process if sustainable development is to occur locally. Clapp argues that all wild populations subject to commercial use pass through a resource cycle which is characterised by patterns of over expansion followed by ecosystem disruption and economic crisis. The resource cycle is seen as "a result of mutually reinforcing political and economic causes" (ibid: 130). From an economic perspective, excessively high discounting of future returns from resource extraction, combined with processes of capital intensification and cost-price squeezes are inimical to conservation and stewardship. As a consequence, "Once rents begin to decline, they are likely to be insufficient to support regional diversification, just when it becomes vitally necessary. Both resource-led prosperity and stagnation tend to reinforce regional dependence and hinder the development of alternative economic activities" (ibid: 132). Perhaps less well understood is the role of senior governments and communities themselves in the aiding and abetting of the depletion process. Clapp and others argue that resource management agencies are heavily influenced by resource industries or even captured by the very industries they regulate. Suppression of scientific evidence regarding the impact of various resource management policies is not uncommon. And, of course, the use of the concept of sustained yield belies the enormous uncertainty and complexity in managing dynamic ecosystems for industrial purposes. Equally problematic is the legacy of government directed, sponsored and subsidised regional development through elevated levels of resource extraction. Communities actively lobby for state intervention and expansion of access to the resource notwithstanding clear evidence of impending ecosystem collapse. What this research underscores is the need for communities to understand the dynamics of the resource cycle so that this drama is not repeated as if trend were destiny.

Under the heading of *uneven development* we can identify a broad spectrum of research aimed at better understanding the linkages among staples or resource dependence, economic restructuring and community change. While unified by these common themes, it is nevertheless highly diverse in its methodological and philosophical underpinnings with varying emphases placed upon the importance of structural factors versus human agency in accounting for differences in local development. At the same time, this research highlights the existence of long standing and emergent tensions between for example: centralised versus decentralised decision-making; new versus old stakeholder groups; heartland

versus hinterland regions; the "fluidity of the market" versus "the rootedness of place" (Barnes and Hayter 1994: 290); economic development versus environmental preservation; and productivist versus post-productivist visions of land based production systems.

A number of seminal works are representative of these trends and issues. In Barnes and Hayter's (1992, 1994) work, the impact of restructuring of the BC forest products industry upon resource communities is analysed within the context of, first, a shift in the structure of the international economy from a 'fordist' based production system to one based upon flexible accumulation; and second, the local development response to these trends. With respect to the latter, two local development models are identified- one based upon a neoclassical and optimistic interpretation of state intervention and entrepreneurial skill to improve human capital development (Coffey and Polése 1984, 1985) and the other a Marxist interpretation using the concept of 'local dependence' (Cox and Mair 1988: 295) to explain "the necessity of referring to wider structural relations within the capitalist system in order to understand the geographical pattern of local development". While Barnes and Hayter (1994) identify shortcomings in both models in terms of their explanatory power in BC, they conclude that both structure and agency and geographical context must be accommodated to explain local development.

Reed's research (1993, 1995) complements and extends these interpretations of local development in two important respects. The need to address declines in environmental quality in hinterland regions has introduced new public consultation and resource management capabilities. In this connection "local communities may seek to shift both the substance of the decisions and the locus of decision making from senior levels of government" (1995: 343). Moreover, new methods for public involvement "have included co-management initiatives, local resource boards, local round tables, and community based action programs" (342).

At the same time, it is becoming increasingly difficult to reconcile short term economic development initiatives with longer term and broader based societal requirements for environmental protection. Reed also draws upon the concept of 'local dependence' to assist in explaining "the conflict between senior government and local government in the formulation and implementation of resource policy" (1993: 248). It is clear in her analysis of resource management and local development initiatives in Northern Ontario that there has to be a better balance of interests and responsibilities between senior and local governments. The new political economy of resource development for hinterland communities is emblematic of important shifts not only in the character of production systems as outlined by Barnes and Hayter (1994) but also of the new realities engendered by the need for improved environmental stewardship and conservation. The post-productivist landscape (Gill and Reed 1997; Reed and Gill 1997) introduces new stakeholder groups, new constraints on the use of renewable resources for industrial production and altered economic and employment possibilities from

alternative economies such as tourism. Bryant (1999, 1995) has arrived at similar conclusions in his research exploring the role of local agency in transforming the local environment. He notes that through a variety of spatial and political networks, local actors exert both formal and informal pressure on the regulatory process. The role of local agency in uneven development has not received much attention in the past; however, as the capacity of local actors and actor networks is enhanced, local agency will increasingly add to the complexity of the development process.

The fourth and final theoretical contribution, *regulation theory*, provides a very useful framework for integrating a number of economic, social and environmental challenges in rural and resource regions of Canada within the context of an evolving if not increasingly contested set of resource/environmental policy and administrative actions. Analysis and application of regulation theory have been conducted in Europe to better understand the processes of rural restructuring (Flynn and Marsden 1995; Lowe et al 1993; Munton 1995; Goodwin et al 1995). In New Zealand, it has been used as an analytical tool to better understand the impact of new regulatory regimes associated with the introduction of neo-liberal policy frameworks such as the Resource Management Act upon the sustainability of land based production systems in forestry and agriculture (Moran et al 1996; Blunden et al 1995; Cocklin and Wall 1997). This latter research is particularly relevant to understanding the evolution of resource policy in Canada.

In the original application of regulation theory (the French school), "capitalism is continually mediated through historically specific institutional forms, regulatory institutions and norms of conduct" (Marden 1992: 757). This so called 'economic imperative' of regulation, which is endemic to all staple development in Canada, also recognises the inherent instability of processes of accumulation. Structural crises occur when "regulatory institutions can no longer sustain a positive function for the accumulation regime and the self equilibrating nature of the economic system breaks down" (Marden 1992: 754). This breakdown, as we argued earlier, could have its origin in a variety of supply and/or demand driven factors and has important place-based implications. Moreover, new accumulation regimes emerge (Fordist to flexible accumulation and productivist to post-productivist landscapes) accompanied by new methods for regulating economic and social (re) production.

Against this largely Marxist interpretation of state/capital relations, Clarke (1992) proposed the concept of 'real' regulation or regulation as a social or customary practice in order to place regulation in a larger social and political context. While Clark places administrative practice at the forefront of his analysis, further elaborations in New Zealand (Blunden et al 1995) posit that, "Given the transition of sustainability to mainstream political and social discourses, real regulation appears to be a particularly apt framework for analyzing the social processes involved in its negotiation, implementation and renegotiation" (ibid: 7). Real regulation is now a top down and a bottom up

process, involving different regulatory arenas, both formal and informal, with varying interpretations and impacts at different spatial scales. Arguably, this is a 'crisis of legitimacy' in the way in which control is exercised over the resource base. The importance of this further elaboration derives from an explicit recognition of: the role of diverse groups of stakeholders influencing decisions; the significance of courts in interpreting legislation; the specific geographical context to these decisions because of the role of local actors or agency; and the constant renegotiations of questions of stewardship and sustainability. Equally important is the tension and changing balance in the role of the market versus the state in mediating the contest over resource use and allocation.

While all of this is useful in understanding the changing role and context of resource policy in Canada, we would argue that 'real' regulation as a social process offers the potential for further elaboration -- regulation as an 'ecological imperative'. Clearly, provincial and national governments have modified the purpose and scope of their legislative commitments which originally had strong economic and social objectives. Over the last ten to fifteen years regulation has introduced an ecological imperative overriding many of these earlier objectives. This is due not only to a relatively narrow concern with maintenance of ecosystem properties but also to the adoption of a broader view of the services provided by the resource base itself. Having said this, the task of reconciling ecological sustainability and the reproduction of social and economic systems, while attracting considerable academic attraction, remains relatively unexplored from a policy perspective.

We now turn our attention towards a brief examination of the forest and fish industries in Canada to illustrate the dynamics of the policy-making process in Canada over the past 60 years. These cases provide the foundation from which to argue for a more ecological and geographically-based approach to policy formation as illustrated by the real regulation approach.

Forestry

Canadians collectively control 94 % of their forestlands (Luckert and Salkie 1998). The extent of public ownership in Canada is unique among industrialised forest nations and presents numerous opportunities and barriers when confronting the contested terrain of forest as resource, home or ecological domain. While there has been considerable attention paid to understanding competitive relations, resource decline and their impacts on national and provincial economies, relatively little attention has been given to the role of government policy as an agent of change or as a mitigator of change at the local and regional level. This gap is explained in part by two interrelated factors. First, Canadian resource policy is criticised for being reactive to broader forces of change (Hessing and Howlett 1997). While the transition from natural resource abundance to scarcity has been on the horizon for decades, there is a

politically-motivated delay between awareness and corrective action as illustrated by Clapp (1998). Resource abundance allows policy decisions of the past, which are driven by an economic imperative, to continue until decline reaches an appropriately high level of concern. The impacts of decline are dissipated throughout regional landscapes, allowing consequences to be traded into the future for short-term revenue generation. The subtleties of loss in any given community or region fail to motivate sweeping changes. Rather, areas in trouble generally receive crisis aid which fails to correct the long-term structural and capacity issues necessary for a positive transition. Second, government policy has traditionally adopted a homogenous/ macro approach which has ignored regional differences (Pierce 1998). The public control evident in Canadian forestry has been exercised through highly centralised bureaucracies that struggle with local subtleties in landscape and culture. This phenomenon continues despite the weight of evidence calling for a more balanced approach. Again, the perception of resource abundance has allowed such a contextually blind approach to prosper.

As the dynamics of forest policy become increasingly complex through competition, scarcity, and new policy actors, a new approach is necessary to guide the future development of the industry and the communities dependent upon the forests. This section outlines some of the historical motivations largely responsible for the present state of Canadian forests and forest policy. This is presented in an attempt to illustrate the "layered" effects of policy using a real regulation framework (Blunden et al 1995). The policy responses to these conditions are then examined as new values and actors attempt to enter the rigid policy-making network. British Columbia will be used as a case study throughout the section to illustrate this transition. BC has been chosen for a variety of reasons: the significance of the industry to the provincial economy compared to other provinces; the ecological diversity found in BC has been the focus of international environmental attention, highlighting the importance of new values and pressures on the policy-making process; and finally, the past ten years (post-Brundtland) have marked an active period in forest policy-making in BC, illustrating an institutional response to the legacy of past decisions, current dynamics, and the state of the forests for future generations.

Through section 109 of the *Constitution Act,* each provincial government exerts control over the vast majority of forestlands within their provincial boundaries. Nevertheless, broad similarities between the BC and the rest of Canada are worth noting. The Canadian Forest Service has identified a five-stage process in the development of forest policy in Canada: unregulated exploitation, regulation for revenue, conservation, timber management, and, the current stage, sustainable forest management (CFS 1996; Ross 1995). Generally speaking, each province has adopted a similar mix of policies at each stage in the process. Due to the temporal differences in Canadian provincial development, the sequence has, however, been implemented at different times. Other more specific policy similarities between provinces include the already noted extent of public

ownership, the prevalence of long-term tenure holdings, and the use of command and control instruments as the preferred policy tool (Ross 1995).

Forest Policy in BC

The roots of the modern forest industry in BC lie with policy decisions made during the third stage identified by the Canadian Forest Service. Two Sloan Commissions, 1945 and 1956, provided the foundation upon which the modern framework of BC forest policy was built. It was during this period where the development goals of the province were sought primarily through policies promoting sustained yield and the Tree Farm License (TFL) (Forest Resources Commission 1991). These policies helped to create an industry characterised by large corporations, high-volume commodity production, and as a result, the motivation for capital intensive modes of production (Marchak 1999). The future development of the province and its communities became bound to timber dependency; and government, corporate and labour relations were fostered accordingly (Barnes and Hayter 1992). The strength of the productive relationships fostered during this period help to explain in part the inertia of the present system and its resistance to significant structural change.

Simply put, the modern forest sector in British Columbia is the result of past centralised planning. Policies put in place during the 1940s and 1950s were successful in achieving their basic objectives. The following brief profile of the industry in BC illustrates this point with respect to corporate concentration, harvest volume, the exclusion of non-timber forest values, and the establishment of communities specializing in the forest industry. First, a broader contextual understanding of the time allows us to better understand the motivations for policy decisions leading to corporate concentration. The "bigger is better" modernisation mantra of the post-war period resulted in a significant concentration of forest companies. Larger companies were deemed to be more reliable, offer better economies of scale, and were thought to be appropriate stewards of the land (Marchak 1983). This trend has continued to accelerate due to the increasing speed and reach of globalisation. Currently, seventeen companies control over 80 % of the volume committed to licensees and almost 70 % of the provincial Annual Allowable Cut (AAC). The top six companies alone control almost 50 % of the total commitments to licensees (Marchak 1999).

Second, BC's comparative advantage of supply resulted in an industry characterised by high-volume, low-value producers. Political pressures to set a high Annual Allowable Cut (AAC) combined with poor information about the extent and functioning of the resource base set expectations unrealistically high. For example, prior to the 1992 *Timber Supply Review*, no comprehensive assessment of the timber supply was available to policy makers in BC (British Columbia 1999b).

Third, the narrow economic interpretation of the benefits from the forest has excluded any meaningful consideration of non-timber forest values. The failure to promote non-timber industries and to preserve non-timber values illustrates the overwhelming success of past policies in meeting their limited objectives. It also represents BC's greatest failure and lost opportunity in terms of the development of sustainable forestry practices (Pearse 1998; Tollefson 1998).

Finally, the faith placed in timber dependency as a model for economic development in the province created numerous communities throughout the province specializing in the timber industry. British Columbia ranks first in Canada with 69 % of its population deemed to have a moderate to heavy reliance on the forest sector (Williamson 1996).

The structural conditions established in the 1940s and 1950s through the economically-centric policies of sustained yield and the tenure system enabled the governments of British Columbia to meet their development objectives. Over the past two decades, however, our past interpretations of the forest, the forest industry, and the role each play in the provincial economy have been placed under intense scrutiny. Massive restructuring in the forest industry, a more complex understanding of the forest itself, the failure of sustained yield policies (Marchak 1999), and the perpetual boom-bust cycles of the industry and their impacts on forest-based communities have called into question many of our previous assumptions and institutional relationships. These questions raise concerns about the allegiance and accountability of the forest industry to BC communities; the role of the provincial government in the control and stewardship of public lands; and the capacity of communities and the province as a whole to maintain economic prosperity while relying so heavily on a commodity-based, primary resource sector. In addition, the environmental legacy of the forest industry is increasingly being questioned. There has been a growing awareness about the ecological impacts of industrial forestry on the biodiversity of the province (Clapp 1998); and, emanating from the principles of sustainable development, the economic consequences of ecological degradation have become a major force in the reevaluation of provincial forestry practices (Power 1996).

Policy Response: Post-Brundtland

The release of the Brundtland Commission report *Our Common Future* (1987) consolidated international attention regarding the principles of sustainable development. To understand how the provincial government in BC has been approaching the move towards sustainable forest management, we briefly review a variety of policy initiatives undertaken in the past ten years.

The BC response to the trend towards sustainable forest management has been facilitated by the New Democratic Government through a variety of policy initiatives beginning in the early 1990s. Collectively, these reforms represent the

most environmentally-oriented range of reforms ever undertaken in the BC forest industry (M'Gonigle 1997). They follow a series of steps initiated in the 1970s and 1980s that began to incorporate a more holistic interpretation of the forest and recognition of the negative effects of the industry (BC Royal Commission 1975). During this period, however, the dominance of the industry over other forest values has remained largely intact. The 1990s ushered in a new approach and commitment to change industry practices fundamentally and to broaden the scope of participants and beneficiaries in forest management. The result, however, has been the persistence of the structural relationships and the economic imperative forged during the Sloan era.

Policies aimed at improving conservation, preservation, diversification, and decentralisation of decision-making of the forests and forest sector have been initiated in response to many of the consequences experienced as a result of past policy decisions. In Table 1, some selected policies undertaken to incorporate

TABLE1 Policy Response in the 1990s

Conservation:

- The *Forest Practices Code* (FPC), 1995, is an evolving document with sweeping powers aimed at influencing all aspects of forestry and forest land management. Regulations are incorporated into five year Forest Development Plans (FDP) that identify cutblocks, timing, silviculture and harvesting techniques. Penalties are issued for non-compliance.
- The *Timber Supply Review*, 1992, is charged with producing timber supply analyses that reflect current integrated resource management, including developing policy, methods and models for timber supply analysis. The Review was initiated in response to the recognition that prior to 1992, there was no regular, comprehensive process to determine the Annual Allowable Cut (AAC) in BC.
- *Clayoquot Scientific Panel*, 1993, was charged with developing world-class forestry standards suitable to the unique ecological conditions and values in the Sound and based on traditional Aboriginal knowledge of resource management as well as the best available scientific knowledge.

Preservation:

- The *Protected Areas Strategy* (PAS), 1993, established the objective of increasing the amount of protected areas in the province to 12% of the land base by the year 2000. Areas are intended to cover a diversity of representative ecosystems and significant cultural and recreational features throughout the province. Within the areas, lands and waters may not be sold, and mining, logging, hydro, oil and gas are prohibited (British Columbia 1999a).

Diversification:

- *Forest Renewal BC*, 1994, is an investment agency charged with supporting a full range of forest renewal activities in every region of the province. FRBC was created through the Forest Renewal Act.
- The *Jobs and Timber Accord*, 1997, was intended to be an agreement between the government and the forest industry to increase employment in the forest sector, increase the harvest yield, and build value added capacity in the province.

Decentralisation:

- The *Community Forest Pilot Program*, 1998, was created to establish a number of short-term pilot agreements which will provide an opportunity to test new community forest legislation, experiment with a range of administrative models and forest management regimes for community forestry, provide long-term opportunities for achieving a range of community objectives, and meet government economic and stewardship objectives (British Columbia 1999b).

new forest values/practices are presented.

Evaluating the Policy Response

Understanding the objectives of sustainable forest management is clearly necessary when designing and assessing new forestry and management practices. A brief examination of the policies listed in Table 1 reveals that many of the principles of sustainable forest management being advocated at national and international levels are present, including conservation, enhanced and more diversified participation, and better information and monitoring. That said, in reality, the policies have failed to live up to their stated promise or significantly alter the structural conditions of the industry.

The symbolic nature of the policy response is illustrated by a variety of weaknesses in the design and implementation of the policies themselves. In terms of conservation, the *Forest Practices Code* has repeatedly been weakened since its inception. It was recently revealed that key sections of the code designed to make forestry operations more sustainable have never actually been implemented (Hume 1999). Economic goals in the face of a downturn in the forest industry have prevented full implementation and prompted streamlining.

The goal of protecting12 % of the land base under the *PAS* is to be applauded, however, real preservation goals are uncertain due to questions surrounding the validity of the strategy. The strategy has been promoted as a ceiling on protected areas, while the science behind the selection of the 12 % goal has been seriously questioned (Sanjan and Soulé 1997). For example, questions remain concerning the size, representative balance, and connectivity of the selected areas. Creating islands of biodiversity will not necessarily ensure that biological values are protected.

Harvest volumes continue to exceed sustainable levels. Estimates for the long-term harvest level (LTHL) are exceeded by the annual allowable cut by approximately 20 % (Hayter 2000). In addition, calls to do "more with less" in the development of value added and diversification strategies are lacking. The *Jobs and Timber Accord* failed due to a lack of industry participation from the very beginning (Palmer 1999), while a recent study by Travers (1998) shows that BC continues to produce fewer direct jobs per 1000m^3 of wood than the rest

of Canada and many other industrialised forest products nations.

Finally, the goal of decentralisation has been given a promising start in the *Community Forest Pilot* program; however, here again, only seven licenses were awarded, representing an insignificant amount of the total AAC. Parallel to efforts to diversify the allocation of tenures in BC through the *Community Pilot* program, the allowance of corporate mergers continues to intensify the concentration of the timber supply, as was recently illustrated by the Weyerhaeuser take-over of MacBlo (Financial Post 1999).

Compared with polices of the 1940s and 1950s, the 1990s appear indecisive, piecemeal and reactive. The decisions made in the 1940s fundamentally altered the forest industry in BC. The Sloan Commissions redefined the industry, the provincial landscape itself, and offered a clear vision around which relationships could be established and mutual objectives set. The decision-makers of the 1990s have so far only been able to tinker with these structural conditions, offering no decisive vision of their own.

Overall, the policies of the 1990s reflect a failure of the centralist policy making that made the decisions of the 1940s so successful (M'Gonigle 1997). The structural change implemented in the 1940s has been confronted by incremental or symbolic change in the 1990s, with the expected results. In effect, the effectiveness of a centralist approach to forest management has decreased as the complexity of forest management has increased. It is no longer possible to approach the industry and forest-based communities in the manner adopted during the Sloan era. A 'crisis of legitimacy' threatens to paralyse badly needed change from a number of areas. In part, the ecological, cultural, and economic diversity of the province must be recognised.

Fisheries

Providing less than one percent of Canadian employment and Gross Domestic Product, the fishing sector is a minor contributor to Canada's overall economy (Statistics Canada 1996; Storey and Smith 1995). Yet federal and provincial governments spend over one billion dollars annually to manage and support fisheries and fisheries workers (Schrank 1994; Schrank and Skoda 1999; Schwindt 1999).

In large part, the fishery's national significance relates to regional variation and uneven levels of development, economic and political influence across the Nation. These circumstances have disadvantaged coastal provinces, particularly in the Atlantic provinces (McCann 1987). To the people who live along Canada's expansive coastlines, in thousands of communities -- many of them remote and with few economic alternatives -- the fishery is a means of livelihood and a way of life intricately linked with their culture, identity and well-being.

As in the case of forestry, government policy has been a major factor in the sustainability, or lack thereof, of Canadian fisheries and in the local and regional

impacts of unsustainable practices. This section of the paper outlines past policy directions that have led to the current situation, along with the impacts of these decisions and actions. Impacts include declines in resource stocks, fishing employment and the health and well-being of fisheries workers and communities. A review of policy responses in the 1990s that incorporate the need for conservation, economic diversification and decentralisation of both production and decision-making is now presented. Canada's principle fishing regions, British Columbia and the Atlantic provinces, and in particular Newfoundland, are used as case study illustrations.

Policy Review

Primarily a federal responsibility under the Department of Fisheries and Oceans (DFO), Canadian fisheries have been characterised by centralised management and a large-scale corporate approach to resource development. Like their colleagues in forestry, fisheries managers have placed the main emphasis on the economic imperative. While conservation has periodically become the principle objective, measures taken in the interest of ecological sustainability have tended to be a reaction to the unavoidable realities of resource depletion rather than a priority considered worthy of proactive attention. Management policies have led to overharvesting, excess capacity in both the fishing fleet and processing sector, a reduction of science and management capacity to unacceptable levels, concentration and subsidisation of the industry and privatisation of the fisheries resource.

Although many other factors have played a role in the demise of troubled Canadian fisheries, overharvesting has been a sizable -- if not the single most important -- contributor. Fisheries managers and their political leaders have sanctioned unsustainable harvest levels. In the case of the Atlantic cod fishery, for example, successive Ministers ignored government task forces, their own scientific advisors and fishermen themselves in favour of those who lobbied for prolonging the inevitable cuts that would follow, a dynamic that Clapp (1998) refers to as "the political imperative of maintaining short-term production" (ibid: 132). Pressure for excessive harvesting levels has been fueled by an industry that has grown larger than the resource can support. Contributing to the overfishing problem has been the industry's use of technology and capital-intensive methods, encouraged by policy and market incentives that reward those who catch the most fish in the shortest time.

The changing nature of the ocean ecosystem and an information base that is inadequate in both quantity and quality adds to the complexity of managing fisheries resources and makes application of a precautionary approach particularly challenging (Peterman 1995). While information is inadequate about species currently harvested, the state of our understanding of unharvested species, the ecosystem impacts of fishing practices and the dynamics of the ocean

environment are worse yet. The key challenge is the high cost of research and stock assessment. As fisheries departments are hit by budget cuts, investments in science tend to decrease rather than to increase to meet the need. As with the ecological information base, fisheries managers are in need of greater social science information and analysis to aid them in decision-making (Poetschke 1983; Ommer 2000; Vodden 1999).

Canada's federal and provincial governments have made a policy decision to subsidise and maintain the fishery. When public costs are taken into account, for example, net financial returns from the BC salmon fishery are negative, averaging a net loss of $65 million per year (Schwindt 1999). One of the largest subsidies to the Canadian fishery comes in the form of employment insurance, which represents an estimated 50 cents on top of every dollar of fishing earnings for the average self-employed fisherman in BC (Gislason et al 1996). Programs meant to encourage increased capacity and technological improvements by providing grants and loans for upgrading of facilities or vessels represent another form of subsidisation. Modernisation and expansion became a policy objective in the 1940s and 1950s. Financial support continued into the 1980s, when concerns about overcapacity began to receive recognition.

Many critics of current fisheries management policies have pointed to their tendency to encourage concentration of license ownership in fewer, often urban hands, as well as centralisation of both management and processing capacity. Newfoundland's Fisheries Products International (FPI), for example, was formed in 1984 through the amalgamation of 12 companies unable to survive independently after the early-1980s recession (Schrank 1997). The restructuring of FPI, one of two large processing firms in the province, was financed primarily by the provincial and federal governments (Crowley et al 1993).

In BC, vessel ownership is concentrated in urban areas. By the late 1980s, approximately 50 % of fishing vessels were moored in home ports in the southern metropolitan region (CCPFH 1997). As a result of fleet reduction and a trend toward privatisation of fishing privileges through Individual Transferable Quotas, both allocating rights to resources based on "ability to pay", concentration of license ownership has since become even more pronounced. Fishing interests point out that those who hold the licenses often do not operate vessels. Instead licenses have been purchased by those with the capital to do so and then leased to fishermen, reducing the share of fishing incomes captured by fishermen and coastal communities (Cruikshank 1991).

Cost cutting and a more centralised fishery have also lead to a centralisation of fisheries management. Field staff have been cut back dramatically, leaving a significant gap in management capacity (Pearse 1982; Gallaugher and Vodden 1999). The issue is as much, however, about centralised decision-making and authority as it is a centralised bureaucracy. Canada's fisheries management system is not only centralised but also "highly institutionalised," serving as a barrier to significant or structural change (Pontecorvo and Schrank 1996). Again, the case of forestry in BC is mirrored by Canada's fisheries management

system -- a system that must become more flexible and adaptive if it is to respond to the changes in the natural and market environment that are characteristic of the fishing industry.

The end result of these policy directions has been resource decline and, in the Atlantic in particular, ecological collapse. Numerous individual stocks, and even entire species, of Pacific salmon are in peril and the Atlantic cod have not shown significant signs of recovery after nearly a decade. Many lesser-known species and their habitats are also threatened and the ecosystem impacts of these changes are evident but poorly understood.

Despite the priority given to economic objectives such as efficiency, employment and income, the result has been not only resource depletion but also massive unemployment and displacement of fishermen, their families and communities. More than 30,000 jobs have been lost in the Atlantic provinces and 10,000 in BC as a result of reductions in the Atlantic groundfish and Pacific salmon fisheries. Increased harvests of other species such as crab and shrimp have replaced some of the jobs lost in both provinces. However, employment in the fishery remains a fraction of what it once was. Fishing employment fell by 40 % in Newfoundland and 54 % in British Columbia through the 1990s (DFO 2000).

Industry competitiveness has also suffered (Schrank 1997; Schwindt 1999; Carter 1993; O'Farrell 1990). As a result of subsidisation, industry players have not had to be as aggressive in the marketplace as they might otherwise have been. Further, while wages have risen, productivity has declined. Supply shortages, uncertainties and seasonal variations leave producers unable to reliably provide their products to the marketplace -- a key reason aquaculture products are in high demand. As in forestry, traditional reliance on a centralised, high volume, low value industrial model has not served the fisheries sector well as it faces the need to do more with less and to turn to more flexible forms of production and marketing appropriate for an industry subject to shifts in both demand and supply.

Parsons and Lear (1993) point out that the government assumption that bigger and more concentrated is more economical has not turned out to be a valid one. Not only have large processors not demonstrated an ability to be sufficiently flexible to respond to industry changes, but in Newfoundland the inshore fleet has been more profitable than the large, capital-intensive offshore segment (Parsons and Lear 1993).

Finally, the cost of inaction must be considered. The federal government has had to spend over $3 billion to mitigate community impacts from the collapse of the northern cod. This cost could have been avoided through a combination of more careful management and political will. In addition, foregone revenues, long-term increases in income assistance, and resource rehabilitation spending must be taken into account when considering the economic costs of fisheries failure.

The social impacts of mismanagement of the fishery resource have been

heavily concentrated on individuals and families living in fishing-dependent coastal communities, of which more than 1,300 have been identified in Atlantic Canada (Poetschke 1983) and an additional 50 in BC (Gislason et al 1996). More isolated communities tend to be both most vulnerable to changes in fisheries policy and the most dependent on the fishery due to the presence of fewer alternative means of earning a livelihood (as compared to the situation faced by urban-based fishermen). Historic dependency has led to a fishing workforce characterised by low levels of education and attachment to traditional industries (Carter 1993; Vodden 1999).

Not only have the formal economies of fishing communities been impacted by job losses and income reductions but also the informal/subsistence economies which for generations have relied upon fish as a basic food staple. Other social considerations include psychological, family, health and cultural impacts, along with a host of problems associated with population loss (Bruce 1996; Ommer and Sinclair 1996; Parsons and Lear 1993; Gallaugher and Vodden 1999). Despite clear evidence of the inequitable distribution of policy impacts, according to factors such as wealth, culture, education and geography, policy-makers have seldom taken issues of fairness and equity into consideration.

Authors such as Copes (1971) and Schrank (1997) argue that many fishing communities, on Canada's Atlantic coast in particular, simply cannot be sustained given the available resources and that displacement and relocation are inevitable outcomes of industry restructuring. While this may be the case, others point out that remote communities would stand a far better chance of survival if access to nearby resources could be guaranteed through application of the principle of adjacency. This principle recognises that historically communities had de facto rights to resources based on their proximity to them.

Policy Response

In response to the fisheries crisis in Canada, provincial and federal governments have been left with little choice but to address the ecological, social and economic problems that have resulted and to seek ways to make the industry more sustainable. Governments have attempted to meet these objectives in several ways, including: implementation of conservation and restoration measures; capacity reduction; EI reform; encouragement of diversification and value-added; and decentralizing management.

Fisheries managers were forced to take drastic measures on both the east and west coasts in the 1990s to address the need for conservation and reduction in fishing capacity. The ecological imperative became the overriding mission of DFO in these policy responses. Moratoria and fleet reductions were followed by additional conservation and preservation measures in the late 1990s, particularly in BC (Table 2). Despite these positive measures, however, the conservation-based or "fish first" approach has not been broadly applied. Expansion of the

snow crab fishery in Newfoundland provides an illustration. From 1995 to 1996 the number of crab fishermen in the province rose from 1,200 to 2,800 (Harris 1999). By March 2000, snow crab stocks were reported to be in serious trouble and scientists warned that the commercial crab resource could run out in three years (Whiffen and Hilliard 2000). The resource cycle has continued to run its course. Similarly, programs have been implemented to encourage aquaculture production despite significant ecological concerns and a "surprising lack of research in this field" (Rahn 2000: 2).

Attempts to reduce industry capacity have had mixed success. In the end, less than 5 % of total capacity in the groundfishery was removed through The Atlantic Groundfish Strategy (TAGs). More recently, the Atlantic Groundfish License Retirement Program retired over 1,500 licenses, still less than 7 % of those remaining (DFO 2000). A license buy-back program in BC has reduced the size of the Pacific salmon fleet by nearly 38 % since 1996 (DFO 1999). However, the number of licenses alone does not measure fishing capacity. Other factors, such as the size, type and technology employed on a vessel are important. Opponents of the Pacific Salmon Revitalisation Strategy argue that while fleet reduction has dramatically reduced fishing employment in coastal BC, capacity has not been significantly reduced.

Measures taken to address economic concerns related to the fishery include changes to EI, allocation of Individual Transferable Quotas (ITQs), and diversification efforts both within and outside the fishery. As a result of these efforts, the number of fish species harvested in Canada increased dramatically over the 1980s and 1990s. Unfortunately, in some cases these new fisheries have simply repeated the mistakes of the past rather than contributing to an industry that will be more viable and resilient in the long term (e.g. the snow crab fishery). With support from both federal and provincial governments, communities on both coasts have also looked to other resources and industries to supplement declining incomes, including oil and gas, finfish and shellfish aquaculture, tourism and **TABLE 2 Policy Response in the 1990s**

Conservation:

- A two year moratorium on the North Atlantic cod fishery was put in place in 1992, followed by an extension of the moratorium to most other groundfish species and harvests for personal consumption.
- Attempts at fleet reduction were made in 1994 through *The Atlantic Groundfish Strategy* (TAGs) and again from 1998-2000 through the *Atlantic Groundfish License Retirement Program*. In BC the *Pacific Salmon Revitalisation Strategy* was announced in 1996 with the intent of reducing the size of the salmon fleet by 50 %.
- Conservation measures in 1997 included the closure of BC commercial fisheries directed at the coho (a salmon species) as well as designated areas closed to all fishing to prevent coho interception.
- The Province of BC created *Fisheries Renewal BC* in 1997, investing more than $13 million in habitat restoration and resource rebuilding, and passed the *Fish Protection Act*. The federal government invested an additional $100 million in habitat restoration and rebuilding in BC.
- The *Canada Oceans Act* was passed in 1997, providing a legislative basis for an ecosystem-based approach to managing the ocean environment.
- In 1998 the federal and provincial government jointly released a draft *Marine Protected Areas Strategy* for the Pacific Coast.
- A new *conservation-based approach to management* was announced in BC in 1998, including selective fisheries, a commitment to a precautionary, ecosystem-based approach and to protect and enhance salmon habitat (Kadowaki 1999)

Diversification/Economic Viability:

- The BC government invested over $5 million in new fisheries and other diversification projects, such as new value-added seafood products and coastal tourism ventures through programs such as *Partnerships in Progress* and *Fisheries Renewal BC* in the 1990s.
- Considerable changes were made in the EI program in 1996, reducing the number of beneficiaries for fisheries *Employment Insurance*.
- Increasingly resource rights have been allocated through *Individual Transferable Quotas*. Benefits include an ability to transfer management costs to the quota holders and security of resource access, offsetting impacts of the "race for the fish". However, concerns include highgrading and discards, dislocation of processing and harvesting activities in coastal communities, complex enforcement requirements and the difficulties of reducing production once entitlement is assumed. (McCay 1999; Grafton and Lane 1998; Copes 1986, 1996; Pontecorvo and Schrank 1996; Cashin 1993).

Decentralisation:

- In 1992/93, 80 agreements were made with Aboriginal groups on co-operative management and pilot projects for commercial salmon sales through the *Aboriginal Fisheries Strategy* (McDaniels et al 1994).
- Under *Fisheries Renewal BC* regional boards were charged with allocating funds according to local priorities. The *Groundfish Development Authority* was also created to review groundfish quotas and included membership from industry and community representatives.
- On the east coast, shrimp quotas have been given to Newfoundland communities and community groundfish quotas have been allocated in Nova Scotia (CCN 1997).
- In 1998 DFO appointed the *Panel Studying Partnering* to examine proposed changes to the Fisheries Act that would facilitate formal partnering arrangements in fisheries management.

value-added manufacturing.

Finally, as evidence of ecological, social and economic distress in the

fishery mounted in the 1980s and 1990s, so did concerns that DFO was not doing an adequate job of managing fisheries resources. Fishermen, communities and other stakeholders called for greater stakeholder involvement. Governments responded with varying degrees of enthusiasm. The Government of BC has taken a number of measures to increase community involvement in fisheries decision-making and stewardship initiatives. DFO, it seems, has been less eager to embrace the co-management concept. Some steps have, however, been taken, facilitated in many cases by the legal requirement for the federal government to consult with First Nations and pending treaty negotiations (Ommer 2000).

In 1998, a DFO appointed Panel concluded that, although many examples of co-management could be found in Canada, "both the 'partnering' initiative and the 'co-management philosophy' as it applies or may apply in the fishery sector, are highly complex concepts" and that "a great deal more work is required before the concept can be precisely defined and fully implemented" (Savoie et al 1998: 1). However, they also recommended that both government and industry take steps "with energy and commitment" to end the paternalism that has been characteristic of Canadian fisheries through the partnering model. Capacity building both within government and communities will be needed, they suggest, to make this happen.

Evaluating the Policy Response

Overall, the policy responses of the 1990s offer some hope that the way in which Canadian fisheries are managed is moving in a positive direction. However, while strict conservation measures have been implemented in some cases, the shift to adaptive and cooperative management overall has not yet occurred. Fisheries are still being conducted with insufficient information and without regard for the precautionary approach. Actions have been taken in response to economic and ecological crises rather than in anticipation of inevitable volatility in the marketplace or changes in the natural environment. Decisions continue to be made without consultation with communities or, in many cases, fishermen. Many expect continuing reluctance from DFO to devolve decision-making authority along with costs and the social implications of policy decisions remain poorly understood.

While it must be recognised that change takes time and that large bureaucracies of any kind come with a degree of inertia that must be overcome if new directions are to be followed, the key question remains: Is there truly a concerted movement in the direction of fisheries policy in Canada to promote sustainability, or simply a host of isolated and insufficient measures in the midst of a system that remains fundamentally flawed? The results of this review suggest that the latter is the case.

Real versus Symbolic Change: The Failure of Forest and Fisheries Policy

Four central themes emerge in a common analysis of the forest and fisheries sectors to answer the question "why has the policy response in the post-Brundtland era been ineffective?" First, the paradigm of modernisation that defined the post-war period offered a relatively clear and simple economic framework with almost immediate social benefits. Institutions and powerful alliances between government, industry, and labour were created based on a model of centralised, large-scale production. Real restructuring will require that new relationships and institutions be formed, thereby challenging the traditional power base. While new forces and alliances are creating an impetus for change, political and bureaucratic resistance lends inertia to past practices and paradigms. As a result the ability of the system to be proactive or to respond in a timely manner to new information, ecological realities or societal values as they arise is limited.

Second, scientific uncertainty and equivocality surrounding resources and resource use impedes the adoption of sustainable management practices (Wolfe 2001). Marine ecosystems remain poorly understood and comprehensive timber inventories are a very recent addition to the policy-making process in Canada. While our knowledge base of harvestable resources remains poor, our understanding of larger ecosystem dynamics is even worse. Adding to the complexity, many of the problems confronting resource managers and policy makers may take generations to fully express themselves. That said, while gaps remain in the process of generating ecosystem knowledge and in integrating this knowledge into the policy process, it is arguable that we know enough to act now to mitigate the worst practices and expand upon the best.

Third, as with the ecological information base, resource managers are in need of greater social science analysis. In fisheries, information on fishing communities and fisheries dependence is lacking (Poetschke 1983; Vodden 1999; Ommer 2000). The absence of proactive analysis of the social impacts of either the cod moratorium or fleet reduction in the BC salmon fishery provides a cogent illustration. In forestry, Linning (1999) illustrates that forest policy in BC does not take into consideration regional responses to macro economic forces or the specific impacts of isolated policy decisions.

Finally, centralised and segregated bureaucracies are clearly best suited to simplicity, in goal setting, administration, and management. By comparison, the concept and practice of sustainable development is more complex. Not surprisingly, the interests associated with a development pattern of specialisation are limited. Few actors are necessary to define, mobilise, and implement a strategy of economic growth based upon natural abundance. Resource managers today must operate within a much more complex landscape of information and interests. Social, economic, and ecological imperatives must be understood and balanced within the policy process. The range of interests now affecting resource

management in Canada includes international, local, First Nations, environmental, consumer, and competing industries. Clearly the difficulties of operating within this complex policy network produces its own inertia which impedes the resolution of issues and the creation of sustainable resource policy.

Conclusion

Reflecting on the theoretical framework discussed at the beginning of the paper, we see that staples theory, the resource cycle, and uneven development each contribute to our understanding of the context and history of resource development and policy-making in Canada. Real regulation contributes to this analysis and expands our conceptual "tool box" to account for the increasing complexity of the regulatory environment and the interplay between top-down and bottom-up approaches to resource management and development. As such, real regulation will be used as a basis from which to draw recommendations and broaden our understanding of resource use and policy in Canada.

From the perspective of staples theory and the resource cycle, our analysis of the forest and fish industries in Canada illustrates the process by which the economic imperative defining resource use and development has driven the industries and the communities reliant upon them to become specialised and dependent upon high extraction levels. In both forestry and fisheries, the simplicity of this model provided communities and provincial economies with high levels of wealth and relative stability for decades in the post-war period. We are also granted insights into the centralist political and economic relationships forged during this period and the extent to which the regulatory framework was designed to accommodate such relationships and their singular objectives.

Uneven development enhances and refines our analytical capabilities to include an appreciation for the complexity of the economic relationships and tensions arising from consideration of both productive and post-productive dynamics. Also, the impacts of specialised production and the barriers facing any consideration of transition to account for more sustainable practices and the inclusion of other policy actors (i.e. local and/or economic diversification) into the decision-making process, are made apparent through uneven development. We are taken a step closer to incorporating the role of place and local agency (i.e. greater contextual sensitivity) in our assessment of the policy-making process surrounding Canadian resources.

Finally, it is through a consideration of real regulation as both an analytical/diagnostic device and a theoretical framework that we begin to find new ways of conceptualizing the policy-making process and the divergent interests and actors arising in a more complex dynamic of economic, ecological, and social objectives. Five components of real regulation illustrate possible directions of change for the consideration and implementation of resource policy

in Canada. These five areas elaborate on the four common barriers identified in the policy analysis section above, and point to rich areas for future research from social scientists. Regional analysis in particular will prove extremely important to capture local diversity and to recognise that policy-making must be attuned to geographic scale.

- The role of informal regulation requires closer examination. The role of local agency, customary practices, and the integration of local knowledge influences the manner in which resources are managed and conflicts are created across the country. Relaxing the rigidity of the policy process and attempting to match the complexity of the process with the complexity of the economic, ecological, and social resource context will lead to better policy. This approach is compatible with reflexive and smaller scale experimentation advocated by other researchers, thereby allowing for systemic change without overloading the system (Mitchell 1995; Hessing and Howlett 1997).
- Greater attention needs to be paid to matching regulation with the appropriate geographical scale (Pierce 1992).
  Policies applied across a landscape as diverse as Canada's are bound to have different social, economic, and ecological impacts and results. Recognizing different spatial scales will lead to more appropriate policy implementation, providing such diversity is able to penetrate the policy-making process. As such, spatial sensitivity must also incorporate consideration of the appropriate jurisdiction for management and monitoring.
- Consideration of the interplay and potential between "top-down" and "bottom-up" approaches to resource management must receive serious attention. The ability to incorporate territorially-based objectives and control may have significant impacts on resource stewardship and economic diversification. Local control must be viewed as a potential source of efficiency governments are looking for to decrease their responsibilities in resource management (M'Gonigle 1998). The real inclusion of "bottom-up" requires complementary research into the role of local capacity in terms of handling extra management responsibilities and new roles for governments in moving from a controlling/directing role to an enabling/facilitating role (Bryant 1995).
- The evolution of regulation to include ecological imperatives has been important but, all too often, it has been applied as a reactive response both provincially and federally. Better integrating this dimension of regulation is of paramount importance. Developing epistemic policy communities may assist in this integration.
- Real regulation allows us to consider the impacts of changing the dynamics and characteristics of the policy network associated with resource management. The barriers to achieving real, rather than symbolic change, in resource management are closely linked to the degree to which the

entrenched policy network emerging in the immediate post-war period remains intact and in control. The recognition of diverse values, demanded by sustainable development, requires that those values have an opportunity to be represented and influence the policy process in a meaningful way.

Ultimately, each theory contains both a description of the problems facing Canadian resource management and the seeds that may bring about a more balanced approach to change. By tracing the patterns of staple theory, the resource cycle, uneven development, and real regulation we pass along a continuum bringing us closer to a contextually-based understanding of resource management and the solutions that may balance the current economic imperative driving the policy process. Rather than facing a perpetual pendulum defined by economic growth on one side and ecological integrity on the other, we may build a system that appropriately balances diverse interests in their appropriate contexts. In this manner we will be closer to achieving our goal of creating real change and making progress towards reconciling ecological sustainability with the reproduction of social and economic systems.

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