



Governance for sustainable regions: can government meet the innovation policy challenge?*

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Abstract. Governments have long attempted to encourage innovation and entrepreneurship in many policy spheres, including economic development at national and regional levels. Neo-liberal market-based approaches to regional economic policy have been developed as an alternative to government subsidization and regulation. However the role of the state remains very significant in shaping regional strategies and in funding the physical and social infrastructure essential for economic growth. Neo-liberal approaches have focused on economic development through entrepreneurship, but regional innovation policy has been broadened to include economic, social and environmental objectives, summed up as ‘innovation for sustainable regions’. Regional policy consists of a series of intersecting goals and programmes that are often in tension. Governments operate in complex institutional contexts and multi-level arrangements which constrain their responsiveness and their capacity to innovate. In the face of complex or ‘wicked’ issues, there are serious challenges for the government sector to develop capabilities for promoting successful innovation at the regional level. It is argued that governments need to play a leadership role, and that they require new approaches based on partnerships and networks.

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1 Introduction

Governments have long attempted to encourage innovation and entrepreneurship in many policy spheres including regional economic development. National and regional initiatives to encourage innovation and entrepreneurship have become widespread, using a variety of policy instruments to promote economic and technological development. While each country has developed

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its own policy frameworks and incentive structures, the comparative lessons arising from international experience have also been influential.

The prominent role of the state, as a well-intentioned if not well-informed planner of economic growth, has been the subject of much historical and comparative commentary (e.g., Aitken 1959). There is a growing literature on the historical and contemporary role of the state not only as a designer of public infrastructure, and a major purchaser of industrial goods (e.g., military equipment), but also as a ‘public entrepreneur’ that can enhance economic creativity and growth by using financial and regulatory incentives to stimulate innovation (Head 1982; Shockley et al. 2006; Klein et al. 2010; Link 2010). The contemporary analysis of entrepreneurial innovation emphasizes that entrepreneurial functions may occur not only within private businesses, but also in the community sector and public agencies. Hence there may be spillover effects such that facilitative activity in one sector (e.g., government) can assist innovation in other sectors (Shockley and Frank 2010), and the same may apply to economic spillovers from one spatial region to adjacent regions. There has been considerable research demonstrating that the location of innovation activity tends to be clustered (e.g., Bell et al. 2009), especially in certain urban areas, rather than evenly distributed. Systems of innovation are based not simply on a few exceptional individuals who invent new technologies; rather, there is a growing recognition of the important role of flexible networks in facilitating and nurturing new ideas (Nijkamp 2003; Gellynck and Vermeir 2009).

These new directions in innovation theory and growth theory have had major implications for the role of the state, and especially the need to reconsider the structures and processes typical of traditional industry development programmes. Indeed, the traditional pattern of public subsidization and direct public investment to promote specific industrial and regional sectors (‘picking winners’) has become less acceptable in advanced liberal democracies. The critique of ‘big government’ in the 1970s and 1980s led to strong reactions against government interventionism, and a strong push for public sector efficiency, sometimes known as new public management (Pollitt and Bouckaert 2004). Driven by neoliberal theories concerning the drivers of growth, together with a preference for light-handed regulation, there emerged a fierce critique of the market ‘distortions’ inherent in traditional industry-development approaches. Thus, in recent decades, governments have developed ‘innovation’ policy frameworks to complement their specific industry development frameworks. Innovation policy has been pitched both at a general level across the national economy, and also at specific technology-intensive and knowledge-intensive industries (which often have a strong regional aspect, owing to locational configurations). A substantial transition has occurred towards indirect, generic, and market-based incentive programmes aimed at stimulating the key drivers and enablers of innovation and productivity, especially those concerned with education and skills development, IT infrastructure, and industrial R&D (OECD 2007).

2 Broader context of innovation policy

However, the neoliberal approaches to innovation, promoting incentive-based programmes and regulatory liberalization to stimulate private sector innovation, have in practice been qualified and constrained by three important factors. First, the new policy stance has usually co-existed with the long-established role of the state in ensuring the provision of ‘hard’ infrastructure; the state has continued to have a major role in ensuring that transportation, energy, water, communications and other infrastructure systems are well planned and are well implemented. Tackling the problems of transport congestion in large cities, and providing health and education services for growing populations, are ongoing challenges for public investment. The massive financial impact of such projects on public sector budgeting has led

to substantial privatization of infrastructure provision in many countries, and a variety of public/private joint arrangements for project construction and operational management (Hodge and Greve 2005). Moreover in a number of countries, including the United States (Markusen 1994), large expenditure on military R&D has very substantial regional effects, tending to consolidate an agglomeration of high-tech manufacturing in certain areas. Thus the public investment foundation for economic innovation systems includes several important layers additional to the skills development and R&D agendas, where direct public investment in research and education remains crucial.

Second, the 'framing' of regional innovation policy has been broadened beyond the traditional economic objectives of growth and employment. Most importantly, regional policy goals have been extended to include social, environmental and equity objectives. This broader perspective can be summed up as innovation for 'sustainable regions', and has been overlaid by widespread concerns about the overall 'liveability' of urban and rural localities. A host of important social objectives have a strongly regional dimension, including goals such as social cohesion, equitable access to housing, adequate healthcare and education services. Equity objectives pertain to identifying disadvantaged or depressed regions and seeking ways to stimulate economic and social benefits in those areas. Similarly, environmental concerns usually have a local or regional aspect including protection of air and water quality, conservation of ecological assets, preservation of 'green zones', and consideration of decentralized options for sustainable energy supplies. Regional policy has thus become a space for pursuing 'triple-bottom-line' objectives, which translate into complex strategies with multiple goals and methods. The search for innovative solutions to such problems is a legitimate extension in innovation theorizing. This has served to complicate the governance landscape of regional innovation policy.

Third, and consequentially, the methods for implementing regional innovation policies have increasingly moved beyond market mechanisms and economic incentives. They have also moved beyond the managerial efficiency thrust of new public management. In particular, there is a reliance on a growing range of collaborative partnerships and networks, which stretch across diverse types of organizations spanning the sectoral boundaries between business, government and community. Thus, the development of innovation policies for sustainable regions is entwined in federalism and multi-level governance (Markusen 1994; Radin and Boase 2000; Hooghe and Marks 2001; Bache and Flinders 2004; Piattoni 2010). Moreover, in order to overcome the structural rigidities of intergovernmental relations, new emphasis is being placed on the effective management of collaborative networks to negotiate and energize mutually beneficial collective outcomes (Koppenjan and Klijn 2004).

These complex governance arrangements for policies and programmes require new kinds of strategic and operational skills. For example, relationship management skills are fundamental for the governance of collaborations and partnerships, but are not envisaged in the business model of new public management. Roles and responsibilities need to be negotiated, and performance expectations and outcomes need to be clarified. In programmes funded by central bodies but largely implemented at local and regional levels, accountability and effectiveness issues often hinge on how the trade-off between central rules and local flexibility has been determined (Geddes 2006; Geddes et al. 2007). Within the government sector, there are major challenges in policy co-ordination, both in relation to developing an integrated policy approach across issues that contribute to sustainability outcomes, and in relation to co-ordination of implementation and monitoring of programmes. Agencies require incentives for collaborative action; collaborative capacity cannot be assumed, and has to be built over time (Sullivan et al. 2006). Inter-organizational work requires special skills, persistence over time, and structured commitment to learning from current and past experience. This requirement for 'joined-up' collaborative effort may be difficult for an entity whose organizational culture has not

responded positively to previous experiences of successful collaborations (Bardach 1998, 2001).

Partnerships between public sector agencies and business or community associations to achieve regional goals have been important features of regional policy implementation. However, this approach is not without controversy, since the underlying norms of social partnership underlying some types of regional policy are not fully consistent with the preferences of neoliberal economics:

Neoliberals have little sympathy for partnership because it takes economic decision making away from the market and places it in the hands of selected policy makers. Partnership attempts to steer investment decisions by involving representatives of people who are directly affected by the decision. It is grounded on principles of inclusiveness and consensus, rather than market competition (Hooghe and Marks 2001, p. 109).

3 The nature of regional policy

Regional policy is largely intended to promote growth (OECD 2005), but this perspective is heavily qualified by the broader agenda of social cohesion, equity and environmental sustainability. Importantly, regional policy in Europe, Australia and Canada has focused on addressing uneven development and disparities among regions. In the USA, the fragmentation inherent in the federal political and legislative systems tends to undermine efforts towards nationwide redistributive policies (Radin and Boase 2000). Moreover some categories of US government spending (e.g., military procurement) have strong regional effects which consolidate industry strength in some regions, despite the political efforts of Congress to spread government contracts widely around the country (Markusen 1994, 1996). Within every country, R&D tends to be regionally concentrated. For example, within the OECD group of highly developed countries, about 10 per cent of regions produce more than half the total R&D and have very high measures of technical innovation such as patents.

Innovation is the main and increasing source of growth in OECD countries. In the definition of new growth models centred on social and environmental sustainability, regions are key actors in shaping virtuous innovation trajectories and in mobilizing untapped potential for national growth . . . Not every OECD region can be the next Silicon Valley, but all regions can improve their capacity to adapt knowledge for their region's innovation needs (OECD 2010).

There are big differences between regional policy settings tailored for declining or poor regions compared with those tailored for dynamic growth regions. For example, in relation to the weaker regions and cities of East Germany, it has been argued that regional policy has been less about building entrepreneurial 'coalitions for growth' and more about 'grant coalitions' to obtain funding subsidies for tackling under-investment in social and economic infrastructure (Bernt 2009).

Thus, there is no simple formula for innovation and growth across the diversity of regional experience, and key factors such as urban concentration are insufficient to explain development pathways. As a recent OECD report has noted:

Regional economic performance varies considerably among regions as a result of a combination of interconnected factors such as geography, demographics, specialisation, productivity, physical and human capital, infrastructure and the capacity to innovate, just to mention a few . . . Do regions only need to improve innovation capacity or do they also need to attract skilled people, upgrade infrastructure, and offer adequate labour markets and business environments? Can regions simply strengthen selected factors or must they improve across the board if they wish to remain competitive? Based on in-depth econometric modelling and analyses, this report reframes the debate on regional policy and development, emphasising that opportunities for growth exist in all

regions. It concludes that regions should promote their own growth by mobilising local assets and resources so as to capitalise on their specific competitive advantages, rather than depending on national transfers and subsidies to help them grow (OECD 2009c).

However, a second complication is that the wider economic benefits that are expected to flow from the technical innovation originating in a specific region are not necessarily captured or confined in that region, but may ultimately benefit other regions to a greater extent. In this sense, regional innovation and regional development may not be symmetrical (Shearmur and Bonnet 2010), and the dynamics and patterns of regional clusters may be quite diverse (Bell et al. 2009). A third qualification, emerging from the response to the global economic recession, is that innovation policy debate and the need for major new investments represent a unique opportunity to 'switch' paradigms towards more sustainable forms of production and consumption, for example, stimulating green industries rather than business-as-usual (Stilwell and Primrose 2010). Finally, it is noteworthy that the broader challenges facing European regions in the coming decades, according to the EU Commission, are not simply about conventional economic policy. Rather, the emerging big issues in Europe include responding to intensified regional disparities across the continent, large-scale population migration, demographic changes such as ageing, difficulties in promoting social cohesion, and the need to transition towards a low-carbon economy in the face of climate change and natural resource depletion (EU Commission 2008). Similar remarks could be made concerning the countries of North America, East Asia and Australia.

4 Role of government in solving complex problems

These are complex issues that will require widespread debate about values, priorities and strategic options. Governments can play a key role in shaping policy choices, preferably drawing on a wide base of expertise and experience. Governments are expected to play a key role in steering the implementation processes while at the same time helping to finance some of the agreed solutions. However, there remains a widespread scepticism about the capacity of governments to find constructive solutions to complex problems, whether at a regional, national or international level. Several traditions of political science research point not only to the institutional constraints and inertia of governmental organizations and accountability systems (for example, Hall and Taylor 1996; Peters 2005), but also to the political contingencies and non-rational elements that underlie policy decisions and the selection of policy instruments (for example, March and Olsen 1989). Moreover, the advocates of 'small government' have argued that markets and contracts are better tools for complex problems than increased government expenditures and legislation. However, it is important to point out that good policy outcomes always rely on the excellence of public sector governance, especially the framework of rules and the skills, knowledge, integrity and co-ordination capabilities of public managers and their political masters. Every policy domain is dependent on good governance, including those issues where the approach chosen by decision-makers is to pursue neo-liberal solutions based on market-based structures, rules and instruments (Bell and Hindmoor 2009).

It has been noted above that the preferred mechanisms in government programmes to foster growth and innovation have shifted over time, and that there is a new focus on more integrated approaches to the achievement of regional economic, social and environmental outcomes. Despite the political rhetoric of good intentions, there are serious impediments to governments successfully undertaking innovative actions to encourage and sustainable regional outcomes. Leaving aside the institutional factors that are specific to individual countries, we here focus only on three broad dimensions of the role of government.

First is the capacity of government (and other actors) to understand and characterize the nature of complex (and ‘wicked’) problems. Second is their capacity to develop coherent evidence-based strategies addressing these issues, taking account of the best available evidence and knowledge, including stakeholders’ experience. Third, related to the knowledge base for decision-making, is the capacity of government agencies to improve organizational learning as a basis for undertaking more effective innovation, capacity-building, networking and partnering in the future.

4.1 Complex and wicked problems

Problems manifested at a regional scale are by their nature complex, including urban and regional development. The policy process centres on problem identification, options analysis, and programme responses over time. Regional development problems are ongoing and variable, but not every regional problem attracts political attention and not every problem is designated for urgent action. Some issues are regarded as relatively settled and are handled through routine administrative or planning processes; while others are highly conflictual and exacerbated by partisan commentary. Some problems are ‘framed’ in very different ways by various actors and stakeholders, making consensus unlikely. The frame for regional policy is alternatively about growth through innovation for some actors, about overcoming regional disparities for other actors, and about social and environmental sustainability for others. The way in which political debates are managed, and the role of the mass media in framing and highlighting certain issues or events, influence the prospects for resolution. Some issues are regarded as requiring strong government leadership and co-ordination across regional areas; some issues require alignment and adjustment to international regimes such as the GATT and to frameworks enunciated by supra-national bodies such as the EU; while other issues are largely seen as matters to be addressed by local businesses, families or individuals.

In the practical world of designing and managing responses to complex regional issues, it is generally agreed that regional dynamics are complex. Policy issues may be termed complex when there are many elements or aspects to understand; many organizational views to take into account; and many causal variables or links that need to be identified for analysis and possible action. Complex issues evolve rapidly and may take unexpected turns. Hence, public decision-making is often conducted in an uncertain, risky, turbulent and conflictual environment. Decision-makers find that some difficult problems are never resolved, that tough problems resist ‘solution’, and that policy interventions to fix the problem can have unintended consequences and even make things worse (Conklin 2006; Camillus 2008). Such issues may be termed ‘wicked’ (rather than tame and predictable) when the following features are evident:

- problems are inherently difficult to clearly define;
- they contain many interdependencies and multi-causality;
- the problems are socially complex with many stakeholders;
- entrenched value differences are significantly involved;
- no single authority is ‘in charge’ and accountable;
- the problems may be unstable and keep evolving;
- the knowledge base for defining the nature of problems and for scoping possible solutions is patchy and disputed; and
- ‘rational comprehensive planning’ approaches will fail (adapted from Rittel and Webber 1973; Head 2008b).

The dilemmas are intensified when major issues are not only complex to analyse and model, but when they are also characterized by value disputes (Schon and Rein 1994), by research gaps, and

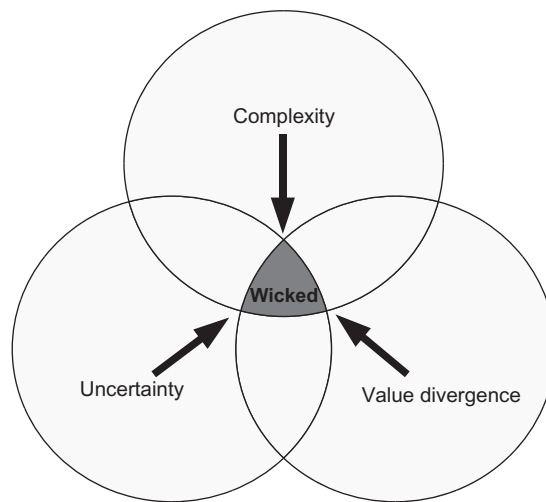


Fig. 1. Wicked problems as a combination of complexity, uncertainty and value divergence

by major uncertainties in understanding likely future scenarios. These aspects of wicked problems are depicted in Figure 1.

It is important to note that while collaborative and ‘joined-up’ approaches are often recommended as the best response to wicked problems, the causes of policy frustration may be more mundane, such as information overload, problem overload, poor monitoring, lack of managerial experience, confused roles and responsibilities, and fragmentation among organizational units and stakeholders. Collaboration to fashion a greater level of consensus may be misplaced unless these other deficiencies are recognized and addressed. Stakeholder agreement around a lowest-common-denominator approach may not fix the problem. Management skills are therefore very important, including knowledge management and relationship management to drive better outcomes.

4.2 The knowledge base for coherent policy

Under these complex conditions, the capacity of governments to plan and implement successful regional innovation programmes is problematic. The evidence for assessing existing regional programmes, and for understanding future policy options, is not yet robust despite significant recent advances in empirical analysis (e.g., Koo and Kim 2009; Laurent et al. 2009; OECD 2009a, 2009b, 2009c; Buesa et al. 2010). Even if the evidence base for decision-making was much improved, the stakeholder knowledge base remains fragmented, because there is an enduring divergence in the values, interests and perspectives of key social, economic and environmental stakeholders (Fischer 2003; Schon and Rein 1994). These diverse viewpoints are linked in practice to different elements within the broad agenda for regional sustainability. It is important that these stakeholder viewpoints be expressed as part of the process of adjusting and improving programmes. Thus, participatory evaluation of local and regional programmes is vital (Diez 2001; Guarneros-Meza and Geddes 2010).

Part of the governance challenge is effective co-ordination, both for strategy development and for programme implementation (O’Toole and Montjoy 1984). In designing regional programmes, it is important to allow for local adaptation of centrally-designed and monitored programmes. This is because local knowledge can provide the historical and cultural under-

standings that are necessary to discern how centrally-endorsed outcomes are best achieved at the local and regional levels (Geddes 2006; Geddes et al. 2007; Head 2007; Lakshmanan and Chatterjee 2009). A degree of local discretion and choice is therefore required to ensure that the benefits of innovation and service provision are delivered, and that central mandates do not overwhelm local knowledge (Whitehead 2003; Sullivan et al. 2006).

Evidence-based policy for regions may therefore need to be reconceptualized as evidence-informed policy, since the decision-making and implementation processes have some of the features of ongoing negotiations rather than logical deductions from rational analytical reporting. Under these conditions, it is difficult to expect that expert-driven solutions, or 'technocratic' forms of evidence-based policy (Clarence 2002; Parsons 2004; Head 2008a), will be widely seen as legitimate. This is disappointing for some policy analysts who are frustrated by the impediments to rational policy-making, and who deplore the impact of politics, patronage and institutional legacies. However, scientific objectivity is difficult to embed in policy design, because:

- ideologies and values influence all views about the best approaches to problem-solving;
- likely levels of support for desired actions are important; and
- many policy debates remain highly polarized between market-based, rights-based and regulation-based preferences.

A policy and evaluation framework that recognizes all types of expertise and evidence can help to answer the critical questions: what works under what specific conditions? who benefits and who pays the costs? A strong investment in knowledge and evaluation systems is crucial, but at the same time it is important to clarify the issues on which stakeholder views need to be weighed as well as the fruits of better science and analysis.

5 Can government provide innovation leadership?

Despite the enthusiastic approach of Osborne and Gaebler (1992) who championed the role of local-level public sector entrepreneurship to improve services and focus on results, innovation is not generally the hallmark of public sector behaviour. While some agencies undoubtedly engage in innovation (Deutsch 1985; Kim and Chang 2009), and spend considerable effort on internal organizational changes linked to innovation (Osborne and Brown 2005), it has not proved possible to mandate public sector innovative behaviour – except perhaps in niche areas such as the adoption of IT-enabled customer service innovation. Indeed, the culture of the public service in almost every nation tends to be risk-averse and procedural, owing to administrative requirements for accountability, procedural fairness and predictability. Experiments and pilot projects are regularly initiated, but are difficult to mobilize and to sustain over time. Innovation is seldom the core business of busy risk-averse public managers who are already facing significant performance pressures arising from complex and wicked problems.

Increasing the leadership and problem-solving skills of public managers may assist in encouraging innovation, but the structural impediments may remain. Rather than expect public servants to demonstrate innovative leadership, a more realistic approach might focus on better understanding those cases where robust and well-grounded innovation occurs, and especially understanding cases where the public sector can encourage the success of others. Public service agencies can develop skills and deploy resources for the management of internal change processes in their own organizations; but the key exogenous factors promoting and facilitating innovation are likely to be network and system supports. Recent studies suggest that public/private innovation in services does not emerge through top-down planning but rather emerges within the actual process of working across organizational boundaries, and that network

approaches are crucial (Considine et al. 2009). Moreover, successful public/private science innovation (Huang and Murray 2010) may require persistence and financial commitment over a lengthy period. More generally, working through networks and partnerships is becoming a crucial approach for adding value in several fields of public policy and service planning (Goldsmith and Eggers 2004).

A related key question is whether government officials are working under institutional arrangements that enable them to undertake thorough long-term strategic analysis and evaluation work (Head 2010), which would provide the basis for the public sector to consider carefully the transitions required towards new approaches to sustainability at the regional and sectoral levels (Voss et al. 2009; Smith et al. 2010). The capacity for strategic thinking, especially in conjunction with business and community stakeholders, has developed only slowly. The search for effective alternatives to state-centred approaches has moved through several phases. The traditional public sector approach to regulation and planning was strongly attacked for perceived inefficiencies, lack of responsiveness, and lack of an outcomes-focus. The new emphasis on managerial efficiency and tighter accountability for outcomes (associated with new public management) led to significant restructuring and to wider use of incentives and market-based instruments (Pollitt and Bouckaert 2004). Responsiveness to community concerns arising from complex social and environmental issues required a further layer of engagement strategies, consultation and participatory approaches, marked by the rise of network and partnering approaches (Goldsmith and Eggers 2004; Goldsmith and Kettl 2009).

6 Conclusions

This paper has argued that governments have several types of entrenched difficulties in designing and implementing policies for sustainable regions. One set of difficulties arise from the diverse 'framing' of key problems and preferred responses by key actors. Another is the complexity of regional sustainability issues, whose 'wicked' characteristics will require ongoing adjustment and negotiation rather than technical solutions. Another set of difficulties arises from institutional features of the public sector itself, with its complex accountabilities, its risk-averse bureaucratic culture, its institutional inertia, its general suspicion of devolved collaborations, and its political logic based on garnering popular support and seeking compromise.

Many governments at both national and provincial scales have developed 'regional' innovation programmes aimed at achieving economic, social and environmental objectives at a regional scale. The aims of such programmes are sometimes in tension, for example, the competitive and co-operative policy elements are often working against each other (Newlands 2003; Lawton-Smith et al. 2003), and the economic growth elements are sometimes at odds with the environmental and social objectives. The pattern of regional policies is driven by a diverse mix of factors and motives, including political commitments, inter-governmental relations, administrative histories, geographical spread of services, economic theories about human capital, and empirical evidence about the benefits of clusters and networks.

For regional economic development programmes, the traditional stance of favouring subsidies for industry-sector favourites (e.g., locational-attraction incentives and direct industry subsidies), has become less acceptable on both economic and political grounds.

The new emphasis on 'enabling' factors, including both physical and soft infrastructure (such as transport, education and training, communications and IT), has become dominant in policy circles, but its efficacy is clearly variable across rich and poor regions and requires non-market supplementation to manage the adjustment processes of declining industries and regions. Neoliberal macro-economic policies fostering business investment and competition through de-regulation have clearly not delivered the desired outcomes. Governments can shape

market rules, but cannot ensure business growth at a sectoral level through markets. However, other market-linked programmes have been developed, where the ‘enablers’ of growth are encouraged through conditional funding and incentive payments tied to specific business activities (e.g., IT investment) envisaged in programme goals. There will be a continuing need to pursue the mainstream levers of recent innovation policy (e.g., investing in growth enablers such as skills, IT and industrial R&D), but the broader agenda for building sustainable regions will require new thinking and new syntheses. In the context of pursuing multiple problems/goals, governments are more likely to develop robust policy design and implementation capacity if they acknowledge the complexities of policy goals and stakeholder interests that are inherent in promoting ‘innovation for sustainability’.

The policy governance arrangements for addressing regional policy and other complex issues have necessarily become broader over time (Van Kersbergen and Van Waarden 2004; Head 2009). Internal reform of government agency processes may be helpful in overcoming institutional constraints, but reforming the relationships between government and other sectors is likely to be even more beneficial. The role of government in promoting innovation to achieve broadly based regional benefits requires government agencies to design their policy settings in close collaboration with the business and community sectors. Governments are increasingly trying to pursue these goals through building the skills and capability of others – primarily businesses and other non-government organizations. Forms of partnering and networking at local and regional levels can help to overcome the inherent problems of complex regional sustainability, such as the complex processes and structures. Partnerships and networks can help define and link the complementary responsibilities of diverse organizations that are needed for support roles. Partnerships and networks can help to mobilize more sustainable practices (through behavioural changes by stakeholders and citizens that are adopted through collective norms rather than solely by regulatory compliance). Moreover, collaborations can help to reach pathways (or solutions) that are not open to more traditional top-down problem-solving, and allow decision-makers to draw on wider pools of expertise and knowledge.

In relation to innovation for social and environmental sustainability, regulatory approaches need to be enhanced by methods that facilitate and encourage business firms and community groups to develop innovations that lead to profitable enterprises, better services for citizens, and better environmental outcomes through new technologies and changing consumption practices. In the wider conception of regional policy as encompassing desired economic/social/environment outcomes, governments are beginning to see the value of more coherent planning frameworks that consider these interactions that will underpin ‘triple-bottom-line’ outcomes at a regional scale. An adaptive and collaborative approach to regional policy is more likely to enhance the prospect of learning (Morgan 1997; Diez 2001), both for the various organizations and for the network of interaction at the regional system level. It is true that evaluating complex initiatives can give rise to many difficulties, and that economic and political forces can shift direction very rapidly. The evidence base for selecting instruments, designing programmes and evaluating regional innovation remains weak, and the practical co-ordination and collaboration requirements are substantial. Nevertheless, governments need to provide leadership for sustainable regions, while recognizing that solutions will remain provisional, requiring constant adjustment and negotiation (Verweij and Thompson 2006). The challenge of dealing with ‘wicked problems’ at the regional level requires approaches that are iterative, rather than definitive, and inclusive, rather than technocratic.

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Resumen. Los gobiernos han intentado por mucho tiempo fomentar la innovación y el espíritu emprendedor en muchos ámbitos políticos, incluyendo el desarrollo económico a escala nacional y regional. Los enfoques de mercado neoliberales para las políticas económicas regionales han sido desarrollados como una alternativa a los subsidios y la regulación. Sin embargo, el estado sigue teniendo un papel muy significativo a la hora de esbozar las estrategias regionales y financiar la infraestructura física y social esencial para el crecimiento económico. Los enfoques neoliberales se han centrado en el desarrollo económico con origen en un espíritu emprendedor, pero las políticas de innovación regional han crecido para poder abarcar objetivos económicos, sociales y medioambientales, resumidos en el término “innovación para regiones sostenibles”. Las políticas regionales consisten en una serie de metas que se entrecruzan y de programas a menudo en conflicto. Los gobiernos operan bajo contextos institucionales complejos y estructuras con niveles múltiples que restringen su capacidad de respuesta e innovación. Al enfrentarse a asuntos complejos o ‘espinosos’, existen retos serios para el sector gubernamental a la hora de desarrollar la capacidad de fomentar una innovación exitosa a escala regional. Se argumenta que es necesario que los gobiernos asuman un papel de liderazgo, y que necesitan nuevos enfoques basados en la cooperación y las redes de colaboración.

要約 各国政府は、長きにわたって地域および国家レベルの経済発展など、様々な政策分野におけるイノベーションと起業を促進する試みを行ってきた。政府による補助と規制に代わる地域経済政策として、ネオリベラル市場志向型のアプローチが開発されてきた。しかしながら、地域政策戦略の策定、および経済成長に不可欠である物理的・社会的インフラストラクチャーの整備のための資金供給という点において、国家の役割は依然として重要である。ネオリベラル志向のアプローチは起業による経済発展に重点を置いてきたが、地域イノベーション政策は、「持続可能な地域づくりのためのイノベーション」ともいわれるように、経済、社会、環境などの目標をも視野に入れられている。地域政策は一連の交差する政策目標と政策プログラムから成るが、それらは緊張状態にあることが多い。政府は、複雑な制度的環境と重層的体制に、イノベーションを実行するための迅速な対応や能力を制約されながら活動している。複雑な、または厳しい問題に直面した場合、地域レベルで成功するイノベーションを促進する能力を政府セクターが開発するためには深刻な課題が存在する。政府が指揮を執らねばならないことと、政府は共同事業とネットワークに基づいた新しいアプローチを必要とすることを論ずる。