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Collaborative innovation as a tool for environmental, economic and social sustainability in regional governance

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Abstract

In the Scandinavian countries, the regional level of governance is neither the locus of large-scale policy reforms nor a significant provider of welfare to citizens. Nevertheless, it has some important policy tasks in the area of environmental, economic, and social sustainability. These policy areas are rife with wicked and unruly problems that combine cognitive uncertainties with the risk of political conflict and stalemate. Dealing with these problems requires the construction of network arenas in which a range of public and private actors can collaborate in order to find innovative solutions to common problems. The paper analyses the efforts of Norwegian regions to enhance collaborative innovation through the formation of interactive governance arenas. It compares three different policy areas in order to better understand how different forms of interactive governance enhance collaborative innovation for economic, social and environmental sustainability. The ultimate goal is to assess the ability and potential of Norwegian regions to solve wicked and unruly problems through collaborative innovation.

Exploring the regional capacity for collaborative innovation

In the Scandinavian countries, the sub-national regional level is squeezed between the national and local levels, which both play a major role in formulating and implementing public policies. Local and national governance have received considerable scholarly attention over the past years. By contrast, regional governance has received significantly less attention among political scientists in general and public administration researchers in particular. While there are numerous studies focusing on the formation and impact of large, cross-national regions in Asia, Europe, North America and South America (Ethier, 1998; Keating, 1998; Philips, 2010), there are relatively few studies of sub-national regional governance (for Scandinavian exceptions see Baldersheim, Ståhlberg and Øgård, 2001; Loughlin, Hendriks and Lidström, 2010; Sørensen, Sehested and Reff, 2011). The sub-national regional level are simply not receiving the attention that the other levels of governance are enjoying. Sub-national regions are not considered interesting works-in-progress like the cross-national regions, and they are not reckoned to have the same economic growth potential. In addition, policy making at the sub-national regional level does not draw the same political interest and media attention as national policy reforms, perhaps because the distributional impact of regional policy making is limited. Finally, regional

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governments are no match for local governments when it comes to delivering services to citizens and private firms and thus fail to foster a feeling of proximity. The predominance of regulatory tasks over service delivery means that sub-national regions are less visible than local municipalities and state agencies.

However, interest in regional development and regional innovation systems has increased in light of the European debate on the New Regionalism that emphasizes the important role that regions can play in enhancing structural competitiveness through adaptation (Doloreux and Parto, 2005). However, despite the attempt of regional governments to develop their external ties and connections (Baldersheim, Haug and Øgård, 2011), the Scandinavian regions are, first and foremost, administrative levels in the national governance systems, and thus far from the new kind of dynamic cross-border regions that are championed by the New Regionalism.

In the Scandinavian countries, the key tasks of regional governments are found, to a varying degree, within the areas of planning, transport, environmental protection, economic development and health care. These are tasks that are difficult to handle at other levels of governance but also characterized by a high level of complexity. Indeed, they are beset with wicked and unruly problems that combine cognitive uncertainties with political conflicts and constraints. In dealing with these problems, regional authorities benefit from attempts to enhance collaborative innovation. Hence, we claim, first, that wicked and unruly problems can be solved neither by standard solutions nor by increasing public expenditure, but call for innovative solutions (Rittel and Webber, 1973); and, second, that the crafting of innovative solutions to complex problems is spurred by multi-actor collaboration in interactive governance arenas (Roberts, 2000).

Enhancing the capacity for collaborative innovation at the regional level requires the construction of networked policy arenas that allow a broad range of public and private actors to find constructive ways of managing their differences in order to create innovative solutions to common problems. In order to explore the feasibility of regional strategies for networked governance this paper analyses the efforts of Norwegian regions to boost collaborative innovation in and through the development of interactive governance arenas aiming to enhance environmental, economic, and social sustainability. These are broad policy dimensions and we therefore narrow our focus to three policy areas where the regional counties have key responsibilities: economic development (economic sustainability), water management (environmental sustainability), and health promotion (social sustainability). The ultimate goal is to assess the ability and potential of Norwegian regions to solve wicked and unruly problems through collaborative innovation.

The study is based on mixed methods; document analysis, qualitative interviewing and survey analysis. Hence, we have selected and analysed nine policy documents that play a key role in governing water management, economic development and health promotion. The document analysis sheds light on national intentions, ambitions, goals and priorities framing regional collaborative efforts. In order to analyse the regional efforts to build interactive governance arenas we

interviewed regional administrative managers responsible for regional planning, water management, economic development and health promotion in three Norwegian counties. Our data consists of 12 semi-structured qualitative research interviews. In order to assess the character, functioning and impact of the different forms of collaborative interaction the qualitative data is supplemented with quantitative data from a web-based survey administered to all regional politicians and top-level administrators in all of the 19 counties in Norway. While the response rate of administrative respondents was satisfactory (51 percent), only 28 percent of the politicians responded despite four reminders. In total then, the response rate was 31 percent, which is weak. The total number of respondents was 284 with representatives from all the majority of the 19 Norwegian counties.¹

The paper proceeds in the following way. In the next section, we explain what we mean by wicked and unruly problems. Further, in the third section, we demonstrate why and how collaborative innovation can help solve wicked and unruly problems and we develop an analytical typology of different forms of interactive governance. In the fourth section, we apply the theoretical framework on three different regional policy areas thereby doing an empirical analysis of collaborative governance. In the fifth section we analyse the institutional capacities for collaborative innovation in Norwegian regions. In the final section we draw some tentative conclusions about drivers and barriers for collaborative innovation at the regional level and reflects on strategies for regional capacity building.

Wicked and unruly problems revisited

Our empirical focus is on water management in accordance with the EU's Water Framework Directive (environmental sustainability), economic development of business and industry (economic sustainability) and health promotion (social sustainability). A common condition for regional governance in these policy areas is the presence of a large number of complexly related problems, goals, actors and processes. Hence, all three areas are rife with features associated with so-called wicked and unruly problems'. In this section we aim to clarify what we mean by this term. Our argument is that many societal problems are not only 'wicked' due to cognitive limitations, but also 'unruly' due to political constraints.

The term 'wicked problems' was coined by Rittel and Webber (1973). Unlike 'tame problems', which are relatively simple, well-described and enjoy a wide-spread consensus on both their definition and solution (Roberts, 2000), wicked problems are hard to define and even harder to solve. Wicked problems are unique, complex and tangled and, therefore, difficult to define. We can see that something is not working, but it is hard to tell what the real problem is because it is difficult to know what distinguishes an observed condition from a

¹ Among the administrative leaders, all but one County is represented. Among politicians, all Counties are represented.

desired condition. Even if we agree on a tentative problem definition, it is often impossible to locate the root of the problem in the complex web of causalities that characterizes open societal systems. Moreover, since there are no clear, objective and undisputed goals in public policy making, but rather incomplete, changing and contradictory objectives, there is no true or optimal solution to wicked problems, only solutions that are considered acceptable or good enough. When searching for an appropriate solution, public authorities find it difficult to rely on trial and error since the consequences of an error might do irreversible damage to users, citizens or private firms. Moreover, there is often no agreed system for risk sharing. Finally, there is no ultimate test of solutions to a wicked problem because undesirable future repercussions might outweigh the present advantages.

Since the initial definition of the nature of wicked problems, there has been an ever growing scholarly interest in the phenomenon and in the limitations of the traditional linear methods of problem solving that it reveals (Degraa and Stahl, 1990; Guindon, 1990; Roberts, 2000; Campbell, 2003). At the same time, there has been a growing awareness of the surge of wicked problems in our increasingly fragmented, complex, and dynamic societies (Koppenjan and Klijn, 2004). However, something seems to be missing both from the original definition of wicked problems as well as from many of its subsequent elaborations. The notion of wicked problems tends to be defined exclusively in *cognitive* terms and, thus, as a question of the lack of clear and adequate knowledge and information about problems, causes, objectives and solutions. As such, wicked problems are considered to be rooted in an epistemic deficiency that challenges the scientific approach to policy making and public governance. However, there is also an important *political* aspect of societal problems that makes them wicked and unruly (Ansell, 2013). This is evident from a recent discussion of global climate change as a 'super wicked problem' (Lazarus, 2009) that adds the following characteristics to the definition of wickedness: 1) time is running out; 2) the problem is misaligned with capacity or authority; 3) those seeking to solve the problem are causing it; and 4) the future is heavily discounted. Other political constraints that may hamper the ability to solve important societal problems include: political disagreement about the nature of the problem; political problem framing that produces symbolic or ineffective solutions; problems are a solution to other problems or a symptom of deeper problems; and solutions are either unavailable, expensive, or objectionable (Ansell, 2013).

Now, instead of subsuming all these political constraints under the notion of wicked problems, we propose to retain the original notion of wicked problems, but add the term 'unruly' and thus speak of wicked and unruly problems in order to signify the concurrence of cognitive and political constraints. Wicked problems are often unruly because cognitive limitations open up for political disputes over the nature of these problem and possible solutions and because political struggles may destabilize the cognitive foundation of societal problem solving. Hence, although problems might be wicked without necessarily being unruly, and vice versa, it makes good sense to talk about wicked and unruly problems in

public administration in general and in regional regulatory governance in particular.

Our conceptual expansion of wicked problems into wicked and unruly problems is captured by Koppenjan and Klijn (2004) in their discussion of the interlacing of cognitive, strategic and institutional uncertainty. Whereas cognitive uncertainty problematizes the scientific approach to public decision making that was predominant in the 1960s and 1970s, strategic and institutional uncertainties question the alleged decision making monopoly of formal government institutions by drawing our attention to the presence of multiple stakeholders and decision-making arenas and by urging us to recognize the important role of informal rules and procedures in public governance.

Solving wicked and unruly problems through collaborative innovation

In this section we first look at why and how wicked and unruly problems can be solved through multi-actor collaboration spurring public innovation.

For more than a century innovation has been considered as a key driver of growth and prosperity in private business firms. By contrast, *public innovation* is often considered as an oxymoron due to the lack of competition and the prevalence of centralized control, red-tape and institutional inertia in public bureaucracies. More recently, however, public innovation has moved to the top of the public sector agenda. This has happened partly in response to the pressures emanating from the combination of increasing expectations of citizens with dire fiscal constraints and partly in response to the proliferation of wicked and unruly problems that can neither be solved using the available standard solutions nor by allocating more money, staff and administrative resources (Sørensen and Torfing, 2011). Hence, when we are facing ill-defined and hard to solve problems in areas with many stakeholders and a high risk of conflicts we need to find new ways of framing these problems and creative ways of solving them. We must develop and implement new and creative solutions that break with the conventional wisdom and habitual solutions in a particular context. In short, we need to foster innovation defined as the development and realization of new ideas that work (Hartley, 2005).

Innovation is more than a continuous improvement of existing designs and less than a 'radical transformation' of the entire policy field., innovation can be defined in terms of a step-change that combines old and new elements in the construction of creative solutions that disrupt the established practices and the underlying thoughts and ideas in a particular context (Hartley, 2006). Public innovation may aim to transform public discourses, actual policies, organizational designs, public services, or the overall role perception of the public sector (Hartley, 2005). It can be more or less radical depending on the size of the steps that are taken, and it can either be a result of the invention of something new or of the adoption and adaptation of innovative ideas from other organizations, sectors or countries (Hartley, Sørensen and Torfing, 2013). Still, the key driver

of public innovation, regardless of its forms and sources, seems to be the expectation that innovative solutions will outperform existing solutions and offer new and better ways of doing things at the same or lower costs than before. However, there is no guarantee that public innovation leads to improvement. Innovative solutions may not produce the desired output and the final judgment of the outcome of innovation relies on the subjective evaluations of politicians, public managers and employees, private stakeholders and different user groups.

Wicked and unruly problems require the crafting of innovative solutions, but what is the best strategy for enhancing innovation? Roberts (2000) compares authoritative, competitive and collaborative strategies and concludes that collaboration is superior to competition and authority when it comes to creative problem solving. *Authoritative strategies* authorize a particular group of decision makers to define a problem on the basis of their formal position or expertise and urge them to come up with a matching solution; the experts might be wrong, however, because they fail to benefit from knowledge sharing and mutual learning with relevant and affected actors. This weakness of authoritative strategies is especially salient in relation to wicked and unruly problems that are pervaded by cognitive and political uncertainties. *Competitive strategies* engage relevant stakeholders in a zero-sum game in which the winner takes all and eventually gets to define the problem and its solution by resorting to an authoritative strategy. While the advantage of these strategies is that competition prompts the search for innovative solutions and challenges institutionalized powers, a lot of resources are nevertheless wasted on rivalry and conflicts and the exchange of ideas among competitors is prohibited. By contrast, *collaborative strategies* permit the exchange of knowledge, competences and ideas and thus facilitate mutual learning that helps improve the understanding of the problem and identify a range of feasible options (Roberts, 2000; Weber and Khademian, 2008).

In fact, collaboration does not only facilitate knowledge sharing, problem definition and idea generation, but also enables the integration of ideas, the selection of the most promising ones, the assessment and sharing of risks and benefits, the reduction of implementation resistance through the construction of joint ownership, and the diffusion of innovative ideas through the recruitment of a large number of ambassadors (Sørensen and Torfing, 2011; Hartley, Sørensen and Torfing, 2013). Indeed, collaboration is the only strategy in which it is not the presence of institutional and organizational boundaries that decides who are involved in the production of innovation, but rather the possession of relevant innovation assets in terms of experience, creativity, financial means, courage, implementation capacity, and so on (Bommert, 2012). As such, collaboration is not only a favorable strategy for dealing with wicked and unruly problems, but also a promising method for developing and implementing innovative solutions.

Collaboration does not necessarily involve time-consuming attempts to forge unanimous agreement. In fact, a total consensus that eliminates all forms of dissent is often predicated on the actors agreeing on the least common denominator, which seldom leads to an innovative solution. By contrast, collaboration should be defined as a process through which multiple actors aim to establish a

common ground for solving multi-party problems through the constructive management of difference (Gray, 1989). Hence, we collaborate with other actors because they have resources, knowledge and ideas that are different from our own, and rather than seeking to eliminate these differences, collaboration aims to manage and exploit them in ways that facilitate the development of innovative solutions to common problems.

Collaboration is a *dynamic process* premised on a mutual understanding of the urgency of the problem at hand and the need for joint action. The process is driven by the need to exchange knowledge, resources and ideas and the recognition that adversarial interaction is too costly and likely to generate negative externalities (Gray, 1989). The first step in collaborative processes is *mediation*, defined as information and knowledge sharing. The next step is *deliberation* defined as a joint discussion of the nature of the problem based on reason giving and resulting in an agreement on a common frame of meaning and some shared objectives that can guide the search for solutions. Mediation and deliberation lay the foundation for *mutual adjustment*, defined as the attempt of social and political actors to adapt their strategies and coordinate their discretionary actions so as to avoid antagonistic clashes and wasteful overlaps and create positive synergies that help to achieve common goals. The final rung on the ladder is *collaborative problem solving* defined as the development and realization of common solutions through trust-based cooperation and joint action. Collaborative endeavors may not always lead to collaborative problem solving, and progression is often followed by regression. However, policy processes with strong elements of collaborative problem solving may use the ideational differences, critical reflections and integrative powers of the various actors as a lever of expansive and transformative learning (Engeström, 1987; Mezirow, 2000) that can help to foster new and innovative solutions.

Collaborative innovation can be advanced through different kinds of *interactive governance*, defined as a more or less institutionalized process through which interdependent social and political actors aim to steer society and the economy in accordance with common objectives and through a negotiated exchange of resources, knowledge and ideas (Torfing et al., 2012).

We shall here distinguish between three institutional forms of interactive governance: stakeholder consultation, relational contracting and collaborative networking. The three forms of interactive governance presented in Table 1 differ in terms of how they combine collaborative interaction with hierarchical government, market-based competition and horizontal networks. Our typology for interactive governance appreciates the fact that collaborative interaction is not only found in governance networks, but may also play a significant albeit relatively subordinate role in hierarchical and market-based governance. Hence, although collaborative interaction is the *sine qua non* of governance networks, it is not coterminous with governance networks. We therefore argue that collaborative interaction also frequently appears as a component of hierarchical and market-based governance that compensates for a lack or deficiency in authoritative

Table 1: *Typology of different forms of interactive governance*

	Stakeholder consultation	Relational contracting	Collaborative Networking
Basic mode of governance	Hierarchical governance	Market-based governance	Governance networks
Institutional design	Public authorities hold the key responsibility for governing but consult private stakeholders both in the policy formation and the implementation phase	Public authorities contract out public services in and through quasi-markets, but contractual arrangements are supplemented by ongoing negotiations	The collaborative exchange and pooling of resources in networks is based on interdependency, reciprocity and trust
Purpose	Enhance input and output legitimacy	Improve efficiency and spur creativity through a mix of competition and negotiation	Involve stakeholders in the development and realization of common goals and joint solutions
Integrating mechanism	Legal and procedural framework specifying the right to be consulted and how the process is organized	Contractual arrangements specifying the scope and content of ongoing negotiations	Self-regulated negotiation influenced by meta-governance exercised by central, resourceful and legitimate actor(s)
Form of collaboration	Exchange of information and deliberation on problems and goals	Mutual adjustment in order to prevent overlap and create synergy	Collaboration that aims to define common problems and find joint solutions

and competitive forms of governance. Thus, in a democratic society public authorities need to consult stakeholders in order to enhance input and output legitimacy (Sørensen and Torfing, 2007). Likewise, it is often asserted that the incompleteness of contracts in the new quasi-markets calls for ongoing negotiation (O'Leary and Bingham, 2009: 145-148).

We expect the innovative capacity of the three forms of interactive governance to differ considerably. *Stakeholder consultation* allows peak organizations to participate in the framing of problems and solutions, provide valuable input to the decision making process and express their views and opinions on new government policies, but the weak position of private actors and the failure to engage them in the design of new solutions means that it has a relatively low capacity for spurring collaborative innovation. *Relational contracting* allows public and private actors to compete on how best to solve problems and provide new and better public services at low costs while continuously negotiating the terms of the competition and mutually adjusting their strategies in order not to step on each other's toes. Nevertheless, the innovative capacity of relational contracting is limited by the presence of market-based rivalry that prevents knowledge sharing and contractual specifications of goals and standards that narrow the scope of creative problem solving. Finally, *collaborative networking* aims to bring together interdependent actors in horizontal processes of collaborative problem solving. The innovative capacity of collaborative networking is high because of the possibility for mutual learning, risk sharing and the development of joint ownership of co-created solutions.

In the next section, we use the typology presented in Table 1 as a heuristic device for analysing the capacity of the Norwegian regions to solve wicked and unruly problems through collaborative innovation.

Institutional capacities for collaborative innovation

In Norway, the elected level of regional governance – the counties – have experienced a profound transformation during the last decade. Their traditional role as service providers has gradually shifted towards a role as coordinators and network nodes. The counties' diminishing role as service providers is most clearly evidenced by the transfer of somatic hospitals and child care services to the state level in 2002 and 2004, respectively (MoHCS, 2001; Norwegian Parliament, 2003). Being bereft of significant portions of their task portfolio, the counties' role as coordinators and facilitators of *regional development* was emphasized and strengthened as part of the Administrative Reform that also involved the transfer of new tasks to the counties (MoLGM, 2008a, 2008b). Among the new tasks were the responsibilities for: developing and implementing policies and distributing public funds in support of regional economic growth in general and regional agriculture and fish farming in particular; maintaining ferry connections and national roads (in addition to regional roads); and managing water resources, outdoor recreation, sports facilities and cultural activities (MoLGM, 2008a, 2008b).

Current policy development in Norwegian regions clearly reflects their new role as network nodes. The formation of governance networks, partnerships and processes of consultations is seen as a lever for achieving regional policy goals in new and better ways (MoLGM, 2008a). There is a strong emphasis on collaboration between public and private actors, which is operationalized as deliberation, mutual dialogue, and joint problem solving that may foster policy innovation and joint ownership to overall strategies as well as coordinated implementation of concrete action plans.

Our empirical analysis aims to identify the predominant form of interactive governance in each of the three policy areas by looking at the integrative mechanisms, the articulation of the purpose and the institutional designs. We then summarize our findings in a discussion of the modes of interactive governance.

Water management

The integrating mechanism of regional water management is the EU's Water Framework Directive translated into the Norwegian Administrative Water Regulation (MoCE, 2006). The latter appoints 11 counties as River Basin Authorities responsible for coordinating actors and activities in relation to the implementation of the Water Framework Directive. They are further instructed to establish a River Basin Council consisting of representatives from the River Basin Authority, neighboring counties, county governors, and other affected statutory authorities and local municipalities. Other rights holders as well as representatives of private and common interests are members of a Reference Group that is closely linked to the River Basin Council.

The purpose of the interaction is to secure the broadest possible protection of the sustainable use of water deposits by focusing on biological, chemical and ecological water quality defined in terms of particular environmental goals (MoCE, 2006). The environmental goals are relatively easy to measure. However, the challenge is to make the different actors whose activities influence water quality take responsibility for the environmental conditions in rivers, streams, lakes and the sea such as it is formally stipulated in regional management plans and programs of implementation.

When it comes to *institutional design* of collaborative interaction, the 11 counties are required to set up round table discussions among the aforementioned stakeholders in order to find solutions that are agreeable to the actors while protecting the water resources. More specifically, the counties are requested to coordinate the implementation of the tasks set out by the Administrative Water Regulation by mobilizing relevant actors, following up on responsible sector authorities and coordinating their contributions (Indset et al., 2010: 30). However, it has proven a huge challenge for the counties to create and manage network arenas capable of orchestrating the activities of powerful sector interests.

The role and influence of public and private actors diverge in the formal set-up. Whereas public actors represented in the River Basin Council are actively involved in the coordination of water management initiatives, private stakehold-

ers play a minor, consultative role as participants in the reference group. These different roles are reflected by the survey results presented in Table 2. Here, regional politicians and administrative managers are asked to judge the importance of a predefined list of actors in collaborative arenas in the water management field.

Table 2: Importance of actors participating in collaborative arenas in the area of water management as judged by regional politicians and managers. N = 71, in percent²

	Frequency
Municipalities	90
County governor	69
Other state authorities	56
County administrative departments	54
Voluntary organizations	15
Private companies	13
Work-life/industry organizations	6
Do not know	3
Others	1

Ninety percent of the respondents consider the municipalities to be important actors in water management and that is hardly surprising given their general role as local planners, policy implementers and service providers (Baldersheim and Ståhlberg, 2002). Sixty-nine percent perceive the county governor as important, a fact that seems to reflect the formal status that the county governor used to have. More than half of the respondents judge other state authorities and county administrative departments to be important, whereas the numbers for voluntary organizations, private companies and work-life/industrial organizations are much lower. Thus, Table 2 clearly demonstrates the marginal role of private actors that corresponds with the minor, consultative role they are given.

Economic development

The Administrative Reform in 2010 expanded the counties' responsibilities for economic business development (MoLGM, 2008b). The *integrating mechanism* in this area is closely related to the broader regional development agenda and the measures found there. The counties are actively involved in some of the major network-based policy instruments: Innovation Norway, the Industrial Development Corporation of Norway (SIVA) and the Research Council of Norway. Innovation Norway is a large foundation established to stimulate business development and innovation in Norway, and the counties are co-owners of Innovation Norway (controlling 49 percent) together with the Ministry of Commerce

² The frequency shows how many respondents judge a particular actor to be highly important.

(controlling 51 percent). The counties are also responsible for managing regional research funds provided by the Research Council of Norway.

According to our informants, strategies and priorities for the use of these funds are made in broad regional partnerships driven by the counties with the participation of a broad range of actors: regional state authorities, municipalities and the biggest work-life organizations (NHO and LO). In addition, a wealth of other partnerships are related to specific business sectors stimulated and initiated by the counties.

The *purpose* of the collaborative interaction is to create the conditions for economic growth, innovation and new jobs in those areas where people actually live (MoLGM, 2008a, section 7.1). Since the conditions for regional growth creation differ from region to region, the aim is to adjust regional growth policies to the specific problems, challenges and advantages of each region and this requires sustained collaboration with relevant and affected actors:

[Networks are formed] where there is need for mutual efforts. For example, how to create establishment of new businesses in a part of the county? How can micro and macro potential be unleashed? Then a diverse set of actors has to make an effort; the business community, actors in position of measures, research... (County administrative leader for business).

The counties have different kinds of economic funds and means at their disposal when it comes to stimulating regional wealth creation. Private businesses, local citizens and the public sector benefit from the enhancement of regional economic growth. The triple-win situation means that there are less conflicts in economic development than in water management. It also explains why the main challenge is to involve all relevant actors in negotiations of the scope and content of specific projects.

Moving on to *institutional design*, the counties' task is to take on an active role in stimulating economic development. This is done by facilitating the formulation of strategies and priorities in the broader partnerships and initiating more sector specific, hands-on partnerships where strategies and priorities are, ideally, implemented. These are, then, partnerships that aim to shape and stimulate action. A basic premise for this to happen is mutual trust and openness:

... Good discussions based on openness and trust is an important condition for success. Not just a formal arena where one is informed. Some arenas never become more than information channels (County administrative leader for business).

In these partnerships, public actors are deemed to play a more important role in the interactive governance arenas than the private actors. Table 3 shows that 88 percent of the respondents consider the municipalities as an important actor.

Furthermore, we find the county administrative departments (63 percent), which are considered to be more important in economic development than in water management. A large percentage of the respondents also consider the county governor and other state authorities to be important. However, unlike water management, private companies and work–life/industry organizations are regarded as equally important. This finding is hardly surprising since the goal is creation of economic growth and new jobs.

Table 3: Importance of actors participating in collaborative arenas in the area of economic development as judged by regional politicians and managers. N=190, in percent

	Frequency
Municipalities	88
County administrative departments	63
County governor	48
Other state authorities	46
Private companies	46
Work-life/industry organizations	40
Voluntary organizations	26
Do not know	0
Others	11

Health promotion

Starting with the *integrative mechanism* of regional health promotion, the counties originally were encouraged by law to establish partnerships with the local municipalities within their region (MoHCS, 2002). In addition, the Health Directorate demanded that the municipalities endorse the partnership agreement with the counties through a political decision in the municipal council (Hofstad and Vestby, 2009). Currently, the focus in the Public Health Act and subsequent policy recommendations has shifted from an emphasis on municipal partnerships to a more general call for collaboration in multi-actor networks (MoHCS, 2010). Our qualitative data underlines the importance of the Public Health Act and the Planning and Building Act (which state health promotion as a goal) in terms of encouraging the County to foster interactive governance and providing the means to do so. An administrative leader explains:

We may distinguish between indirect and direct means in health promotion. Direct means are tied to areas where we [the County] have authority, formalized power. (...) Then we have the indirect means that to a larger extent are characterized by creating good planning processes, building of competence, partnership approaches. Here, dialogue is our way of working and that is the main strategy of

the health promotion field in general because we do not have the ability to exercise power top-down. Nevertheless, we would have been cautious to use power even if we had the means to do so. Our partnership is to a large extent marked by consensus. Conflicts will have to be dealt with at other arenas (Administrative manager for health promotion).

Conflicts between actors in regional health promotion are either handled in the County Council, which has formal authority, or in collaborative planning arenas. The informant further emphasizes that there is a dynamic interplay and strong synergy between these direct and indirect means of health promotion. On the one hand, partnerships are used as a platform for producing goals and ideas that are integrated in more formal action plans. On the other hand, the formalization of health promotion goals has a legitimizing effect that serves to strengthen partnership work. As the quote illustrates, however, despite the formal anchorage of health promotion, the most important integrating mechanism in this policy area is dialogue and deliberation. In sharp contrast to economic business development, financial resources to support collaboration and achieve policy goals are scarce.

The *purpose* of the regional forums for interactive governance is to address a broad, social development agenda embracing nearly all social interests. As such, the goal is to create a more “health-friendly” society (MHCS, 2012:52). Unlike the field of water management, health promotion is not a conflict-ridden policy field because everybody gains from improved health conditions. The challenge, however, is to put health promotion on the regional agenda and integrate health promotion with other activities. Hence, health promotion is a recent add-on to well established core activities in the area of planning, transport, business development, education, and so forth.

When it comes to *institutional design*, it is clear that the counties are expected to instigate and drive collaboration between a broad set of actors (MoHCS, 2011, 2012). Municipalities, universities and university colleges, the Norwegian Association of Local and Regional Authorities (KS), private foundations, voluntary organizations and businesses are all seen to have a stake in health promotion (MoHCS, 2012:159). Of the many different partners, the role of voluntary organizations is highlighted because they are close to the citizens (MoHCS, 2011, 2012). Their particular importance is clearly visible in the survey results shown in Table 4.

As was the case with the other two policy areas, a majority of the respondents considers the municipalities as an important actor (90 percent). Other public actors are also regarded as important. However, what is particularly striking is that voluntary organizations that were not perceived as important in either water management or business development, received the second highest score of 82 percent. This result reflects the political aim to involve voluntary organizations that are firmly anchored in civil society and, therefore, extend the reach of the counties.

Table 4: Importance of actors participating in collaborative arenas in the area of health promotion as judged by regional politicians and managers. N=100, in percent

	Frequency
Municipalities	90
Voluntary organizations	82
County administrative departments	63
County governor	49
Other state authorities	36
Work-life/industry organizations	25
Private companies	14
Do not know	2
Others	2

Basic mode of governance in the three policy areas

The analysis shows, first, that *water management* seems to be a relatively clear example of *stakeholder consultation*. The focus is on coordination between public actors while private stakeholders play a minor, consultative role as participants in the reference group. The interaction is also clearly guided by the Administrative Water Regulation defining the organizational set-up, the roles of the actors and a detailed list of environmental goals (MoCE, 2006). However, the purpose is not so much to expand the reach of regional government in the implementation phase, but rather to align public policies, as well as public and private activities, with the predefined environmental goals. However, the question is whether the counties have the authority, resources and competence to do so.

Second, the identification of the predominant mode of governance in *economic development* is not as clear-cut as in water management. On the one hand, the counties aim to spur economic development through contractual arrangements and negotiations tied to specific projects. On the other hand, the strategic element of the process requires exchange and pooling of resources in order to redirect regional development. Regional business development aims to influence and alter markets by using public money to help existing and new businesses to prosper. However, our qualitative data shows that the business development efforts also include attempts to affect the basic conditions for economic growth by involving public and private actors in the development of new regional plans and policies. Therefore, economic development at the county level can be said to be governed through a mixture of *relational contracting* and *collaborative networking*. According to our informants, collaborative networking is the most important form of interactive governance used.

Third, the regional governance of *health promotion* aims to create the conditions for healthy living and this requires development of new policies, coordination of the activities of different public agencies and attempts to mainstream health promotion. However, because in the final instance health depends on the choices that people make in their daily lives, it is crucial for the counties to expand their reach by interacting with civil society organizations that are close to citizens and therefore can help to change their behavior. Involving voluntary organizations in trust-based collaboration helps the counties to anchor ideas about health promotion in local communities while, at the same time, mobilizing the resources, competences and energies of private stakeholders (see also Hofstad, 2014; Helgesen et al., 2014). For this reason, the predominant mode of governance is *collaborative networking*.

The identification of the predominant mode of interactive governance in each of the three policy areas prompts the question of whether actual collaboration practices match the anticipation tied to the three forms of interactive governance. To shed light on this question, we have asked politicians and administrative leaders from the counties to what extent the interactive governance in the three policy areas helps to foster mediation, deliberation, adjustment and collaboration. The results are summarized in Table 5.

Table 5: Effects of interactive governance in water management, economic development and health promotion as judged by regional administrative leaders and politicians, in percent.³

	Water management N=70	Economic development, N=192	Health Promotion N=100
Collaboration	12	17	16
Adjustment	17	16	12
Deliberation	39	36	32
Mediation	34	40	39

The variation between the three policy areas, which are dominated by different modes of interactive governance, is surprisingly small. The general pattern is that interactive governance primarily contributes to mediation in terms of knowledge exchange and deliberation on the nature of problems and goals; it contributes less to mutual adjustment and collaborative problem solving. However, as we would expect, collaborative problem-solving is more prominent in those policy areas (economic development and health promotion) that are characterized by collaborative networking, and mutual adjustment is more prominent

³ The frequency indicates how many respondents judged that networks contribute to each of the collaborative forms to a large extent.

in those policy areas (water management and economic development) that lean on stakeholder consultation and relational contracting.

The innovative capacity of Norwegian regions

Our argument is that collaborative governance enhances the prospect of solving wicked and unruly problems through the creation of innovative solutions. More specifically, we expect the innovative capacity of collaborative networking to be greater than the innovative capacity of relational contracting and stakeholder consultation. As we have already seen, there is no guarantee that the involvement of public and private stakeholders in collaborative forms of network governance will foster a high level of collaborative problem solving. Other factors such as the lack of traditions of collaboration, the presence of unmediated conflicts and the failure to exercise integrative leadership may prevent the counties from reaping the fruits of collaborative networking (Ansell and Gash, 2007). In addition, developing practices aimed to handle wicked and unruly problems presupposes a long time perspective. Exactly because problems facing regional government are often wicked and unruly, new and innovative practices are not developed overnight.

Our analysis does not allow us to identify and count the number of innovative regional projects in the three policy areas, but there definitely seems to be room for improvement when it comes to finding innovative solutions to wicked and unruly problems. We therefore conclude our analysis by listing four factors that seem to condition development of collaborative networking.

First, *the character of the policy field* seems to be decisive. In the area of water management where the stakes are high because many stakeholders earn their living from exploiting common pool resources and the conflicts are deep and antagonistic, it is difficult to create a platform for joint problem solving. In economic development and health promotion the stakes are lower, the conflicts and tensions are few and everybody gains from collaboration and goal achievement. This makes it much easier to bring public and private stakeholders to the table. The difference between economic development and health promotion relates to the context and conditions of public problem solving. In the area of business development the private actors are competing in economic markets, whereas in health promotion the private actors are part of local communities that in a Scandinavian context are closely related to the public sector. The predominance of market competition in the business sector means that collaboration can depend on the actors' recognition of their mutual dependence and that economic incentives and contracting are obvious tools for motivating private actors and creating win-win solutions. In health promotion collaboration is not hampered by competition and the tools that are needed are 'softer' in the sense that health promotion hinges on changing social values, norms and identities in order to change the behavior of local firms, organizations and citizens in a more health-friendly direction.

Second, *the composition and strength of the stakeholders* is important. The private actors in the field of water management are supported by strong public actors that share their interest in relatively free access to water utilization and have a lot of strategic, financial and organizational means at their disposal. By contrast, the counties do not have a similar kind of political and organizational backup and this power asymmetry makes it difficult for the counties to mobilize the stakeholders and make them feel responsible for water quality. By comparison, the goals and activities in the field of economic development and health promotion do not seem to go against the interests of private economic actors and their public counterparts. Non-public actors such as voluntary organizations and work-life/business organizations also have a stronger presence. These are actors that tend to support the goals and activities promoted in the arenas of business development and health promotion. The challenge for health promotion, though, is that because of its broad and sector-spanning nature there is no political-administrative sector that clearly feels obliged to take responsibility for health promotion. Health promotion is, therefore, in danger of being neglected and marginalized by the more well-established sector actors with competing agendas. On the other hand, this makes collaborative networking vital to health promotion.

Third, *the ability to combine different modes of governance* in a way that leads to mutual strength and synergies is decisive. Hence, our qualitative data suggest that interactive governance functions at its best when it is combined with other modes of governance. In health promotion it seems clear that hierarchical planning activities and collaborative networks work in tandem to develop and advance common goals. In economic development we can also see how competition and contract-based negotiation go hand in hand. In water management, however, the collaborative processes are not strong enough to provide a fruitful complement to hierarchical steering through laws and regulations.

Last but not least, the public innovation literature often cites *leadership and management* as a key drivers of collaborative innovation. Sørensen and Torfing (2012) use the terms *convener*, *facilitator* and *catalyst* when describing the shifting roles that public leaders and managers must exercise in order to overcome the barriers and strengthen the drivers of collaborative interaction, mutual learning and creative problem solving. Our case study supports this assertion, as we have seen that strategic leadership plays an important role in mobilizing and activating local actors in efforts to promote healthy living. We have also seen the importance of leadership in processes of collaborative innovation that were enabled by the willingness of the actors to act on the knowledge that they possessed at a given time despite its complex and uncertain character (Hofstad, 2014).

In sum, the comparative analysis of interactive governance allows us to identify the conditions of possibility for the development of collaborative networking and the crafting of innovative solutions to wicked and unruly problems.

Conclusion

This paper has aimed to assess the ability and potential of Norwegian regions to solve wicked and unruly problems through collaborative innovation. Drawing on a mixture of quantitative and qualitative data, we have analysed regional efforts to enhance collaborative innovation in and through the development of different forms of interactive governance. In order to analyse and compare three policy areas (addressing economic, social and environmental sustainability) we developed a typology that enables us to understand the role of multi-actor collaboration in relation to classical forms of governance in terms of hierarchy, markets and networks. The analysis concludes that regional water management aiming to ensure environmental sustainability is dominated by stakeholder consultation that combines hierarchical government with elements of collaborative governance. Economic development of business aiming to enhance economic sustainability is dominated by a mixture of relational contracting that combines market competition and collaboration and collaborative networking. Finally, health promotion that aims to enhance social sustainability is dominated by collaborative networking.

The theoretical argument was that collaborative networking has the highest capacity for fostering innovative solutions to wicked and unruly problems because of the presence of strong interdependencies, the ability to facilitate mutual learning, the sharing of risks and benefits and the creation of joint ownership of new and bold solutions. Although there are some empirical indications that collaborative networking spurs collaborative problem solving and strategic and rhetorical policy innovation, the evidence is weak, perhaps because of contingent factors that impede innovation. Hence, the question remains: what are the main conditions for building innovation-enhancing governance capacities in Norwegian regions? Our analysis points to four decisive factors:

- The character of the policy field: the level of conflict and vested interests
- The character of the actors: the belief among the potential collaborators that they can 'go it alone' by relying on their political administrative backup and the capacity of the network node to bring the actors to the table
- The ability to combine different modes of governance in mutually beneficial ways
- The strategic leadership and management of collaborative innovation

Other factors such as traditions and past experiences may also play a role. However, the most important is to think about how new forms of governance can sustain collaborative efforts to enhance innovation that seem to offer a promising way of dealing with wicked and unruly problems in regional governance.

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