

INSTRUMENTS TO ENABLE COORDINATING WITHOUT CENTRAL GOVERNMENT CONTROL: FINDING A NEEDLE IN A HAYSTACK?

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1. Introduction

The contemporary pace and character of technological and social change has generated a climate of uncertainty in which the traditional mode of governance and ways of organizing governance arrangements have been fundamentally challenged. Traditional ‘predict and control’ approaches were largely based on the idea that organizations, policy makers, managers or powerful coalitions could identify ‘what is happening’, formulate strategies, design governance structures and develop rules and procedures to implement actions to achieve the targets, objectives and visions (see, for example Jackson, 2003; Weber and Khademian, 2008; Zuidema, 2011; Stacey, 2012). For a long time, the main focus was enhancing (organizational) performance and increase efficiency through adaptation to existing contingencies (Staber and Sydow, 2002).

However, in the meantime, as for example Stacey (2012) makes clear, organizations, strategists and policy makers seem to better realize that “they are not able to forecast what the outcomes of the actions taken would be” (p. 10). One only has to think about natural disasters as the Japanese tsunami in 2011 or man-made ‘disasters’ as the current financial crisis, for it to become clear that this counts not only within the boundaries of an organization or policy field. It also applies to entire organizational, governance and natural systems. Both public and private organizations seem to become increasingly aware of both the limited coping capacity of individual organizations in case of these disasters and the need to work together across organizational boundaries to deal with these issues. As a result, an increasing amount of literature points towards the development of social networks that emerge around specific thematic issues (see, for example, Gulati et al., 2000; Agranoff and McGuire, 2003; Andrews and Entwistle, 2010). In this paper, we define the term networks narrowly. We focus on what Kilduff and Tsai (2003) refer to as “goal-directed networks” or what Mandell (1994) terms as “program structures”. In this definition of networks multiple organizations purposely work together to achieve not only their own goals but also a collective goal. Such networks may be self-initiated, by involved actors themselves, or may be mandated or contracted, as is often the case in the public sector.

Although in fact networks can be structured in various ways, in general, network relations between organizations are considered to be horizontally in nature: all network-participants are considered to be equal. This also inspired new modes of governance, which are more open to other stakeholders and focused on adaption to both involved parties as well as the context of the

network. Examples of this more open and adaptive forms of governance include ‘network governance’ (Sørensen and Torfing 2005; Sørensen and Triantafillou, 2009), ‘collaborative governance’ (Huxham and Vangen, 2005), and adaptive governance (Walker et al., 2004; Folke et al., 2005). What these examples seem to share is that these modes of governance do not rely on central command and control and hierarchy but are based upon reciprocity between involved actors and deliberation in order to reach mutual gains. This means that rather than through primacy of a central authority, in a network, actors are expected to regulate themselves, either through constant consultation or through competition against each other (see, for example, Robinson et al., 2000; Zuidema, 2011). Furthermore, comparing these recently developed governance systems to the traditional governance systems, the former seem to be more focused on ‘the bigger picture’ (Moore, 1996). As Hames (2007) explains, the focus shifted from thinking merely inside-out to also thinking outside-in. Organizations and networks are increasingly regarded as the nexus where different systems intersect – either hard and soft systems (see Jackson, 2003) or socio-technological and socio-ecological systems (see, Sussman et al., 2005, Rijke et al., 2013). Involved parties seem to increasingly acknowledge the importance of ecosystems (Holling et al., 1995; Olsson et al., 2006), which in turn also inspired more adaptive forms of governance that explicitly take account of both immediate as well as long(er) term change (Dietz et al., 2003; Folke et al., 2005). In comparison to the traditional ‘predict and control’ approach, this newly developed governance approach could be coined as ‘open and adaptive’.

In response to prominent problems as global environmental change, problematic resource management, and increasing pressure on public health, an increasing amount of literature focuses on the potential of these more open and adaptive forms of governance (see, for example Pahl-Wostl, 2009; Adger et al., 2009). Many studies conclude that the traditional ‘predict and control’ approach is ill-suited to deal with these public complex, or ‘wicked’, issues and advocate a swift transition towards more open and adaptive modes of governance. In this article, we follow a different line of reasoning. Notwithstanding the obvious benefits of these more open and adaptive governance approaches, inspired by the few studies that did so before (see, for example Bell and Hindmoor, 2009; Zuidema, 2011), we compare the open and adaptive to the advantages of the traditional ‘predict and control’ governance approach. More specifically, the objective of this paper is to investigate how and whether the two archetypical governance strategies – ‘predict

and control’ and ‘open and adaptive’ – can be applied complementary to each other in a network setting. To do so, we aim to find answers to questions as: what are the strengths and weaknesses of each approach, how are they applied in practice, and in what way could the approaches be combined?

To this end we investigate the case of the National Collaboration Programme on Air Quality (in Dutch: *Nationaal Samenwerkingsprogramma Luchtkwaliteit* [NSL]) through both lenses simultaneously. This programme fits the definition of “program structures” as set out by Mandell (1994), which means that multiple organizations on different levels of administration purposely work together to realize a shared objective. In this case, the programme contains two goals. On the one hand this programme is focused on providing additional road infrastructure. On the other hand, at the same time, it focuses on improving the public health by ensuring compliance of the Netherlands to EU Directive 1999/30/EC, which specifies standards on nitrogen oxides, sulphur oxides, lead and particulate matter in ambient air (EC, 1999). As such, it can be seen as a response to a public complex problem, as identified above.

We followed the NSL in real-time from its conception in 2009 till 2012. During this time, we conducted three rounds of interviews. In the first round of interviews in 2010 we focused on the disintegrated way of working before the NSL and the establishment of the programme. The next two rounds of interviews were held with annual intervals in 2011 and 2012 and focused on events that occurred in the meantime both within as well as outside, in the context of, the programme. Based on these three rounds of interviews, we are able to provide four different ‘snapshots’ of the NSL through time (two from the first round of interviews).

We will elaborate on the two different streams in governance in section 2 to gain insight into the strengths and weaknesses. Then, in section 3 we will outline the methodological underpinnings of our case study. In our case analysis in section 4 we will use the different ‘snapshots’. First, we present the situation as actually happened. Then, based on the theoretic principles on governance outlined in section 2, we will discuss what would, according to both theoretic strands, be the appropriate way to act in these situations. As such, our case analysis consists of three different storylines, which implications we will discuss and in section 5. Finally, in section 6 we present our conclusions and indicate topics for further research.

2. Different perspectives on governance

Approaches to the governance of networks can be distinguished in different ways. First, in terms of whether they focus either on efficiency, effectiveness, and best value or on flexibility, responsiveness, and innovation. Second, whether they focus on some sort of central control and coordination or rely on decentralized, collective self-governance.

The traditional 'predict and control' approach

The traditional predict and control approach adopts a technical stance toward the governance of networks (see, for example Alexander, 1993; Kilduff and Tsai, 2003; Bevir, 2006). Governance occurs by and through a single organization – typically the state – or a small subset of the network members. As such, network governance becomes highly centralized and brokered, with asymmetrical power. The role of the central actors may emerge from the members themselves, based on what seems to be most efficient and effective, or it may be mandated, for example by legislation. According to Bevir (2006), within this perspective, it is assumed that the center can devise and impose devices that foster integration within networks and thereby realizing its own objectives. Policies in this governance approach have a centralizing thrust in that they attempt to coordinate other network members who must comply with criteria that are defined by the center.

Next to giving direction to the network, the top-down governance orientation also shows in the fact that participation often remains restricted to consultation. Even though network members are often considered as stakeholders or partners, they do not have a real say. Involved actors are only invoked as vehicles for the efficient and effective delivery of services or as having the right to be consulted in decision-making. Central parties coordinate and dominate the decision making process and seek to regulate and control outcomes. In addition, this top-down orientation also becomes apparent in the fact that it is the center that decides which parties to include in the network. However, this carries the risk that networks concentrate on ensuring that vested interests are adequately represented (Hoppe, 2010).

Furthermore, the technical stance and focus on governance structures ensure that actors can be held accountable for their actions. Proliferation of networks could raise worries about accountability. According to Bevir (2006), the resulting complexity obscures who is accountable to whom for what, and there are often few procedures by which to hold accountable the other

network members who deliver services. However, structures and formal agreements allow identifying and scrutinizing individual network members performance and match these against their expected or pre-determined output delivery. Network participants should deliver what was agreed on. This way a 'line of accountability' (Considine, 2002) can be established which corresponds to the 'chain of command'.

Given this focus on efficiency and effectiveness, network members often establish single-loop learning mechanisms. Single-loop learning takes the network goals for granted and focuses more on the means by which these goals are pursued, and whether these means can be optimized and employed more efficiently. In doing this, network members are predominantly trying to find the optimal match to current contingencies and do anticipate future developments. According to Hames (2007), it is always good to have a chosen a direction in which one is heading and to grow internal capabilities, but this is not sufficient. Therefore, he and many authors advocate a different type of governance approach: more open and adaptive.

The open and adaptive approach

In contrast to the 'predict and control' approach on network governance, in an 'open and adaptive' the network is not governed by one or a small subset of the network members, but by all organizations that comprise the network (see, for example Klijn et al., 1995; Teisman et al., 2009). Every organization interacts with every organization to govern the network, resulting in a dense and highly decentralized governance form where it is the collectivity of partners themselves that make all the decision and manage network activities. Power in the network, at least regarding network-level decisions, is more or less symmetrical, even though there may be differences in organizational size, resource capabilities, and performance (Provan and Kenis, 2007).

Governance can occur through formal agreements, for example regular meetings or designated organizational representatives. However, in scientific literature on this decentralized governance approach the importance of informal agreements and trust within such networks is highlighted (see, Meyerson et al., 1996; Inkpen and Tsang, 2005). Instead of establishing a functional 'line of accountability' that would be based on formal structures and rules, a "culture of responsibility" (Considine, 2002) would have to be established. According to Bevir (2006), such culture will

only develop when actors interpret, modify, or even challenge a looser, flexible, and more open-ended set of norms.

Decentralized networks, high levels of participation and trust, and a premium on informal agreements are essential in sharing the diversity of knowledge of the various network members and engaging in processes of social learning. Van Herk and colleagues (2011) argue that if networked partnerships are cultivated in the longer term, they can stimulate collaborative learning and promote transitions. Identified informal networks were considered to be highly adaptive and contain high degrees of tacit knowledge. This enables the network to respond rapidly to changes in the environment. However, this also requires feedback mechanism as monitoring tools to gain insight into contextual developments. According to Hames (2007) these tools enable the network to adapt both an inside-out as well as an outside-in perspective.

In an open and adaptive governance approach, the network does not experience the environment passively. In the process of interpreting and acting on environments, network members reconstruct them in ways that change the conditions to which they adapt. Transformations help the network not only to keep pace with constantly changing demands, but also to anticipate changes. In contrast to single-loop learning, the double-loop learning approach proposes that the network will be reinvented continuously using feedback from its environment (Sydow and Stabher, 2002). As such, it is not only anticipating on current changes and developments, but through an extensive learning process, also developing adaptive capacity to adjust to future developments.

Table 1: Characteristics of different network governance approaches

Dimension	Predict and Control	Open and Adaptive
Network structure	Centralized	Decentralized
Network coordination	Central coordination	Self-regulation
Network focus	Efficiency	Adaptive capacity
Power relations	Asymmetrical	Symmetrical
Accountability	Through rules and formal structures	Through establishing a 'culture of responsibility'
Type of agreements	Formal	Informal
Learning	Single-loop	Single loop and double-loop

Source: adapted from: Alexander, 1993; Bevir, 2006; Considine, 2002; Hames, 2007; Hoppe, 2010, Kilduff and Tsai, 2003; Provan and Kenis, 2007; Sydown and Stabher, 2002.

Intentionally, both approaches are being applied separately from each other, reflecting an either/or approach in governance practice. Either the traditional 'predict and control' approach or the 'open and adaptive' approach is adopted. Given the different theoretical principles, summarized above in table 1, the two approaches are considered to differ fundamentally from each other. The 'predict and control' approach, for example, can be characterized by a focus on control from the center. Providing latitude for other parties in the network would, according to this perspective, to situations that could easily spiral 'out of control'. Therefore, it is best to be on top of things (see, for example, Etzioni, 1964; Dekker, 2004). However, from the other perspective, the open and adaptive governance approach, the need to be 'on top of things' is actually considered to hamper the trust-building processes, learning processes and the growth of internal capabilities. It is best 'to let go', and wait what will happen. Based on complexity science thinking, it is expected that eventually a (social) order will emerge out of the interaction between the parties involved (Holland, 2000; Stacey, 2012).

3. Research approach

The objective of this paper is to gain insight into how and whether the two archetypical approaches, ‘predict and control’ and ‘open and adaptive’ could be applied complementary to each other in a network setting. This inspired by an increasing amount of literature that acknowledges the interrelationship between the two approaches (Bell and Hindmoor, 2009; Zuidema, 2011; Rijke et al., 2012; 2013). In order to do so, we used a case study methodology. This is a relevant approach when posing “how” or “why” questions concerning “contemporary” phenomena over which investigators have little control (Yin, 2009, p. 9).

We have studied the National Collaboration Programme on Air Quality (in Dutch: *Nationaal Samenwerkingsprogramma Luchtkwaliteit* [NSL]) in the Netherlands. This programme is an excellent example of a network setting. It contains the Dutch effort to comply with European Directive 1999/30/EC, which specifies standards on nitrogen oxides, sulphur oxides, lead and particulate matter in ambient air (EC, 1999). Caused by factors as a high population density, trade economy, industry, intensive agri- and horticulture, and large (international) transport flows, the Netherlands, comparison to other countries, has to deal with a high pressure on the environment. As a result – although it took considerable effort, as we will explain in section 4 – an extensive programme has been established containing a portfolio of mitigating measures aimed at improving the air quality. The total investment in the programme in air quality measures amounts to 1.5 billion EURO. These measures are undertaken by different government agencies on different levels of administration, resulting in a dense network of both central and decentralized government agencies.

We have studied the NSL from its conception in 2009 until 2012. Our aim was to gain insight in and explain the governance approach within this network setting and to assess whether this approach would be result in optimal goal achievement. To do so, we used various data sources. Most important were the three rounds of interviews with actors involved in the NSL that we conducted – in 2009, 2011 and 2012. A total of 58 interviews were held with stakeholders from the Ministry of Transport, the Ministry of Housing, Spatial Planning and the Environment (merged in 2010 into the Ministry of Infrastructure and the Environment), provinces, municipalities, supporting government agencies, interest organizations, and consultancy and law firms. Table 2 provides an overview of the respondents in these interview rounds.

Table 2: overview of respondents in the interview rounds.

Government	Interviews
National	20
Provincial	10
Municipal	12
Semi-Government	9

Non-government	7
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All interviews were semi-structured and consisted of open-ended thematic questions. The topics of interviews varied over time to match the course of development of the network. In the first round of interviews we focused on the political, societal and institutional conditions that influenced the content and structure of the programme and how the stakeholders interpreted and perceived these conditions and the response as provided by the NSL. The second round of interviews was focused on developments within the context of the programme, stakeholder responses to these developments and possible shifts in stakeholder perspectives on collaboration. Finally, in the last round of interviews we were interested in whether the programme lived up to expectations, stakeholder satisfaction and intermediate political dynamics.

In addition, we organized two workshops to validate the empirical data we acquired in the interviews. This helped gain further insight into and establish a consistent and coherent narrative about the developments in the air quality dossier. A wide range of professionals participated in these workshops. Finally, the information collected from the interviews and workshops was supplemented by a desk study into policy documents and available scientific accounts of developments in the policy domains.

On the basis of these information we are able to provide four different ‘snapshots’ of the programme through time (see the numbered ‘snapshots’ in figure 1). In these ‘snapshots’ we describe the situation at hand in the case of the NSL. The first ‘snapshot’ in figure 1 provides an

overview the period around 2005. This is the time before the programme was in place and all parties were struggling to comply with the air quality rules and regulations. The second ‘snapshot’ provides insight into the establishment of the programme in the period 2005-2009 and how the network came about. In the third ‘snapshot’ we present the status of the network after two years of operation. The fourth and last ‘snapshot’ does so after more than three years of operations.

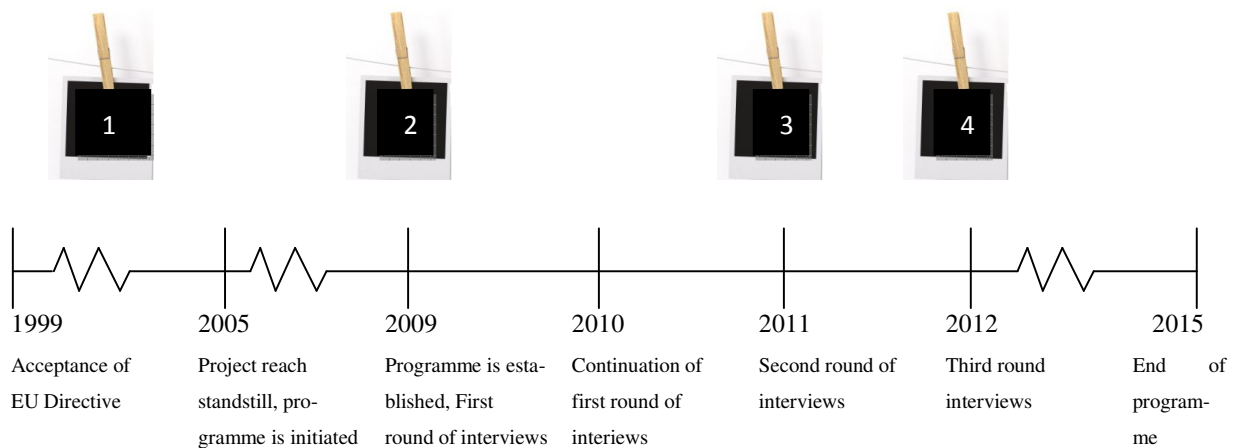


Figure 1. Timeline of developments in the National Collaboration Programme on Air Quality

After each ‘snapshot’ has outlined the situation as actually happened, we will use two different constructs. The first is based on the predict and control governance approach, the second is based on the open and adaptive governance approach. We will outline what would be the appropriate way to act in these situations according to these two constructs. In this way, we develop three alternative storylines. First how the situation developed in practice, followed by the two scenario’s based on the predict and control approach and the open and adaptive governance approach as set out in section 2.

4. Air Quality in the Netherlands: An example of the open and adaptive governance approach?

We will outline the developments in the Dutch air quality dossier in a chronological order. In doing this, we will follow the numbering applied in figure 1. The numbers of the ‘snapshots’ will correspond to the numbering of the subsections. This means that based on ‘snapshot 1’ we will start with by setting the stage and elaborate on the problems that have emerged in the field air

quality policy in section 4.1. In this subsection we will also reflect on these problems by considering how the situation would have been handled according to the different modes of governance set out in section 2. In the following subsections we will describe what really happened in practice: how a programme was initiated (4.2) and subsequently implemented (4.3). In section 4.3 we will also reflect on the developments during the implementation phase by using the two different theoretic standpoints on governance. Finally, in section 4.4 we present the last 'snapshot' ('snapshot' 4). In this section we present what really happened in response to the problems in the implementation phase. Also in this section, this will be followed by the possible response from the two different governance approaches.

4.1 Setting the stage: problems in the Dutch air quality dossier

In 1999 the Dutch agreed to European Directive 1999/30/EG, which contains standards for different air polluting matters. At the time, involved actors already acknowledged that it would be difficult for the Netherlands to meet these standards (Bloemen et al., 1998). In large parts of the country the norms would not be met. However, for a long time, the Netherlands was considered to be a fore runner in the field of environmental policy (see, for example De Roo, 2003; Zuidema, 2011). In the negotiation process the Dutch wanted to live up to its status (Rood et al., 2005) and therefore approved these strict standards, while acknowledging in a footnote that it could be difficult to actually reach the set standards.

An important contributor towards meeting the European standards would be European source-related policies, e.g. setting higher standards for emissions of motorized vehicles. However, for a long time, such European source-related policies remained in default (see, for example COM, 2005). Consequently, when the first cases appeared before the *Raad van State*, i.e. the Council of State, the highest Dutch administrative court, it concluded that the execution of spatial and infrastructure projects was in conflict with the Dutch ambition to meet the European air quality standards. Furthermore, it also appeared that whereas in other European countries these standards are considered with some flexibility, in the Netherlands these standards were interpreted as limit values (Fleurke and Koeman, 2005). This means that these standards were perceived as absolute limits that have to be taken into consideration by all authorities at all levels of government in the exercise of all their functions which could have an impact on air quality. However, this strict interpretation of the European Directive leaves no room for any balancing against other interests.

As a result, many spatial and infrastructural projects reached a standstill. No projects could proceed, unless a solution to the complicated air quality problem would be found.

With billions of euro's on investments in infrastructure and spatial development projects on hold (see, for example VNG, 2005), the pressure to find a solution was high. However, it was difficult for the involved parties to confer about how to repair this situation as the actors were blaming each other. On national level, the Ministry of Transport blamed the Ministry of Housing, Spatial Planning and the Environment (Dutch acronym [VROM]) first for approving of the ambitious European standards, and second, for interweaving it into the Dutch legislative system in such a strict way. *"The Ministry of VROM was just to blame"* as a national policy officer simply puts it.

However, not only the relationships between different parties at national level was under pressure, also lower governments were angry. Like the Ministry of Transport, they also blamed the Ministry of VROM for causing the deadlock, but as a municipal officer explains *"The Ministry of Transport is also known for its own agenda, which would not necessarily be in our favor. Like the Ministry of VROM, they could not be trusted..."*. As a result, a solution was highly needed, but involved actors first needed to play a blame game in order to get to the solution.

4.2 What really happened: Programme initiation

The first step to break through the deadlock was the expansion and integration of existing tools to monitor Dutch air quality into a nationwide monitoring tool. *"for the first time, we had an overview of the full situation"*, as a national policy officer said. This model was also used to investigate the effect of potential mitigating measures. This use revealed that a combination of policy measures on both national, provincial and municipal level was required to ensure that the European standards would be achieved. The high political pressure and the fact that all parties experienced problems encouraged actors to work together on the national level. However, the tension between the central government and the decentralized governments remained. To deal with this tension the central government had to develop a new way of working. With help from top management from the ministries, this was enabled and consequently the Ministries started a continuous dialogue with local and regional governments. To illustrate, a municipal policy official notes *"we finally had the impression that what we said really mattered"*.

Eventually, in 2005-2009, agreement was reached on a National Collaboration Programme on Air Quality, called the NSL. The programme first contains all spatial and infrastructure projects to be undertaken in the period 2009 to 2015. Second, the programme contains many mitigating measures that the various parties should take. Together, these measures are expected to compensate for the impact of the road infrastructure projects, and deliver extra effort to ensure that the air quality standards are met everywhere in the Netherlands

In order to ensure that all agreed mitigating measures are actually being taken, and to gain insight into the actual sorted effects of the measures in practice, the developed monitoring tool will be updated annually. In case of positive unforeseen events, all parties agreed that everybody would still take their mitigating measures, in order to have a buffer and optimal public health conditions. In case of negative unforeseen events, all parties agreed that additional mitigating measures would be taken together. The network participants are also allowed to develop new sets of measures as long as these new measures will sort the same effect.

How to respond from a predict and control governance approach

A predict and control response would approach the problem in a clinical way. First, responsibilities need to be identified. Following existing Dutch legislation, all authorities at all levels of government are responsible to ensure compliance to the European legislation. However, the national government is finally responsible, because this entity will have to deal with a possible infringement procedure from the European Commission in case of non-compliance. Therefore, it is up to the national government to take the lead. Furthermore, in order to develop the most efficient and effective policies to improve the air quality, the participation of lower governments is required. Therefore, a network will be established in which the central government will take the lead, and decentralized government will have to follow. This should occur on the basis of formal agreements as rules and procedures. The center should set out rules and procedures to which all parties should comply. The lack of trust between the parties involved will be solved by creating, more or less, hierarchical relationships which create stability so involved know what to expect from other network members.

How to respond from an open and adaptive governance approach

Instead of focusing on formal rules and responsibilities, an open and adaptive approach would focus on who is affected by the problem. Then, following a participatory approach, all involved actors would be persuaded to participate in a process in which the different perceptions on the problem are aligned to each other. In such a process, all parties are considered to be equal to each other. A solution will be developed based on the collaborative problem definition. In this process, informality is considered to be vital, as then problems and possible solutions can be discussed and explored safely, without direct consequences. Such an informal process of finding a suitable problem definition would also build trust among the network participants. This trust will also help in finding a possible joint answer to the collaboratively defined problem. However, not only the problem is collectively defined, in the solution the participation of all parties is also required. All parties are expected to do their share in overcoming the problem. They all need to make an effort. As a result, a dense network will emerge, in which the network members are interdependent. Every network member needs to deliver their part of the deal. In case an actor remains in default, given the interdependent problem solution, others will have to pay the price. Therefore, in the decentralized network, actors are expected to regulate themselves, rather than that the center coordinates the network.

4.3 What really happened: Programme implementation

After the programme had been established, it was ready to be implemented. All participants were happy, because with the programme, the projects that were on hold could proceed again. It was only a matter of taking the appropriate mitigating measures.

Once the programme was up and running for a year, additional mitigating measures proved to be necessary. The monitoring reports revealed disappointing effects of the mitigating measures taken, while new more accurate calculation methods of the actual state of pollution put further pressure on goal achievement (Gemeentelijke Rekenkamers, 2011; Busscher et al., 2011). However, taking additional mitigating measures proved to be more problematic than anticipated. Halfway through 2012 little has occurred. Partly this can be explained by two important contextual developments that come to the fore in the second round of interviews.

First, court rulings by the Dutch Council of State (*Raad van State*, the Dutch administrative court), pointed out that the NSL could be seen as the legal backing for the formal decision on the spatial and infrastructure projects. The monitoring tool was considered to be essential in this respect, because in case of unforeseen circumstances, all parties would anticipate and take additional measures. However, according to the Council of State, this has to be accomplished “*somewhere before 2015*”, as indicated by a provincial policy officer. This makes that there is no pressure on timely taking additional mitigating measures. Second, held elections pushed national government policies into other directions, emphasizing the economic importance of road traffic and downplaying environmental motives against it. As an interviewed policy officer from a municipality illustrates by stating that “*under this government, the environment is subordinate to infrastructure development*”.

How to respond from a predict and control governance approach

From a predict and control perspective the current situation would not be experienced as a real problem. Now that the programme has been established and is under implementation, the focus shifts from effectiveness towards efficiency. This means that participants have to find those mitigating measures that deliver most value for money and undertake them when the timing would be most favourable. If this means that the bulk of the mitigating measures will have to be taken in the end of the programme, then that will be alright. In the end, based the clear structures and formal agreements, all involved parties can be hold accountable in case of non-compliance. The center is expected to be able to identify all efforts and to adjust the course of action in case necessary.

How to respond from an open and adaptive governance approach

From an open and adaptive governance perspective the situation would be experienced as problematic. After all, the network participants are clearly not building adaptive capacity. Instead they are doing nothing more than the absolute minimum. This means that in case of unforeseen events in the future, the programme will be unable to find a proper response. In order to prevent this situation, it is time that the network participants start to address each other about this behaviour. The ‘culture of responsibility’ that was expected to develop needs to show. In addition to this ‘culture of responsibility’, it is assumed that peer pressure and the fact that

everybody wants the programme to succeed will result in the fact that additional mitigating measures will be taken and, as a result, in goal achievement.

4.4 What really happened: Programme goal achievement

After what a national policy officer describes as a “*lengthy and difficult process*” the national government is taking additional mitigating measures. It agreed on subsidizing cleaner engines (EURO VI) for taxicabs and small trucks through. Nevertheless, for the decentralized governments, this does not seem to be enough. As a provincial policy officer points out “*these engines haven’t even been brought to market yet. When they will, the effect will not be noticeable within the timeframe of the NSL*”. As a consequence, the decentralized government still expect the central government to do more. However, the few options that are left often mean that environmental interest have to prevail above economic interests. Examples can be found in the closure of roads. In the midst of an economic crisis, none of the network members want to take these kind of mitigating measures.

To make things complicated, one of the promises of the Cabinet during the elections was to increase the speed limit from 120 km/h towards 130 km/h on places where this would be possible within the boundaries of environmental rules and regulations. These promise is being fulfilled. This means that on places where the decentralized governments have put much effort in improving the air quality as much as possible – sometimes even beyond the European standards – this ‘room’ between the current situation and the standard is being filled because of the increasing speed limit (Goudappel Coffeng, 2010).

The decision to increase the speed limit at the costs of the decentralized governments has put much pressure on the network. The decentralized governments feel “*left in the lurch*” as denoted by a municipal policy officer, but consider themselves to be unable to influence the decision-making on the national level and seem to accept the situation as it is. It is no surprise, that the last monitoring outcomes show a situation in which goal achievement is far away. Yet, no network members are taking additional measures.

How to respond from a predict and control governance approach

From a predict and control governance approach this is a peculiar situation. An important benefit of top-down governance is the ability to mobilize and coordinate collective action. However, and this seems to be apparent in this case, it runs the risk of resulting in illegitimate and unfair outcomes. The center of the NSL network is aimed towards realizing their own organizational goals above the collective goals. Given the asymmetrical power relations, there is not much the decentralized governments can do. The center is expected to coordinate and maintain the network in order for it to sustain. The NSL shows that, when the network center deviates from this plan is focused on realizing their own good, there is not much other involved parties can do to prevent this. Furthermore, it also shows that predict and control governance approaches often remain restricted to single loop learning. The network members remain focused on finding the right and possible mitigating measures to use the programme in the most efficient way, and by doing this, ignoring developments in the context of the programme.

How to respond from an open and adaptive governance approach

In an open and adaptive governance approach this situation would be highly undesirable and unacceptable. All network members are considered to be equal. Therefore, it cannot be accepted that different are out of the collectively agreed line. This behavior will therefore be corrected by the other organizations involved. Given the symmetrical power relations, the national government will have to be responsive to the other organizations involved. After all, the action undertaken by the national governments, who accepted to be just one of the stakeholders, jeopardize the whole network. However, in order to move forward, it is not just a matter of network members being responsive to each other, they also have to be responsive to the developments in the environment. Given the fact that the monitoring tool shows that additional effort is needed, all parties need to think about possible actions that can be undertaken, both within as well as outside the programme. This requires a facilitated learning process, in which the network participants learn from each other and together find possible ways to deal with the unforeseen circumstances.

Table 3. Shifts in governance approach per dimension

	Network structure	Network Coordination	Network Focus	Power relations	Accountability	Type of agreements	Learning
Programme initiation	Decentralized	Self-regulation	Adaptive Capacity	Symmetrical	Culture of accountability	informal	Single-loop + double loop
Programme implementation	Centralized	Self-regulation	Efficiency	unclear	Culture of accountability	formal	Single loop
Programme goal achievement	Centralized	unclear	Efficiency	Asymmetrical	Culture of accountability	formal	Single-loop learning, with double loop mechanism installed

5. Reflection

The NSL has been instrumental in speeding up decision making on spatial and infrastructure projects. It enables the dual objective of developing new infrastructure and meeting European Union air quality standards. When it was proclaimed in 2009, hopes were high that both objectives could indeed be combined in such a way that air quality standards would be met within the time frames agreed with the European Union. Continuous monitoring, however, has shown that this optimism is not confirmed by practice. Rather, the Dutch face a serious risk that, without additional measures, they will not meet air quality standards.

The NSL contains a hybrid governance approach. As table 3 shows, it starts off with by building a decentralized network, with symmetrical power relations and high levels of informality. This approach was used to gain trust again among the parties involved, as this was lost when it appeared that no projects could proceed anymore. This approach seems to have been applied successfully, as all parties were really enthusiastic and optimistic in the beginning of the programme. During the programme initiation phase the decentralized governments felt that they were on equal foot with the central government. All parties agreed on taking additional

mitigating measures in case this was needed and trust each other in doing so. As a result, a 'culture of responsibility' seemed to develop and network participants are expected to regulate themselves.

However, during the implementation phase, as explained in table 3, the governance approach shifts towards a shift predict and control approach. The national ministries position themselves above the other network members, in line with the traditional setting before the network came about. This shows that the programme is not implemented in isolation, but that formal institutions impact on the network and power relations between the network participants. In the program implementation phase, power relations start to shift from symmetrical in the initiation phase towards asymmetrical in the implementation phase. According to literature (see, for example Bodin et al., 2006; Rijke et al., 2013) this does not necessarily have to be a bad thing. In a centralized network the center is able to mobilise and coordinate action when needed. However, the NSL appears to be a case where these more formal and hierarchical relations end up in what could be perceived as unfair outcomes. The focus of the national government shifts towards realizing their own objectives, for example implementing a higher speed limit, which negatively impacts the collective objective of the NSL to improve the air quality.

Moreover, this also impacts the 'culture of responsibility' that was developed in the initiation phase. The national government does not appear to be a responsible network partners. However, due to shifting power relations, the decentralized government have only limited influence in this process. The question remains what would have happened in case accountability would not have been present in the form of a 'culture of responsibility', but through rules and formal structures. This would at least have given the decentralized governments some leverage in the processes that take place on the national level and possibly would have enabled a more responsive posture of the central government. Another possibility to deal with the situation would have been building up adaptive capacity. However, this requires a continuous learning cycle, which does not appear to be present in the NSL. Rather, all actors are focused on single-loop learning mechanisms: it is a constant search for the most effective and efficient mitigating measures. A proper response towards contextual developments has not been developed.

6. Conclusion

The objective of this paper was to gain insight whether and how a ‘predict and control’ governance approach and an ‘open and adaptive’ governance approach could be applied complementary to each other in a network setting. We presented the case of the National Collaboration Programme on Air Quality [NSL] as such a network setting and investigated both how the programme actually progressed, and developed two alternative storylines based on the ‘predict and control’ and the ‘open and adaptive’ governance approach.

From our analysis we have learned that the NSL appears to be a case where the two types of governance are being used. The beginning of the NSL was more based on the ‘open and adaptive’ governance approach. This was needed to get parties to work together and developed ideas to deal with the initial problems. In the program implementation phase the focus shifts more towards the ‘predict and control’ governance approach and the network organization shifts from decentralized towards a centralized organization. The national government takes the lead and takes over control. However, this is done predominantly done in order to push through their own objectives, possibly at the costs of the collectively established programme goals.

As such, the NSL learns us that not only the two different governance approaches can be used sequentially in a planning and implementation process. Moreover, we have shown that the two approaches require to be applied together, in order to come to a balanced process. Reflecting on the NSL, in the beginning the ‘open and adaptive’ approach could, and perhaps should, have been balanced by a ‘predict and control’ approach. From this the NSL could have learned to not forget to establish rules and procedures regarding accountability, rather than relying solely on a ‘culture of responsibility’, which is not enough to prevent the national government from taking actions that run counter to the collective objectives. At the same time, when the governance configuration did shift towards a more ‘predict and control’ approach, this could have been balanced by also adopting an ‘open and adaptive’ governance approach, which emphasizes the need to be responsive to both the other stakeholders involved as well as to contextual developments, which are currently completely overlooked.

By taking a combined view, the research findings presented are enriching the body of literature on the governance of networks. Our findings provide guidance on governance configuration

when it comes to transport development and environmental protection. As such, the identified need to balance both approaches to established successful governance configurations can be used to provide guidance for initiatives for governance renewal in the light of the trend towards networks structures to policy makes and governance evaluators. However, we recommend further research regarding appropriate guidance for achieving and organising hybrid governance approaches.

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