


Governance Capabilities for Dealing Wisely With Wicked Problems

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Abstract

This article explores an integrative approach for dealing with wicked problems. Wicked problems not only require alternative action strategies but also alternative ways of observing and enabling. Four governance capabilities are essential: (a) reflexivity, or the capability to deal with multiple frames; (b) resilience, or the capability to adjust actions to uncertain changes; (c) responsiveness, or the capability to respond to changing agendas and expectations; (d) revitalization, or the capability to unblock stagnations. These capabilities form the basis for achieving small wins in wicked problems. We illustrate our argument with examples from sustainable food production of the Common Agricultural Policy.

Keywords

wicked problems, governance, capabilities, sustainability, food production, CAP

Introduction

Many contemporary public policy problems carry characteristics of “wicked problems.” They are ill-defined, ambiguous, and contested, and feature multilayered interdependencies and complex social dynamics (Churchman,

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1967; Head, 2008; Rittel & Webber, 1973; Roberts, 2000). Above all, wicked problems are highly resistant to solutions because today's problems emerge as a result of trying to understand and solve yesterday's problems (Head, 2008; Rittel & Webber, 1973). Examples of wicked problems can be found in many policy domains, such as water management (Lach, Rayner, & Ingram, 2005), spatial planning (Innes & Booher, 1999), forestry (Salwasser, 2004), foreign policy (Roberts, 2000), fisheries (Jentofta & Chuenpagdee, 2009), environmental pollution (Van Bueren, Klijn, & Koppenjan, 2003), agriculture (Batie & Schweikhardt, 2010), immigrant and integration (Poppelaars & Scholten, 2008), and climate change (Lazarus, 2008; Termeer, Dewulf, & Breeman, 2012).

Wicked problems cause serious challenges to those working in government. Ambitious policy makers may even become frustrated by wicked problems, because they keep trying to solve problems that are perhaps unsolvable. They never know whether they are doing well as wicked problems have no "stopping rule" and because "additional efforts might increase the chances of finding a better solution" (Rittel & Webber, 1973, p. 162).

In this article, we propose an integrative approach for dealing with wicked problems, using various threads of literature. Most wicked problems' literature covers "how-to-do" action strategies (Duit & Galaz, 2008; Head, 2008; Koppenjan & Klijn, 2004; Roberts, 2000; Weber & Khademian, 2008). We argue that apart from these *action strategies*, the governance of wicked problems needs two additional dimensions: *observing* the wickedness of problems and *enabling* the conditions of the governance system in which actors operate to deal with these problems. First, we draw attention to *observing* wicked problems. Usually, the literature on action strategies focuses on a particular aspect of the wicked problem involved. Some focus on uncertainties (Koppenjan & Klijn, 2004), others on power and values (Roberts, 2000), or on the philosophy of thinking (Coyné, 2005), the knowledge and mind-set of managers (Weber & Khademian, 2008), or the patterns that characterize complex adaptive systems (Duit & Galaz, 2008). However, the paradox of wicked problems is that strategies for solving such problems are informed by the way one looks at them (Rittel & Webber, 1973). While looking at them, people tend to ignore those aspects of problems that fall outside the scope of their attention and for which they have no action repertoire (Weick & Sutcliffe, 2001). Therefore, we deliberately pay attention to alternative modes of observing.

Second, we pay attention to how governance systems may be *enabled* for dealing with wicked problems. Conventional methods of problem solving do not seem to work and most conventional governance systems are poorly equipped for alternative strategies (Head, 2008; Rittel & Webber, 1973).

Therefore, actors who try to implement new strategies often encounter tensions or even contradictions between their ambitions and the existing formal and informal rules and values of the systems in which they are operating (e.g., Edelenbos, 2005). Hence, changing or even fundamentally reviewing the governance system itself may be necessary to enable, or at least tolerate, alternative action strategies and ways of observing (Hendriks & Grin, 2007).

The focus in the current wicked problem literature lies most on proposing strategies, and thus on “acting” (Duit & Galaz, 2008; Head, 2008; Koppenjan & Klijn, 2004; Roberts, 2000; Weber & Khademian, 2008). The existing literature pays less attention to modes of observing and to the enabling conditions of a government system. This article seeks to address observing, acting, and enabling as three mutually reinforcing aspects of dealing with wicked problems.

Based on these three dimensions of dealing with wicked problems, this article addresses three questions: (a) How do actors observe and analyze the wickedness of societal problems in a meaningful way, and what modes of observation are available to them? (b) Which action strategies could they develop to handle the wickedness of problems? and (c) Which conditions relating to the governance system enable meaningful modes of observing and acting? These three questions are interrelated and to disentangle them, we introduce the concept of governance capability. We argue that it takes a set of four capabilities for governance actors (and systems) to deal wisely with wicked problems, that is, the capabilities of *reflexivity*, *resilience*, *responsiveness*, and *revitalization*. Consequently, every capability should include the three dimensions of acting, observing, and enabling.

In the next section, we first present an overview of the four capabilities. Then, in the sections titled “Reflexivity,” “Resilience,” “Responsiveness,” and “Revitalizing,” we elaborate each capability in terms of their observing, acting, and enabling dimensions. The final section discusses the relationship between the four capabilities and how their combination contributes to the governance of wicked problems. We plea for developing a metacapability to deploy the various capabilities wisely and to safeguard actors from an exaggerated use of any single capability.

The aim of this article is theoretical and exploratory; however, to support and illustrate our argument, we use the issue of sustainable food production in the context of the historic development of the European Union’s Common Agricultural Policy (CAP) as an example. We choose this example because the CAP’s history shows that “solutions” at moment X result in new problems at moment Y, that is, it shows that subsidies of agriculture production initially led not only to enough food at affordable prices but also

to overproduction and environmental damage later on. Every new turn in the CAP's history saw its own definition of sustainable food production problems. We observed *economic* sustainability problems, such as not only ensuring food production at affordable prices but also overproduction and distortions of international markets; *social* sustainability problems, such as the broad societal call for higher animal welfare standards and public legitimizing of tax money flowing to farmers; and *environmental* sustainability problems, such as the negative effects of food production on biodiversity, water quality, and climate change (Elton, 2010; Garzon, 2006; Grant, 1997). In short, the history of the CAP shows problems of all different types of sustainability, as described by the United Nations at the world summit: economic, social, and environmental sustainability problems (Jordan, 2008).

Using the existing literature, we show how the presence or absence of specific capabilities has produced or prevented progress in dealing with the different problem definitions of sustainable food production under the CAP (Burrell, 2009; Daugbjerg & Swinbank, 2009; De Groot, 1997; Elton, 2010; European Union [EU] Commission, 2010; Feindt, 2010; Fennell, 1997; Grant, 1997; Kay & Ackrill, 2009, 2010; Lynggaard & Nedergaard, 2009; Montpetit, 2003; Termeer & Werkman, 2011; Wiskerke, Bock, Stuijver, & Renting, 2003). We follow the CAP's history by discussing different reforms: The 1984 milk quota reform is used to illustrate the reflexivity capability, the 1992 MacSharry reform serves to discuss the capability of resilience, the 2003 Fischler reform is used to illustrate the capability of responsiveness, and, finally, the Ciolos reform of 2010-2013 is meant to illustrate the capability of revitalization.

Our illustrative case study is necessarily limited to a brief analysis of some moments in the history of the CAP highlighting a single capability perspective per reform. It is not meant to show how the four capabilities can be used simultaneously, with varying emphasis. This would have required a different research scheme. We believe that with the chosen structure, we were more capable of spelling out the different details of both the three dimensions and the four capabilities of wicked problem governance. Moreover, the analysis does not provide an in-depth and comprehensive analysis of the CAP in its entirety and does not enter into the technical details of the complex CAP decisions.

Four Capabilities

We define a governance capability as the ability of policy makers to observe wicked problems and to act accordingly, and the ability of the governance system to enable such observing and acting. Hence, we argue that every

capability should include the three aforementioned dimensions of acting, observing, and enabling.

The concept of capability includes skills, repertoires, capacities, commitments, and readiness (Huxham, 2000; Weber & Khademan, 2008; Weick & Sutcliffe, 2001). Because one capability will not be sufficient to cope with wicked problems, we believe that several governance capabilities must be used in conjunction (Dewulf, Termeer, Werkman, Breeman, & Poppe, 2009). The four capabilities we identify in this article are presented in Table 1. They are derived from four main aspects of wicked problems and based on the characteristics described by Rittel and Webber (1973).

The first capability is reflexivity. It is essential to deal with the variety of possible perspectives on wicked problems and to prevent tunnel vision. Wicked problems are hard to pin down because “the formulation of a wicked problem *is* the problem” (Rittel & Webber, 1973, p. 161). There is no consensus on the problem or a solution to it. Rather than a single problem, a confusing mess of interrelated problems presents itself. Depending on how one looks at a situation, different aspects appear to be triggers, root causes, effects, priorities, side effects, or leverages for intervention. The clarity created by one analysis can easily be blurred by new developments or by asking other actors to present their analysis. Paradoxically, each attempt at creating a solution changes the understanding of the problem (Rittel & Webber, 1973). Reflexivity helps to appreciate the variety of perspectives, to continuously reconsider dominant problem frames, and to bring about a redefinition of action perspectives (Schön & Rein, 1994). Without reflexivity, and thus without addressing this variety, there is a risk of tunnel vision or intractable controversy that contributes further to the wickedness of the situation (Gray, 1989).

The second capability is resilience. This capability is important to adapt to a constantly changing flow of problem definitions, solutions, and context conditions. As Rittel and Webber (1973, p. 165) put it, “every wicked problem can be considered to be a symptom of another problem.” Because of their multidimensional and interconnected characteristics, wicked problems involve causes and effects at multiple scales of time and space. These waves of consequences cannot be predicted beforehand. Correcting negative effects can become a wicked problem in itself. Due to the inherently incomplete understanding of problems, every action can have unpredictable consequences. Therefore, surprises, fluctuating conditions, sudden changes, and irreducible uncertainties are fundamental aspects of wicked problems. Policy makers face the challenge of coping with the tension between institutional flexibility and stability (Duit & Galaz, 2008). Here, resilience refers to the capability of the governance system to adapt to unpredictable, changing

Table 1. Four Governance Capabilities.

Governance capability	Definition	Aspect of the wicked problem domain to be addressed	Effects of deficit
Reflexivity	The capability to appreciate and deal with unstructured problems and multiple realities	Unstructured problems Multiple frames and perspectives	Risk of tunnel vision or intractable controversies
Resilience	The capability to flexibly adapt one's course in response to frequent and uncertain changes without losing identity	Interconnected problems Unpredictable consequences of action Uncertainties	Risk of failure to keep fulfilling basic functions
Responsiveness	The capability to respond legitimately to unlimited demands and concerns	No stopping rule Unlimited number of issues and demands Moral responsibilities	Risk of overreacting and losing citizens' trust and legitimacy
Revitalizing	The capability to unblock stagnations and reanimate policy processes	Stagnating and unproductive interaction patterns	Risk of more of the same and of regression

Source: Compilation by the authors.

circumstances without losing its identity and reliability. Without resilience, it may erode to the point that a small disturbance provokes a failure to keep fulfilling basic functions.

Third, the capability of responsiveness is needed to react to changing demands while striking a balance between different public values. Wicked problems are changing, redefined, or reproduced in different ways, but there is no final solution for them: They have no "stopping rule" (Rittel & Webber, 1973, p. 162). Over time, new complications and new solutions can enter the scene. The number of issues that call for attention and the speed with which these follow upon each other have been increasing as a result of the evolving information society, with the media as accelerator. Interest organizations move from one issue to another and all call out for attention from policy makers (Jones & Baumgartner, 2005). Strong public outcries to address wicked problems make it tempting but morally questionable for policy makers to treat a wicked problem as though it was a tame problem, thereby refusing to recognize its inherent wickedness (Churchman, 1967; Rittel & Webber, 1973; Wexler, 2009). Policy makers try to respond to these nonstop changing flows of problems, solutions, and public demands, and run the risk of making promises that are far beyond their ability to deliver. Hence, there is the need to develop a governance capability to respond wisely to continuously changing demands (Wexler, 2009). This means that policy makers' responses have to perform a balancing act: They should uphold democratic values while being effective, they should be reliable and fair, efficient and trustworthy, and so

forth. In the absence of such responsiveness, policy makers run the risk of neglecting citizens' concerns and of losing legitimacy.

The fourth and final capability we highlight is revitalization. This capability is necessary to unblock unproductive patterns in the governance process. The messiness, uncertainties, interconnectivities, and endlessness associated with wicked problems can be overwhelming (Weber & Khademan, 2008) and "frustrating as hell" for policy makers (Roberts, 2000, p. 2). Especially when a situation becomes stressful, actors tend to revert to more defensive patterns and strategies. The latter can be counterproductive because strategies that fit within existing policy routines may have served their purpose in the past but do not result in lasting solutions for wicked problems (Rittel & Webber, 1973). Of course, (recombination of) past solutions can still be relevant. However, when people are no longer allowed to critically analyze the effects of these solutions, blockades can arise. Revitalization refers to the capability of actors in a governance system to recognize and unblock counterproductive patterns in policy processes, and thus to reanimate actors and to enhance processes of innovation needed to cope with wicked problems. Without revitalization, there is the risk of regression, or of undertaking futile attempts to apply "more of the same" solutions, and of escalating arguments between people who stick to their own routines.

Reflexivity

The governance capability for reflexivity relies on understanding and handling the variety of frames in a given policy domain. Framing is the process by which decisions, policy issues, or events acquire different meanings from different perspectives (Benford & Snow, 2000; Chong & Druckman, 2007; Dewulf, Gray, et al., 2009; Schön & Rein, 1994). People frame issues differently depending on their background and position, or the particular interactional setting in which they operate. They highlight particular aspects of a situation at the expense of others, draw different issue boundaries, and put different elements at the core of the issue. If frames differ considerably, confusion, misunderstandings, disagreement, or even intractable controversy are likely to result (Schön & Rein, 1994).

Reflexive Observation

To observe reflexively means to observe how framing affects wicked problem dynamics, particularly looking at how people portray a situation to one other in concrete interactions (Dewulf, Gray, et al., 2009; Drake & Donohue, 1996).

These interactions can take different forms, from subtle but crucial misunderstandings, widespread confusion, and strategic attempts at promoting one's own frame, to open conflict between worldviews. In sum, reflexive observation involves knowing that one's own way of portraying the situation is only one among many, noticing the ambiguity that ensues when others portray the same situation in different ways, and recognizing how this plays out in the ongoing interactions between actors in the wicked problem domain.

Reflexive Action

Concepts like collaborative governance (Gray, 1989; Huxham, 2000), network governance (Koppenjan & Klijn, 2004), or reflexive governance (Hendriks & Grin, 2007) provide strategies to take multiple frames into account. In between the extremes of rational problem solving (assuming that frame differences are nonexistent or can be easily arbitrated in terms of their correctness) and oppositional modes of action (where the clash of ideas becomes a clash between people), three broad modes of reflexive action can be distinguished (Brugnach, Henriksen, & Dewulf, 2009): (a) seducing others into a particular frame, (b) connecting the different frames, and (c) negotiating a deal despite the frame differences.

The first mode assumes that a good story can dissolve ambiguities by seducing people into the meaningfulness of one particular frame of reference, thus creating the common ground for action (Benford & Snow, 2000). The second mode assumes that the different frames need to be somehow connected in the way the situation is addressed. Connecting can take different forms, including integrating existing frames through a creative synthesis, adding a new superordinate frame that can overarch the variety of existing frames, bridging different frames at points where they overlap, or collectively redesigning the situation such that the variety of frames is accounted for (Schön & Rein, 1994). The third mode assumes the different frames are there to stay and that connecting them is not feasible or desirable. The goal is to find a mutually beneficial deal that is meaningful from multiple perspectives (Susskind & Landry, 1991), albeit potentially for very different reasons. This requires skillful negotiation in which the various frames are explored but not questioned.

Enabling Reflexivity

How to enable reflexivity is a particular challenge in wicked problem domains. Reflexivity demands a degree of frame exploration, self-criticism, and creativity that is not easily achieved in a politicized world (Hendriks & Grin, 2007).

The minimal requirement is that actors are at least willing to go beyond fighting things out in power networks, law suits, or elections. Next, it requires a combination of skills, resources, and structures. The skill to look at situations from different perspectives and the individual and organizational tolerance of ambiguity are important starting points. The resources to hire an experienced process manager or facilitator to organize reflexive activities offer another enabling factor. Reflexivity can also be enabled by structures that institutionalize a go-between or bridging position between organizations, policy sectors, or administrative levels (Feldman, Khademian, Ingram, & Schneider, 2006).

A key issue is the embedding of temporary reflexive arrangements in the broader sociopolitical context. One of the risks is that only people directly engaged in reflexive activities find a way to coordinate their frame differences, although they experience difficulties in making such coordination meaningful and acceptable to others. The embeddedness of such people in their respective organizations or social groups, the relevance of reflexive activities for their day-to-day business, and frequently going back and forth between reflexive and day-to-day activities are some of the ways to enable enduring reflexivity.

Reflexivity and the Milk Quota Reform (1984): The Problem of Production Surpluses

After a period of severe food shortages during World War II, food production figured high on the European political agenda. The idea that sufficient food production at affordable prices could best be realized through a common agricultural market and the harmonization of state interventions became the core argument underlying the development of the CAP (e.g., Grant, 1997, 2010; Knudsen, 2009). However, during the first 25 years of the CAP's operation, the market protection system with import levies, export subsidies, and guaranteed prices increasingly led to overproduction resulting in serious budget problems. Solving the economic sustainability problem of ensuring food production at affordable prices increasingly resulted in overproduction. However, it took until the early 1980s for this to be framed as a problem. The framing of overproduction with metaphors such as "butter mountains" and "milk lakes" helped to accelerate reflexive observations. The then dominant paradigm of stimulating production showed different anomalies and became increasingly a problem of sustainability (Elton, 2010). Consequently, the Commission reflected upon the CAP and its underlying frames (Burrell, 2009).

In 1983, the Commission saw two types of solutions with two different frames attached to them. The first was to lower the milk price, which would

mean that the support for small farmers would decrease, resulting in the increase of farm size, and the termination of many small family farms. However, this policy would mean a complete break with an important element of the then existent policy frame of supporting small farmers and farms in disadvantaged areas (Rieger, 2005). The other solution was to limit the amount of production by introducing a milk quota system. This solution would imply, for the first time in the CAP's history, a ceiling to the amount of production. Both solutions came as a shock and were contrary to the until then dominant policy frame of stimulating production (Breeman, 2006).

The Commission, however, actively engaged member states to take a reflective stance by alternating and negotiating the different frames strategically. First, it tried to seduce member states into production ceiling frames. But the ministers of agriculture and many lobby groups could not get used to the idea of a production constraint and did not reach a consensus. Then, the Commission deliberately used the other framing option, by proposing a serious milk price decrease, arguing that this would lead to the elimination of many small firms and increasing company size. The move of the Commission to use this frame was the "engine to start up the bargaining process" (Petit, 1987, p. 130), which finally made the Council agree with the first option, the milk quota (Lynggaard & Nedergaard, 2009).

The milk quota system was implemented in 1984. In terms of reflexivity, the quota debate meant the weakening of the dominant frame of supporting production increases within the CAP. Under the leadership of Commissioner Delors, the new frame of production constraints became further embedded in the European institutions and finally enabled the introduction of more production ceilings in 1988 (Elton, 2010; Lynggaard & Nedergaard, 2009).

Resilience

Resilience is the capability to adapt flexibly to uncertainties and the constantly changing conditions surrounding wicked problems. It is derived from theories of adaptive governance (Folke, Hahn, Olsson, & Norberg, 2005), resilience management (Walker et al., 2002), adaptive management (Pahl-Wostl, 2007), and high reliability organizations (La Porte, 1996; Weick & Sutcliffe, 2001). These theories assume a world that changes in unpredictable directions.

Resilient Observation

The first key to resilience is the ability to observe adequately and in a timely manner, as even weak signals can predict upcoming disturbances. Providing a

variety of observations may increase their quality. The awareness of what is unexpected can be heightened by combining different types of knowledge (scientific, professional, experiential, indigenous, etc.) and using multiple ways of sense-making (Brugnach, Dewulf, Pahl-Wostl, & Taillieu, 2008). The literature describes typical mechanisms and patterns belonging to complex adaptive systems, which may help actors recognize future disturbances, that is, exogenous events that have repercussions on existing policy, as early as possible. For instance, Duit and Galaz (2008) identified three types of mechanisms: (a) threshold effects—small events that trigger changes that are impossible to reverse; (b) surprises—because of poorly understood system interconnections, behavior differs from a priori expectations; and (c) cascading effects—events produce immense consequences across scales, systems, and time.

Resilient Action

Learning-by-doing is an important activity in adapting to continuously changing conditions. It means implementing various management treatments simultaneously, and then comparing and evaluating their results (Folke et al., 2005; Pahl-Wostl, 2007). Learning occurs through simulations and experiments, and disturbances may be used as leverage to innovate one's responses. Actors should seek improvements and reflect on their practices continuously to learn and cope with the unforeseen (Perrow, 1994). Cross-scale linkages between individuals, organizations, agencies, and institutions at multiple organizational levels should be strengthened by encouraging interactions and learning across boundaries (Olsson et al., 2006). However, not all uncertainties can be "learned away." Therefore, actors need to devise additional measures or strategies that are either robust, that is, which stay functional under a range of different scenarios, or flexible, that is, which can be adjusted as needed or applied only when necessary (Brugnach et al., 2008).

Enabling Resilience

Enabling resilience requires a culture that tolerates continuous processes of change in unpredictable directions. Government officials may find this annoying because they tend to reduce uncertainty by trying to control it. The creation of "bridging organizations" (between scientists and policy makers; between different actors, networks, levels, types of knowledge, etc.) enables further linkages between actors and knowledge to develop quickly and effectively (Folke et al., 2005). Furthermore, institutional adjustments are often required to mobilize the necessary actors and enable them to adapt quickly.

Such adjustments include, among others, flexible legislation that allows for experiments and tailor-made solutions, decentralizing decision-making authority, and room for self-governance (Folke et al., 2005; Perrow, 1994). Through these institutional adjustments, “actors obtain the capacity to reorganize the system within desired states in response to changing conditions and disturbance events” (Folke et al., 2005, p. 444). Finally, robust or flexible adaptive measures often require redundancy in the system (Folke et al., 2005). The reliability of the system improves with high levels of redundancy in organizations (i.e., through back-up systems; Perrow, 1994). Improvisation skills are highly relevant in these systems.

Resilience and the MacSharry Reform (1992): The Problem of Distorting International Markets

During the second half of the 1980s, the CAP became seriously criticized by its main international trading partners within the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) negotiations (starting in 1986), for its distorting effects on international markets, and for dumping subsidized food surpluses (Burell, 2009). Hence, the way the EU produced food was criticized for being economically and socially unsustainable. Until then, the distortion of international markets due to the EU common market scheme was observed but not signaled as a serious concern by many of the member states (Daugbjerg & Swinbank, 2009). This changed when, as a result of the collapse of the talks on agriculture, the entire Uruguay Round came to a halt in December 1990, and the Commission feared repercussions for other policy domains. In addition to this standstill of the GATT negotiations, there was a cascade of other issues that made the Commission see that a reform was necessary, such as the establishment of the Single Market, the foundation of the Regional and Cohesion funds, the accession of Spain and Portugal and the growing environmental concerns (Elton, 2010). Therefore, EU Commissioner MacSharry proposed a comprehensive CAP reform (EU Commission, 1991) arguing that this was necessary because of budget reasons, but the foremost aim was to adapt better to international markets (Daugbjerg & Swinbank, 2009).

However, the liberalization of international trade, the core aim of the GATT negotiations, would imply lower commodity prices and this was still difficult to accept to most member states. The dominant concern was that many small family farmers would not be able to adapt to the dynamics of a liberalized world market (Daugbjerg & Swinbank, 2009). Not only the European agricultural sector but also the CAP decision-making system lacked

resilience-enabling conditions. In particular, the convention in the EU Agricultural Council to obtain unanimous agreement on decisions along with the farming lobby's power rendered it almost impossible to flexibly introduce fundamental reforms that would reduce prices.

Instead of linking the proposed reforms directly to the Uruguay Round, MacSharry justified the reforms with the increasing costs of the CAP due to production surpluses. His reform, he argued, would solve the domestic EU budget problem, but in fact he tried to better link EU markets to international markets, ending its distortive effects. Through this strategy of linking different scales (EU and global) and problem domains (budget problems and distortive effects), MacSharry tried to make the member states accept the replacement of the system of guaranteed prices with a direct income payment scheme to farmers to compensate them for declining revenues (Daugbjerg & Swinbank, 2009). With this reform, prices would be lowered, making them more competitive in the world market, and small farms would remain in business due to direct income compensation. In this way, MacSharry made a soft landing of the liberalization of the international markets and led member states to accept the interconnectedness between the EU and international markets.

The MacSharry reform introduced a new CAP regime through which, in the long run, the EU internal market could slowly adjust itself to the international markets. In addition, the MacSharry reform also introduced a new agri-environmental and afforestation policy scheme. This was introduced as a response to increasing environmental demands from society. It would later develop into an entirely new policy domain of environmental and rural policies, known as the second pillar of the CAP. It enabled easier adjustment to changing preferences concerning environment and rural development (Lynggaard & Nedergaard, 2009). Hence, this second pillar enabled a more resilient institutional basis to adjust to future policy challenges.

Responsiveness

The capability of responsiveness is the ability of governments to observe and respond effectively and in a timely fashion to issues that are pressing in politics and society. This capability is based on the literature of agenda setting. These theories provide insights into the patterns of issue attention in the media, society, and politics (Baumgartner & Jones, 2009). Through linking social attention to policy attention and policy change, they show that popular attention for policy issues tends to be stable, interrupted occasionally by sudden flows of increased attention, resulting in major policy changes (Jones & Baumgartner, 2005; True, Jones, & Baumgartner, 2007).

Observing the Need for Responsiveness

It is complicated to observe or monitor attention, because policy agendas are created in different venues and on different levels (Baumgartner & Jones, 2009; Princen, 2009). Responsive policy makers, just as lobbyists, need to be sensitive to the sometimes sudden unpredictable developments in all these places. Although agenda-setting theory highlights the largely unpredictable nature of these punctuations, they also show regularities. A sudden rise of attention in the media or politics for a certain issue is very often caused by a “focusing event,” such as a crisis or a big organizational failure (Kingdon, 1984; Nisbet & Huye, 2006). If certain issues appear more often in the media and move from the inner pages to the front page, the pressure on politicians to take action increases, and new actors may be mobilized to attack and change current policies (Vliegenthart & Walgrave, 2008). These short periods of heightened attention can create “windows of opportunity” to change policies (Kingdon, 1984). Once a policy is changed, or other issues have captured the attention of the media and politics, it is likely that this issue is drawn back into a new period of stability and incremental adjustments (Jones & Baumgartner, 2005). Another important feature of monitoring issue attention is the policy images that are being used in the media and politics (Vliegenthart & Walgrave, 2008). Generally, the media prefer issues that have a clear story line and that are easy to dramatize (Downs, 1972; Nisbet & Huye, 2006). It is a challenge for policy makers to observe substantive policy problems behind the dramatized stories in the media and the one-liners in political debates (Stone, 1997).

Acting Responsively

Many policy makers are inclined to respond immediately to new calls for attention. Politicians in particular want to give a response to an issue once they are confronted by a TV crew with a camera and a microphone. They make new promises on the spot that result in an increasing number of statements, plans, and expectations. Responding to calls for attention, especially in times of crises or during media hypes, is challenging for policy makers (Kingdon, 1984). However, responding to all kinds of calls for attention or trying to please all parties in a single round of deliberation only increases the input for the policy process. This in turn does not help to cope with the wickedness of the policy problem (Breeman et al., 2009). Another option is to refrain from comments and not to respond at all. Not all waves of attention need to be used as tools to announce new policy plans; one can also decide

to dive under a wave of attention and let it roll over (Downs, 1972). Politicians respond for many different reasons, either for political, personal gains, or opportunistic reasons but, once they do, they will have to choose an appropriate way of communicating. An important part of acting responsively is communicating sensitively, for example, successful responsive actors should address different people differently (Breeman, 2006).

Enabling Responsiveness

Enabling a responsive governance system necessitates specific institutional and organizational conditions (Jones & Baumgartner, 2005). First of all, an organization should be capable of monitoring attention and of filtering relevant information (Jones & Baumgartner, 2005). Many public organizations already have corporate communications departments that filter information in categories such as “must know,” “need to know,” and “nice to know.” However, public officials should have a monitoring system that detects issues that will potentially be high on the policy agenda in the near future (Jones & Baumgartner, 2005). Next, public officials and politicians should be present at the venues where the attention is being produced. This could mean that they should engage in public debates or publish press releases; but they should also be present in the new social media, for instance. Furthermore, splitting up an organization into different divisions that interact with different target groups could help enable responsiveness. Although these parallel structures could be an effective solution to cope with variety, they do sometimes result in organizational profiling, which, in turn, complicates matters. Finally, governance systems should “know” when not to engage in responding to heightened attention in the media or politics and how to respond correctly at times of extreme calls for attention. For instance, they could develop response strategies or prepare policy solutions that are feasible and accepted in the case of media hype. Actors need to possess political-sensitivity skills.

Responsiveness and the Agenda 2000 and the Fischler Reform (1999 and 2003): The Problem of “Postmaterialist Preferences”

Initially, the CAP was developed within a closed agricultural policy community, consisting of a small number of public officials, politicians, experts, and stakeholders (Montpetit, 2003). This governance system was highly neglectful of growing societal concerns about the negative side effects of the CAP, such

as landscape distortion, environmental pollution, and animal welfare (Feindt, 2010). However, as time passed by, the EU food production policy became increasingly associated with a wide variety of these environmental and societal sustainability problems. The outbreak of different animal diseases resulted in an acceleration of media attention about how food production was organized and the underpinning values. Due to the link that was made between the mad cow disease (Bovine Spongiform Encephalopathy [BSE]) and the Creutzfeldt Jacob disease, the general public learned that their food was not as safe as they always believed it had been (Szajkowska, 2012). And due to the outbreak of the Foot and Mouth disease in 2001, the public became painfully aware of the way how animals were slaughtered as a precautionary measure in case of an outbreak of the Foot and Mouth disease or other animal diseases. These incidents triggered broad societal debates about animal welfare and related issues. It was no longer possible to neglect these concerns, and many societal actors used the animal disease crises as a window of opportunity to force the EU to change its policies (Breeman & Zwaan, 2009).

One of the actions taken by the EU was to elaborate the second pillar in the Agenda 2000 reform (first mentioned in 1999) to respond to these new societal preferences and ideas about the integration of farming, animal welfare, and rural development. Moreover, the Fischler reform in 2003 introduced the concept of cross-compliance to respond to this type of “post-materialist preferences” (Lynggaard & Nedergaard, 2009, p. 38). The term *cross-compliance* refers to the requirement for farmers to comply with a set of criteria (public, animal and plant health, environment and animal welfare) to qualify for the CAP payments. This scheme aligns farmers’ support with the public’s concerns.

The outbreak of animal diseases has taught the Commission to attentively observe new societal concerns and to respond more quickly to changing societal values. As a result, the cross-compliance was introduced to conveniently capture and bundle a set of new issues. This new scheme developed into an enabling condition for responding to all kinds of current and future postmaterialist preferences. In more general terms, the Commission has become more sensitive about changing values, and uses Euro-barometer surveys and general public debates as a means to enable itself to become a more responsive institution.

Revitalizing

The revitalizing capability is based on sense-making theories, which describe how policy makers can become stranded in their attempts to cope differently with wicked problems (Weick, 2009). Sense-making theories

focus on the micro level of policy making, that is, interaction processes between people. Faced with wicked problems, people collectively try to understand what is happening, adopt some ideas about how to deal with them, start acting, create experiences through such acting, and make sense of the entire situation. However, these ongoing social processes of sense-making can become disrupted. Meanings and rules can become the norm so that actors are no longer able to change them, even in cases in which “more of the same” solutions no longer work and can even become counterproductive. Authors refer to such stagnations in policy processes as “groupthink” (Janis, 1982) or as “the principle of tenacity,” a process of sticking to rules to maintain existing meanings even if there are clear signals of their finiteness (Sabel, Fung, & Karkkainen, 1999).

Observing the Need for Revitalization

Symptoms of stagnation are, for instance, the presence of taboos, repetition of moves, vicious circles, exasperating delays, escalated conflicts, and exclusion. Recognizing these symptoms and thus the need for revitalization is a painstaking process because actors are usually not aware of the stagnated pattern into which they have fallen. Therefore, individuals at some distance from an organization (third eyes) can be very helpful in observing stagnated processes. Finally, system perspectives are helpful to detect interlocking interaction and its origins (Argyris, Putnam, & McLain Smith, 1985). For example, system archetypes, such as success for the successful or the well-known tragedy of the commons, are highly effective tools for gaining insight into unproductive patterns of behavior (Senge, 1990).

Action for Revitalization

First, it is important to prevent policy processes from stagnating. For this purpose, it does not matter which programs or interventions policy makers use as long as they animate people, get them to generate new ideas, and facilitate frank interactions in which trust, reliability, and self-respect can develop (Weick, 2009). Second, when policy processes are already stagnating, interventions may be required that aim to unblock stagnations to revitalize learning. A first cluster of interventions aims to stimulate reflection and learning, for example, by using stories as a mirror to help actors experience how their acts unintentionally contribute to dysfunctional interactions, vicious circles (Senge, 1990), or deadlocks (Argyris et al., 1985). Actors are invited to reflect on the policy processes and on possible values and assumptions that could

have caused the stagnating patterns. The idea is that the resulting enlightenment experiences stimulate processes of second-order learning, that is, changes in the rules and values underlying courses of action (Argyris, 2004). However, it is not easy to change stagnated patterns and, once they obstruct reflection, stronger interventions become necessary. The second cluster of interventions assumes that it is only possible to break through fixated patterns by changing the context (Termeer & Kessener, 2007). When meanings are fixated, interventions are aimed at introducing new actors or new interaction rules; when interaction rules are fixated, adding new content is an adequate strategy (Koppenjan & Klijn, 2004). Such context variation is counterintuitive for many people because many interventions are aimed precisely at underpinning the things that are locked in.

Enabling Revitalization

Enabling revitalization requires actors not to be overwhelmed by disappointments, but to try to step out of stagnated patterns and, at a higher level of abstraction, to try to understand what is going on and how we tend to act and react toward the issue and toward one another (e.g., Giddens, 1991; Senge, 1990). This is a particular challenge in wicked policy domains due to the ever-present question of whether stagnating interaction patterns are unintended by-products of familiar ways of acting or whether they reflect exertion of power or deliberative conflict avoidance. At a minimum, actors need at least to be willing to postpone disqualifying judgments and conspiracy narratives, and to tolerate conflicts as vital elements of policy processes. However, when actors themselves become part of a stagnating pattern, it proves to be impossible for most of them to break through blockages themselves. At best, they can recognize fixations and invite an impartial outsider to play the role of intervener. Bringing in someone who is not part of these patterns, who has a fresh perspective on the process, and is in the position to intervene even in power structures can be sensible (Koppenjan & Klijn, 2004). These persons also need to possess intervention skills.

Revitalizing and the Ciolos Reform (2010-2013): The Problem of Integrating Farming Activities and Public Goods and Demands

With the passing of time, more new challenges have come up that are related to the production of food, such as the effects of agriculture on climate

change, biodiversity, renewable energy, and water management. The increasing amount and complexity of the environmental sustainability problems surrounding food production resulted in societal sustainability problems. Farmers should produce more public goods, such as landscape elements or agri-environmental products to legitimize the large amount of tax payers' money spent on them. Proposals were developed to the greening of the CAP, including the direct payments of Pillar 1 (EU Commission, 2011). The most recent initiative to reform the CAP for the budgetary period 2014-2020 marks a new juncture in this development. It can be seen as an attempt to both reform the CAP and to revitalize the political process surrounding the CAP about the core public values that the CAP should aim at.

However, this political process has appeared to be difficult because of the many unproductive negotiation patterns that have entered the CAP policy-making process over time, which have been difficult to break through. Decision-making rules within the Council blocked many fundamental reforms and despite growing societal concerns, "outsiders" were not interested in or allowed to have a say on agricultural matters (De Groot, 1997; Grin, Felix, Bos, & Spoelstra, 2004). However, recognizing this pattern—that is, observing the need for revitalization—is only the first step; changing it, that is, taking action and enabling revitalization proves to be much more difficult.

To prevent new societal conflicts and policy deadlocks, the EU Commission decided to change old policy-making routines. Before setting up the reform plans, Commissioner Ciolos launched public debates on the CAP's future, objectives, principles, and contribution to the "Europe 2020" strategy, which were to inform the preparatory work for the decision-making process. Some member states, such as the Netherlands, have organized national public debates, trying to open up traditional policy communities to new actors and new issues (Termeer & Werkman, 2011). These are examples of new ways of involving former outsiders and debating current opinions with a variety of societal actors.

Through this revitalizing action, new value conflicts entered the scene, requiring new ways of dealing with differences and conflicts. Knowing that the result of the debates would be used for the CAP reform forced traditional agricultural actors back into defensive conversations, stressing their own goals, values, and interests (Termeer & Werkman, 2011). Consequently, results in terms of really innovative ideas or innovative alliances did not materialize. This lack of progress discouraged some societal actors from participating any further. These temporarily blocked situations illustrate how revitalizing action can become stuck due to the lack of enabling arrangements. Again,

there is the need for revitalizing action, otherwise tensions take over and the vitality of the policy process runs dry.

In short, a revitalizing process made actors to look at the CAP in a different way: a way in which farmers would integrate farming activities with public goods. However, with declining budgets, there is pressure to maintain traditional ways of thinking, in which income and farmer's payments are the most important issues on the agenda and in which countries seek to maintain existing shares of CAP spending. Despite many new proposals to reform, the recent proposals for the period 2014-2020 seem to imply a readjustment along the traditional lines of the CAP.

Discussion and Conclusion

We have identified four governance capabilities for addressing wicked problems and elaborated them into the three dimensions of observing, acting, and enabling. Table 2 summarizes our findings.

The sustainable food production example shows how the four capabilities provide different conceptual lenses and reveal four different stories of CAP reforms. We saw illustrations of reflexive, resilient, responsive, and revitalizing ways of observing, acting, and enabling. Due to the limitations of a journal article, it was not possible to show how these different capabilities, even with varying emphases, can be utilized simultaneously. Table 3 summarizes our illustrations.

The aim of this article was to offer a theoretical exploration of how actors may better deal with wicked problems. Our main contribution is fourfold.

First, we argue that wicked problems require not only alternative action strategies but also alternative ways of observing and enabling. Although the focus in the current wicked problem literature is more on proposing strategies, and thus on acting, we deliberately paid attention to the observing and enabling dimensions. Furthermore, we emphasized how observing, acting, and enabling mutually reinforce each other. Our approach allows identifying situations where routinized patterns of observation contribute to repeating action strategies that rather preserve than solve wicked problems. Through providing sets of alternative lenses, new observations can come to the fore that may lead to new action strategies. We also show the importance of enabling conditions that can make or break any attempt to implement a particular action strategy. Constantly changing wicked problems may require changing governance systems to create enabling conditions for usual and unusual action strategies.

Second, we translate different theoretical approaches into multiple capabilities, proposing that actors in governance systems need to expand their

Table 2. Observations, Actions, and Enabling Conditions for the Four Governance Capabilities.

Governance capability	Observing: Key observations	Action: Main strategies	Enabling: Cultures and arrangements
Reflexivity	One's own and other people's frames Processes of framing and its effects	Seducing people into frames Connecting frames Negotiating despite frame differences	Tolerance of ambiguity Embedding reflexive activities Process skills
Resilience	Weak signals Varied observations Threshold and cascading effects	Learning by doing Simulating and experimenting Taking robust or flexible measures Linking developments across scales	Tolerance of uncertainties Bridging arrangements Flexible institutions Redundancy Improvisation skills
Responsiveness	Media attention Different venues Focusing events Stories behind dramas and hypes Windows of opportunity	Deciding when to dive under the wave and when to react Communicating sensitively	Tolerance of information overload Be present where the attention is Parallel structures Political-sensitivity skills
Revitalizing	Symptoms Interlocking interaction patterns System archetypes Third eyes	Animating people Interventions to unblock stagnation Addressing dysfunctional interactions Counterintuitive intervention	Tolerance of disappointments Readiness to introduce third actors and contents Postponement of judgments Intervention skills

Source: Compilation by the authors.

capabilities to deal with wicked problems in various ways: (a) reflexivity, or the capability to deal with multiple frames in society and policy; (b) resilience, or the capability to flexibly adapt to frequently occurring and uncertain changes; (c) responsiveness, or the capability to respond wisely to changing agendas and public demands; and (d) revitalization, or the capability to unblock deadlocks and stagnations in policy processes. The four capabilities are based on different theoretical notions, involve different ways of observing, result in different ways of acting, and require different enabling conditions in the governance system.

Third, we argue that it will be very unlikely that policy makers will deal wisely with the varied characteristics of wicked problems, if they use a single capability based on one theory or approach. In this, we follow Ashby's (1954) law of requisite variety, which stresses that only variety can beat variety. The inherent variety of wicked problems requires actors to have a commensurately large variety of observing, acting, and enabling repertoires to come to terms with them. The challenge is to increase their awareness and to enable

Table 3. Dimensions of Governance Capabilities in the Sustainable Food Production Example.

Capability/CAP Reform	Sustainable food production issue	Observing	Acting	Enabling
Reflexivity Milk quota 1984	Overproduction	Forced to observe because of budget problems and the development of critical metaphors: Butter mountains and milk lakes	Seducing and shocking actors to show the consequences of different contesting frames; negotiating frames	Commissioner's skills to look at situations from different perspectives and to facilitate reflective negotiations The new frame became institutionalized and enabled further production constraints
Resilience MacSharry 1992	Distortions of international markets Unable to adapt to world market dynamics	Cascade of different institutional developments across scales and across policy domains	Strategy of linking across scales and problem domains Learn to accept the interconnectedness between the European Union and international markets	Commission as bridging arrangement between scales and domains Formal and informal rules delayed flexible adjustments
Responsiveness Agenda 2000 Fischer 2003	Increasing societal concerns and demands	The outbreak of diseases as window of opportunity to trigger a call for more structural reforms	Speeding up of decision making and the inclusion of more and broader issues in the cross-compliance scheme	Result of a new CAP pillar; provides institutional basis to more flexibly adapt policies Commission's political-sensitivity skills The use of European barometer to measure values in society Resulting cross-compliance schedule enables responsiveness to future societal concerns
Revitalizing Ciolos 2010-2013	To receive payments farmers should produce public goods Legitimizing tax money flowing to farmers	Need to integrate traditional CAP values with climate change, energy, water, biodiversity, etc. Unproductive patterns in the CAP policy-making process	Organizing public debates Mixing different actors and values Trying to integrate and develop a new future of the CAP	Readiness and willingness to open up the policy-making process for new actors Declining budgets risks actors to maintain the traditional ways of thinking

Source: Compilation by the authors.

Note: CAP = Common Agricultural Policy.

as many varied understandings and action repertoires as possible. An additional reason for developing multiple capabilities is that each capability carries the risk of being applied indiscriminately to every issue or of being applied in an exaggerated fashion. In this sense, each of the capabilities contains its own trap. Acting too reflexively can lead to paralysis. Acting too much on resilience by creating too much redundancy and keeping too many options open may lead to confusing responsibilities, a missing sense of direction, or undermining effectiveness. Acting too responsively by attending to too many issues may undermine consistency and stability. Finally, focusing too much on revitalization can lead to overlooking constructive interaction patterns. Developing a variety of capabilities can prevent policy makers from falling into these traps. However, we do not suggest that these governance capabilities can be easily reconciled or added up into some kind of integrated approach. Rather, we think that they are potentially conflicting because of the distinct contributions they make to overall governance capability. The focus on future uncertainties in the resilience capability, for example, can be at odds with the focus on quick responses to issues that are salient with the public, implied by the responsiveness capability.

Fourth, we plea for developing a metacapability to deploy the various capabilities wisely. The risk to neglect observing and enabling conditions, the possible traps of individual capabilities, and the tensions between capabilities call for a metacapability to

1. Observe situations using the various lenses provided by all four governance capabilities. Each of the capabilities acts as a lens to observe particular aspects of a wicked problem situation. Aspects that go unnoticed under one lens can become crucial details under another lens. In complex situations, seeing what is happening as it is happening is crucial to be able to act or intervene. With the varied set of lenses provided by the four capabilities, observations become more varied and more complete, leading to more possible action strategies.
2. Decide on combinations of action strategies from the broad range of strategies provided by the four governance capabilities. It is hard to make any general statements on what combination of strategies would be most promising in a particular situation, but the ones suggested by the capability that provides most insight into the situation are probably good starting points. The effects of the strategies chosen need to be assessed to plan the next course of action. Over time, varying capabilities can be fruitful, for example, revitalizing a

stagnated situation may be necessary before mobilizing the reflexivity capability.

3. Continuously monitor and adjust the conditions that enable the four governance capabilities. It is too late to create enabling conditions when a particular situation calls for action. Moreover, it seems wise to prepare for turbulence when the waters are calm, to ensure that a variety of observational and action strategies can be fruitfully deployed when they are needed.

Still, there is the question of evaluating the effects of these capabilities on wicked problems. We do not expect that dealing with wicked problems using the governance capabilities we propose, and involving observing, acting, and enabling, will result in their final solution. After all, wicked problems cannot be solved and have no stopping rules. More realistically, we expect continuous change in wicked problem domains involving delays and acceleration rather than a radical change, though it might occur (e.g., Boonstra, 2004). On the basis of our theoretical exploration, we expect that these governance capabilities, and the metacapability to deploy them wisely, will help manage wicked problems through repeated small wins, based on careful observation and targeted actions, rather than through comprehensive plans or heroic deeds. Importantly for our argument, the combination of these capabilities can help to achieve small wins in the context of wicked problems. Such small wins should be understood as marginal adjustments or changes in degree rather than large-scale achievements or changes in kind (Bryson, 1988), or, expressed differently, they are a “concrete, completed, implemented outcome of moderate importance” (Weick, 1984, p. 43). Recognizing and appreciating these small wins can prevent policy makers from getting caught up in wicked experiences. In doing so, they produce small steps of continuous change, which in the end can churn old routines into new learning (Weick, 1984).

However, our approach also raises a number of questions that need to be answered through future in-depth empirical analysis. For instance, which mechanisms underlie the mutual reinforcement of observing, acting, and enabling? Are the four capabilities we identified indeed the crucial ones? How much investment does it take to realize this variety of capabilities and enabling conditions in a governance system? Which individuals, coalitions, or actor networks are in the best position to acquire the respective capabilities?

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