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# **GOVERNANCE THEORY AS A FRAMEWORK FOR EMPIRICAL RESEARCH**

– A CASE STUDY ON LOCAL ENVIRONMENTAL  
POLICY-MAKING IN HELSINKI, FINLAND

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DISSERTATION

To be presented, with the permission of the Faculty of Social Sciences of the  
University of Helsinki, for public examination in auditorium XIV,  
University main building, on 19 March 2011, at 10 a.m.

Helsinki 2011

Publications of the Department of Social Research 2011:3  
Social Policy

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Cover: Jere Kasanen

Distribution and Sales:  
Unigrafia Bookstore  
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PL 4 (Vuorikatu 3 A) 00014 Helsingin yliopisto

ISSN-L 1798-9140  
ISSN 1798-9132 (Online)  
ISSN 1798-9140 (Print)  
ISBN 978-952-10-6688-7 (nid.)  
ISBN 978-952-10-6689-4 (pdf)

Unigrafia  
Helsinki 2011

# ABSTRACT

Governance has been one of the most popular buzzwords in recent political science. As with any term shared by numerous fields of research, as well as everyday language, governance is encumbered by a jungle of definitions and applications. This work elaborates on the concept of network governance. Network governance refers to complex policy-making situations, where a variety of public and private actors collaborate in order to produce and define policy. Governance is processes of autonomous, self-organizing networks of organizations exchanging information and deliberating.

Network governance is a theoretical concept that corresponds to an empirical phenomenon. Often, this phenomenon is used to describe a historical development: governance is often used to describe changes in political processes of Western societies since the 1980s. In this work, empirical governance networks are used as an organizing framework, and the concepts of autonomy, self-organization and network structure are developed as tools for empirical analysis of any complex decision-making process.

This work develops this framework and explores the governance networks in the case of environmental policy-making in the City of Helsinki, Finland. The crafting of a local ecological sustainability programme required support and knowledge from all sectors of administration, a number of entrepreneurs and companies and the inhabitants of Helsinki. The policy process relied explicitly on networking, with public and private actors collaborating to design policy instruments.

Communication between individual organizations led to the development of network structures and patterns. This research analyses these patterns and their effects on policy choice, by applying the methods of social network analysis. A variety of social network analysis methods are used to uncover different features of the networked process. Links between individual network positions, network subgroup structures and macro-level network patterns are compared to the types of organizations involved and final policy instruments chosen.

By using governance concepts to depict a policy process, the work aims to assess whether they contribute to models of policy-making. The conclusion is that the governance literature sheds light on events that would otherwise go unnoticed, or whose conceptualization would remain atheoretical. The framework of network governance should be in the toolkit of the policy analyst.

# ACKNOWLEDGEMENTS

The research process leading to this dissertation was a complex information gathering process with a multitude of actors communicating and collaborating in many ways. As per convention, only my name stands on the cover, but this is my opportunity to pass some of the credit to the network that made the work possible.

First, I want to thank my supervisors Ilmo Massa and Janne Hukkinen. Ilmo Massa initiated the research process by inviting me to join a project, and was instrumental in shaping the research. Yet, he gave me the space necessary to develop my own thinking and arguments. Janne Hukkinen took part in the process at the later stages, and gave both excellent critique and the support necessary to finish this work.

I also want to thank everyone in the discipline of Social Policy at the Department of Social Research at the University of Helsinki. A central role in developing my understanding has been through the research seminar for environmental policy and colleagues there: in particular, Annukka Berg, Paula Schönach, Paula Saikkonen, Sarianne Tikkanen, Jarkko Levänen, Nina Janasik, Antto Vihma, Katri Huutoniemi, Sanna Ahonen, Arto Lindholm, Riikka Paloniemi, Vilja Varho and others. I also want to thank my research assistant Altti Moisala, who participated in the interviews.

The list of persons to thank should also include all the editors, reviewers, opponents, teachers and collaborators I have had over the years. The pre-examiners of this work, Marko Joas and Wouter de Nooy, provided insightful commentary that much improved the final version.

I also want to thank the institutions that have provided the necessary funding over the years. The Academy of Finland funded research project "Urban Environmental Governance", directed by Massa, was financially important but also provided a framework in which to do research. Helsinki University Centre for Environment (then called Environmental Research Centre) provided funding within the consortium "Urban and Rural Air Pollution". Also, the Research Foundation of the University of Helsinki, City of Helsinki Urban Facts department and the Chancellor at the University of Helsinki gave grants to support the research.

Arho Toikka, Helsinki, February 2011

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## LIST OF ORIGINAL PUBLICATIONS

This thesis is based on the following publications:

I Toikka, Arho. (2009). Local Network Governance and the Environmental Policy Process – Environmental Strategy Drafts in the City of Helsinki, Finland. In Eckardt, Frank & Elander, Ingemar (eds.) *Urban Governance in Europe*. Berlin: Berliner Wissenschafts-Verlag, p. 71-91.

II Toikka, Arho. (2009). Governance network structures and urban environmental policy making – a case study in Helsinki, Finland. *Boreal Environmental Research*. 14 (suppl. A): 110–121.

III Toikka, Arho. (2010). Exploring the composition of communication networks of governance – a case study on local environmental policy in Helsinki, Finland. *Environmental Policy and Governance* 20: 135-145.

The publications are referred to in the text by their roman numerals.

# 1 INTRODUCTION

In recent decades political scientists have claimed that a new principle of governing societies is emerging. Old, monolithic governments have been replaced by something more dynamic and flexible. Political scientists have been fascinated by the inclusion of private actors in deciding over policy, developing a new terminology to explain this new way of governing (Pierre 2000): the concept of governance.

The claims of paradigmatic changes in real-life events and the reality of politics have often been overestimated, and the over-enthusiastic thesis of governance of private actors replacing the government altogether has rightly been discarded (Davies 2002, 301-302). Critics have also pointed to the involvement of private actors in earlier regimes, raising questions on whether governance can really provide new insight into how policy happens.

I claim that the development of the governance vocabulary has led to the development of useful tools of policy analysis. Many governance propositions do not rely on changes in the policy-making process – simply the inclusion of multiple actors, whether private or public, into the process. This work aims to develop these propositions as a research framework. When defined this way, the theory of governance focuses on the network aspects of decision-making.

The aim of this work is to build a research framework of governance for policy analysis, based on the existing literature. The literature on governance as a tool of policy analysis has used a variety of overlapping concepts (van Kersbergen & van der Waarden 2004; Sairinen 2009), and this has led many to contest the usefulness of the concept (Jordan 2008, 18). Still, there is a baseline agreement over the basic concept (Stoker 1998a, 17). The present work hopes to build on this agreement, based on what is implied but not always explicated in the literature. The developed concepts form a logical framework for empirical analysis, when supported by a relevant methodology.

This methodology is social network analysis. Social network analysis uses network theory and graph theory (Brandes and Erlebach 2005) to study a set of ties between a set of actors – a network – and the structures and patterns formed by these ties. Heuristically, policy-making is known to be rarely completely hierarchical, nor completely open, but dependent on the various connections people and institutions hold. Social network analysis provides us with numerous ways to formalize and quantify network structures, at the level of the individual actor, at the level of small groups, or at the level of a whole network. A set of these measures can summarize what is potentially a very complex network structure: a network of a hundred actors has 9900 connections, and trillions of possible configurations of these. The summaries

of the structure provide us with the possibility of using the network as an explanatory variable for policy outcomes.

The main argument of the governance literature has been that networks are at the heart of policy-making. Yet, empirical analyses have rarely worked from an explicit definition of network and worked networks into the actual explanation. Governance implies that networks should be in the explanans of policy phenomena. While not straight-forward, it is possible to build an empirical framework around this argument. The point here is that by doing exactly that, governance theory gets the much needed link between politics and networks.

Governance is not specific to a political system, a historical era, or a policy field. It is a research framework that can be applied to any policy-making session or context and that could incorporate different competing theories or models (Ostrom 2005, 27-29), including hypotheses on the importance of public and private actors. The results are more or less relevant depending on the policy: in a perfect autocracy, the network of a single person does not provide interesting structures to analyze. But this does not mean something is governance and something else is not: it is a research framework that applies to some problems better than others.

One of the settings where networks are particularly salient is local environmental governance (Bulkeley & Betsill 2003, 189). The local level has always been most explicit in its networked aspects, as governing regimes and other arrangements have involved private actors in the processes (Gibbs & Jonas 2000, 305-306). Local problems and knowledge to solve them are held at a variety of sites, and the activation of local, tacit knowledge is just as important as technical solutions deriving from a body of science (Ostrom 2009). Environmental governance needs networks, as the problems happen at different scales than policy-making: local solutions affect global problems, and global solutions become local challenges.

Thus, the empirical part of the work is a case study of environmental policy-making in the City of Helsinki, Finland. The data collection grew out of a focus on a single programme policy process – the Ecological Sustainability Programme – and extended to include communication processes in the city over a period of time at the turn and beginning of the millennium. The case study is used to develop the governance framework.

The case study focuses on the following research questions: 1) What patterns and network structures emerged from the communication process, and why? and 2) How did these patterns affect policy outcomes?

This summary reflects on the development of the framework, as it changed slightly over time. The analyses are presented in three articles.

Article I explores network structures in connection with policies and preferences of the actors involved. Simple descriptive measures of the network are compared with outcomes in order to link governance theory to social network analysis.



Article II further develops the network description methods and their link with policy substance. A combination of centrality, structural holes and network subgroups is argued to be the core of the network properties in network governance, and the structures they form are compared to policy.

Article III presents analysis on the composition of the network. It asks why and how the organizations in the network chose to communicate with the partners they did, by applying the exponential random graph modelling, a method for simultaneous estimation of the importance of individual characteristics and network structures in choosing communication partners.

This summary article discusses the background and theoretical thinking in more detail than was possible in the articles, published in journals with space constraints. The second chapter of the summary presents theory, data and method. In Section 2.1, I discuss the theory of governance and put forward an argument for what I consider the core of this theory. In 2.2 I introduce the method of social network analysis, and link it to governance. Section 2.3 presents the background for the case study and 2.4 the data set. Chapter 3 summarizes the findings from research, followed by a discussion in Chapter 4.

## **2 THEORY, METHOD, AND DATA**

### **2.1 GOVERNANCE**

#### **2.1.1 A NETWORK THEORY OF GOVERNANCE**

Governance has been one of the most popular buzzwords in the past decade in a variety of scientific fields (van Kersbergen & van Waarden 2004). This has led to considerable debate, as writers lament the lack communication between scientific communities using the term (Young 2005). The debate arises from the many uses of the word. The critics – as well as the proponents! (Jordan 2008, 23) - say there are too many definitions and uses for the term to justify its use, and the historical change it aims to describe has not happened anyway. Some contend it still has value, if understood as an organizing framework (Stoker 1998, 18a).

I take the concepts that form the baseline agreement over what governance entails and apply them as an empirical research framework or empirical theory. Here, governance simply refers to self-organizing, inter-organizational networks that are charged with policy-making (Rhodes 1996, 660; Stoker 1998a, 18). Any setting with a plurality of actors and no formal control system that can dictate the relationships between the actors (Chhotray & Stoker 2009, 3) is a governance network. Policy-making involves multiple organizations, from the government as well as from the outside. The policy issues are complex, and even defining the policy problem is demanding (Stoker 2000, 92).

They may be classified as wicked problems: no definite problem, no rule for knowing if the problem is solved, unique characteristics (van Bueren et al. 2003, 193-194). Setting policy goals, defining solutions, and implementation all require resources that are not held by any single organization, resulting in interdependence of the organizations. The interdependence in turn provides the organizations in the network considerable autonomy from central control.

The many strands of governance literature are diverse in their focus on either the political system (“Westminster model” vs. “differentiated polity”, Flinders 2002, 51-52) or the policies produced by the system (Jordan et al. 2005), as well as their approach to explanation in the social sciences (Tilly 2001, 22-25). In the next sections I try to justify this reading of the governance literature and clarify it. I will discuss the debate on governance within political science and public administration in section 2.1.2.

Section 2.1.3 focuses on governance issues specific to the local level and the environmental field, while 2.1.4 discusses some requirements for the governance theory, model, and method. Finally, 2.1.5 presents my framework for governance research.

## **2.1.2 THE DEBATE ON THE THEORY OF GOVERNANCE**

Even with the simple definition of governance above, the concept of governance brings up a variety of debates and controversies in using the term. I treat governance as a framework that identifies the universal elements that one needs consider in analysis (Ostrom 2005, 28). This framework can be developed into more specific theories, and further into model that can be applied to empirical data. As with any scientific model, the governance model discards some of the real world information and hopes to retain the important bits to find the mechanisms behind the observed processes.

The governance argument is that if we have data on the interactions of organizations, we can overlook other evidence for the moment. I do not argue that there are no case-specific features varying by policy and by jurisdiction. I argue that there are similar governance processes in policy-making across horizontal and vertical levels, and these general properties can be teased out of data. Sometimes, personal connections are central; sometimes, media attention might be the driving force – but in general, we can observe a network of organizations, and see how that produces policy.

The framework does not provide estimates on whether something is governance or not. It provides a model of the dynamic policy process. The assessment of the model is an assessment of the plausibility of the arguments – whether the governance model gives a good description of the events.

The structure of this chapter is shaped by debate: I will discuss governance as theory by reference to its various criticisms. It is a rather round-about way of defining theory. But using the concepts of network and governance, a straightforward definition results in confusion, as the political science community is still divided over the term and its prospects. The use of the most fashionable term does not make the researcher's task any easier. This discussion will hopefully allow me justify the building blocks for my theory of governance in the net sections.

I will challenge three criticisms that the governance literature has often faced. First, I will discuss the popularity of the term. Some cross-disciplinarity will and should remain with the concept, but I argue that an upfront political science base will debar some of the alternative connotations the term has in other sciences, including business economics, as well as society at large, like World Bank's uses of the term. Second, I will discuss the level of historical change required by a governance framework to function, along with the built-in assumptions of different actor's relative status in the

process. My argument is that if we start with no assumptions, we can have both historical eras and the governance versus government discussion as empirical questions. Third, in building up to the next section, I will discuss whether the two first criticisms foreclose discussion of governance as a proper theory. Some have deemed governance to be too general and too reliant on unmanifest change, but still interesting enough to be applied with a qualifying attribute. I discuss the relation of my governance definition to some of these.

The popularity of the concept of governance in recent years has been almost overwhelming, and there have been calls to both discount the concept altogether, as well as support for embracing the cross-disciplinarity. The term has been used in a range of sciences from business economics (Monks & Minow 2008) to international relations (Rosenau 2000). This leads to the first point of criticism for governance: the concept is used in too many related but different fields, and while it might have a future as a bridge between the disciplines, the theoretical diversity is too great for much else (van Kersbergen & van Waarden 2004, 144). This problem does exist in the current literature, but it should be more a problem of communication than a problem of the theory. The inclusion of practices in the management of a firm in the lists of types of governance (Hirst 2000, 17; van Kersbergen & van Waarden 2004, 147) is an example: admittedly, it is called governance, but common-sense reading should easily find a difference between corporate governance and policy-making. Related concepts in related disciplines will always have some overlap, and some differences. Any term or concept in the social sciences, especially if the term also has a meaning in common everyday language, is riddled with multiple definitions.

Different concepts are often the source of confusion within the governance literature, as well as between the literature and its most vocal critics. With a few clarifications, much of this confusion is cleared. The governance framework has no normative preconditions, is not concerned with exogenous accountability, and focuses on the process of decision-making. The simple governance-as-networks definition places no normative conditions on governance. Discussions of good governance, for example, are beyond the scope of this governance framework. The governance framework does not focus on external accountability – shareholders outside the firm, but also democracy and network accountability by voters. Obviously, these issues are linked, but they are not included in the framework. Process-orientation means that assumptions are made on what to observe, not on what outcomes to expect. I deliberately leave out discussions on governance in law, international relations and outside the academic literatures. My discussion here concerns the literature on governance in public policy, public administration, and political science.

This choice goes against the suggestion by van Kersbergen and van Waarden (2004, 165) and Chhotray and Stoker (2009) to look at how the term is applied in related sciences. Van Kersbergen and van Waarden call for

multidisciplinarity to establish a theoretical and practical link to democracy. The discussions on legitimacy and accountability are important, but beyond the scope of the theory of governance per se. The aim here is to summarise the governance argument in the simplest form, so as to enable its use for empirical research. While recognizing that descriptions of reality do have a normative basis, in the choices on what to describe and how, there should still be room for empirical frameworks.

The problem with analysing legitimacy through the theory of governance becomes apparent when we discuss the historical changes attributed to governance theory that should be at most empirical results of research based on the theory; in short, the governance framework does not presuppose a power structure. While accountability in networks can be problematic, it can vary depending on the context: at the local level, governance has even been seen to improve participation in democracy (e.g. Kearns 1999).

Thus, the myriad ways in which the term is used outside political science should not confuse an observant reader, but an important source of confusion does remain: whether governance denotes a label for a historical era with an accompanying sea change in the role of the state or the government. This second criticism of governance relates to the relative importance of different actors in the governance processes. Governance has been used to refer to the changing role of the state, for example during new public management reforms 1980s (Bevir et al, 2003, 13): governance is the grand story line of the marginalized state (Hysing 2009, 647). The critics have accused these writers of overestimating the importance of private actors in policy-making (Jordan et al., 2005, 478), and that the move from government to governance has not been as marked as the theorists claim (Marinetti 2003, 605). The governance theorists have not done themselves any favours by the most enthusiastic claims – famously captured in the phrase “governing without government” in two of the most cited<sup>1</sup> governance texts (Rhodes 1996; 1997).

The extent of the debate over the importance of the state is still surprising, as it is acknowledged that governance does not make any prejudgements about the locus of power (Pierre 2000a, 3), and the ability of the state to steer the networks, at least as an active participant, is not disputed (Rhodes 1996, 660).

These debates conceptualize governance and government as exogenous institutions, not explained or defined in network terms but as states of society or historical eras. So far, historical governance approaches have not been very successful at explanation or empirical applications to policy (Jordan et al. 2005, 477). Without reference to social mechanisms, the argument for a movement from a command-and-control state to enabling state (Peters & Pierre 2001, 131) does not provide us with any tools for understanding this change.

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Both works have been cited more than 1000 times, according to Google Scholar.

Still, virtually every governance article or book opens with a reference to historical changes happening during the two last decades of the 20<sup>th</sup> century and beyond. At least two different approaches to the historical move to governance have been used. The radical approach posits governance as a fundamental change in the way societies are governed, and governance is seen as a whole new era in governing. A new model of government is supposed to have emerged (Pierre & Peters 2000, 3). The forms, mechanisms, locations, capacities, and styles of governing have changed (van Kersbergen & van Waarden 2004, 143). The traditional split into public and private institutions has ceased to be clear (Hirst 2000, 20). Occasionally, it is the debate itself that is new (Rhodes 1996, 653).

Others argue that the changes in the capacity of the state have been less spectacular (Jordan et al. 2005, 494). The state is still the centre of considerable political power (Pierre & Peters 2000, 12). These competing views – the society-centric one and the state-centric one – both look at governance as a phenomenon (Pierre & Peters 2000, 24). This leads to a fairly muddled discussion on whether something that happened was governance or not, ongoing without a shared definition of governance, which has led to much confusion surrounding governance. For example, the same author might agree that governance does not prejudice who has power (Pierre 2000a, 3), but still decide to use “a state-centric approach” (Pierre & Peters 2000, 12).

The concept of meta-governance (Whitehead 2003) is another perspective to argue for the stable importance of government in governing. Meta-governance is when what is seemingly governance – networks, for example – is managed by governments. Metagovernance attempts to highlight negotiated links between government and governance. Private actors act in networks of governance, while governmental bodies do the same at a meta-level. Metagovernance is the acts of governments above the network – setting conditions for the network process (Nyholm & Haveri 2009, 120). As the government still holds formal authority, there is an element of metagovernance in any governance process. But postulating the acts of government in networks as metagovernance overlooks the fact that governments are just as interdependent as other actors, if not more so: they need to produce solutions to policy problems, but do not possess the information necessary to do so. Private actors have the veto, too, due to this interdependency, and can use it to do metagovernance – and this is why I do not see the utility of the prefix.

Less radically, governance can be a slight alteration of changes toward the private sector. This view on the historical change – especially in environmental governance – focuses on the type of policy instrument chosen (Jordan et al. 2005; Jordan et al. 2003; Sairinen 2009, 140-143; Pierre 2000b, 242-243). The reasoning stems from the proposition that governance focuses on governance mechanisms that do not need state authority or state sanctions (Stoker 1998a, 17). Here, governance is the more widespread

linkages between the private sector and the government, in the form of official public-private -partnerships or public service outsourcing.

The problem with these approaches is that they equate policy instrument with governance mechanism, and then assume private actors will uniformly prefer policy instruments that appear to leave more leeway to private actors, including self-regulation and voluntary agreements (Sairinen 2009, 140). First, while there is an abundance of new terminology used by governments, it does not necessarily mean the private actors are more involved or powerful in the decision-making processes. If the move is from earlier hierarchical corporatist representation with powerful trade unions to more diverse sets of actors (Hirst 2000, 19), the state may have even more control, as with closely steered public-private partnerships (Marinetto 2003, 601). Second, the assumption of private actors choosing policy instruments that appear more private can be questioned. Public-private partnering will open more possibilities for rent-seeking, with private actors using the government to introduce artificial scarcity (Boyne 1998, 700-701). Private participation may lead to a variety of policy instruments, and the new environmental policy instruments can not be taken as a necessary feature of new governance arrangements in general. The preference of private actors has to be justified for each case.

I remain agnostic on the level of historical change from government to governance, and argue that a governance process could produce any type of policy outcomes. This is in contrast to Pierre and Peters (2000, 24), who argue that the dual meaning of governance as both framework and phenomenon is intrinsic. To me, the definition of governance as an empirical framework should be suitable for the analysis of any type of governing structure. Admittedly, how interesting the governance analysis is will depend on the context (*ibid.* 24).

When the criticisms of generality and overestimating change are combined, the status of governance as more than a buzzword is questioned. The third criticism of the theory of governance has been that it does not constitute a theory – or even the seeds of a theory (van Kersbergen and van Waarden 2004, 144). The conceptualization of governance is deemed too confusing (Pierre 2000a, 3). This is even acknowledged in the seminal governance paper of Rhodes (1996), as well as by others who have attempted to build a theory out of governance (Stoker 1998a, 17; Kooiman 2003, 5).

The requirements for theory are not often explicitly discussed, but I do agree with the authors that the eclectic and disjointed literature on governance (Jessop 1995) does not provide a coherent, systematic paradigm. To respond to this, a discussion what a coherent theory would require is needed. I will take up more details on fundamental requirements for a theory or a model in section 2.1.4, and discuss some attempts that have tried to elevate governance to the status of theory here.

Some attempts at a comprehensive theory based on dynamics of policy processes do exist. These approaches take an explicitly normative or managerial position. Governance, qualified by a positive attribute such as collaborative or participatory, is the ideal way of governing. They point to the noted deficit of correspondence between democracy inputs through voting and outputs of policy (Peters 2000, 37), and set out to build models of governance that improve this connection.

These normative governance theories operate on a different definition of theory than the analytical governance framework being built here, while bringing the normative and the managerial to the forefront. Some of these theories are just utopian views of participatory politics (Chhotray & Stoker 2009, 241). Others bring forth more interesting aspects of modern participation and few comments on these theories helps me in the definition of my framework, as the core of the theory is often very similar. Sairinen (2009) lists three types of uses, with specific focus on environmental governance, that fall into this category. These are reflexive governance, deliberative governance and adaptive governance. Especially in environmental policy, such governance approaches are common, as the failings of traditional policy making methods are most evident in environmental problems.

Reflexive governance focuses on governance processes, dividing reflexivity into two different phases (Sairinen 2009, 145-146). First-order reflexivity is the historical change in how to govern, as in the governance literature, but drawing on Ulrich Beck's (1994) reflexive modernization writing. Second-order reflexivity refers to the self-referential, anticipatory processes (Sairinen 2009, 146). As this points to the integration of knowledge and even networks, it is of the same type of governance as discussed here. But it also refers to a system of technological artefacts, organizations, theories, institutions (Voss & Kemp 2006, 10) and all manner of objects that contribute to the state of the real world. Indeed, reflexive governance is a concept linking together many discourses, practices and concepts to reach a shared goal (ibid.,20). This objective is very different from the one here. The richness of objects and events in the real world is seen in the inputs and outputs of the governance system, but the question I pose is different: if we drop them from the equation, look at the networks, can we come up with plausible explanation for policy-making?

Deliberative governance is explicitly about opening up the participatory processes of democracy, and the importance of language and interpretation in policy-making (Hajer & Wagenaar 2003, 14). Again, the core theme of governance is the same: deliberative governance refers to new places where politics are made under conditions of radical uncertainty and interdependence. Also, the theory does not necessarily need to commit to a normative position on governance (Wagenaar & Cook 2003). The difference lies in the approach to the argumentative turn: deliberative policy analysis is about interpreting the linguistic representations, where meaning is a product



of human communities (Hajer & Wagenaar 2003, 17). Communally shared meaning is a complicated concept to integrate with autonomous networks.

Adaptive governance (Dietz et al. 2003; Folke et al. 2005; Hukkinen 2008) comes closest to the governance meaning here:

*“Adaptive governance systems often self-organize with teams and actor groups that draw on various knowledge systems and experiences for the development of common understanding and policies”*

*Folke et al. 2005, 441*

I have argued elsewhere (Toikka 2009) that the social governance system can be analyzed as a complex adaptive system, with the ecological as the governance system environment. The governance framework should probably be treated as a subsystem of social-ecological systems (Ostrom 2009, 420), and social networks are indeed one part of adaptive management systems for common pool resources (Folke et al. 2005, 458). The governance framework here could then be part of a socio-ecological systems analysis.

### **2.1.3 LOCAL ENVIRONMENTAL GOVERNANCE**

Local environmental governance has been a particular focus of research, with various properties of the local attracting interest. Decision-making at the local level has been seen to have specific features – and local has been identified as a key site for environmental policy. These features reflect on the central concepts of networks and governance, but again some clarifications on what these concepts refer to are needed.

Environmental policy-making happens at a variety of scales, with overlapping and competing authorities through the process of glocalization (Bulkeley 2005). Global environmental problems are often translated into policy at the local scale. This leads to a boundary definition problem, where the relevant set of rules or actors is hard to define. The traditional spatial limits of regulation do not correspond to the policy problems. But there still are policy processes that happen at or at least around a regulative scale. Focusing on processes between actors instead of sets of actors or specific policies should allow for the overlap between scales to be included in the research.

The research tradition of urban regimes has much in common with governance tradition, and it has been suggested as a useful approach to local environmental policy making research (Gibbs & Jones 2000, 310). Indeed, an urban regime is “the informal arrangements by which public bodies and private interest function together to be able to make and carry out governing decisions” (Stone 1989, 6). Regimes are governance networks – but of a

particular type: when a governing coalition becomes dominant or hegemonic, it becomes a regime.

Governance by regime is associated with stability over time. Longitudinal governance studies would be necessary to assess the exact relationship between these two research traditions, but in environmental governance there are some reasons the steer away from regime concepts until further evidence emerges. The more fluid and dynamic terminology available from governance has a better connection to issues of local environment. Urban regimes are often associated with economic development and even business interests, and using governance sidesteps this connotation. However, I will point out some results from the case study that would be interesting to analyse as sectoral environmental regimes.

Local governing has long had collaboration of public and private bodies through partnership arrangements (Stoker 1998b, 34) and other means. This has led to a tendency to consider local governance through titular networks: for example, one Finnish municipality has “some 40 networks [...] like joint authorities” (Haveri et al. 2009, 546). This runs contrary to what I mean by networks: the totality of communication links between any number partners. The 40 networks would be parts of the local governance network, and network managing or metagovernance is just participating in those networks – the municipality has no control over potential collaborations between two companies in different networks, for example.

Even when the networks are not such nominal networks, some authors have argued that there should be separate networks for broad coalitions based on goals (Daugbjerg & Pedersen 2004, 202). The aim is to combine the open network definition, where participants may or may not collaborate with each other, with a definition giving the network itself actor status, as an “environmental policy network”, implying environmentalist goals. This is another governance property that should remain open until the empirical analysis is in: we need to have a single network, and if we find that there is conflict and absence of collaboration and trust between two groups in the network (polluters and environmentalist, for example), that is a very interesting result. If we start by conceiving two separate networks, it is not possible to argue neither for nor against the separation of the groups in the network.

#### **2.1.4 METHODOLOGICAL INDIVIDUALISM AND GOVERNANCE**

In this section, I continue the elaboration of the governance framework with a different level: the types of issues that have to be articulated by a theory. Theory needs to define what elements are relevant for a certain kind of question and make some working assumptions about these elements (Ostrom 2005, 30). I build on two such assumptions: the analysis should proceed by elaborating governance through social mechanisms, while

subscribing to the principle of methodological individualism – by building descriptions of the dynamics of individual interactions that produce the observed macro-level phenomena.

These epistemological or even ontological commitments are made for practical or heuristic reasons: the link to the methodology of social network analysis only exists through the definition of structure as regularities or patterns in interactions (Wasserman & Faust 1994, 6-7) of individuals, not as properties of an independent collective. This will help to clarify the difference between governance networks and other network concepts, such as the network society or the networks of actants in actor-network theory (Newig 2010).

Methodological individualism, as used here, claims that all social explanations could, in principle, be explained in terms of individuals and their interactions (Udehn 2002, 479). The fundamental actor is the individual person (Hedström & Swedberg 1998, 11). Structural and group properties do exist, but they do not act. The origin of diverse institutions, such as the family, the state or money, can be explained by reference to series of actions of individuals and hence endogenized into the model.

Methodological individualism does not mean reverting to an atomistic view of man-islands, acting without reference to others:

*“Nobody ventures to deny that nations, states, municipalities, parties, religious communities, are real factors determining the course of human events. Methodological individualism, far from contesting the significance of such collective wholes, considers it as one of its main tasks to describe and to analyze their becoming and their disappearing, their changing structures, and their operation. And it chooses the only method fitted to solve this problem satisfactorily”*

*Mises 1949, 42*

Thus, a methodological individualist explanation is entirely capable of including norms and institutions (Mizruchi 1994, 339). Structures are viewed as enablers and constraints – as structural suggestions (Dowding 2001, 97), forcing actors to recalculate their actions.

A social mechanism is an analytical construct that provides a hypothetical link between observable events, with reference to the actor, but the structural constraints as well. A mechanism specifies a model: an abstract representation of the logic of the process that could have produced the observed link between events (Hernes 1998, 78). A definition of the mechanism includes the actors, the structure they are constrained by, and the logical dynamic of the process (ibid., 92-93). As in any modelling enterprise, we are discarding most of the observations, and making generalizing assumptions, and aiming to find some generic mechanisms.

The current governance literature does not properly explain the mechanisms of governance networks (for an elegant critique of this disconnect, see Christopoulos 2008). The organizational structure of the network does not directly act, and the proposition of networks making decisions is a black-box explanation. A more successful explanatory model must be able to convey how the initial policy problem results in a policy outcome through actual actions.

For the governance mechanisms, we need to build a model of the actor: the purposes of their acting, as well as their resources to act. Any social phenomena can in principle be explained by reference to individuals, but the generative chains of complex phenomena are near infinite in length. The weak version of methodological individualism admits that in practice, we do not need to unravel everything in order to go back to the level of individuals (Hedström & Swedberg 1998, 12). Observable collective agents may be permitted to act, admitting that they themselves are the results of different individual-level mechanisms. Here, we let organizations act, and prescribe characteristics to them that better apply to persons, including preferences.

We need to use the qualities of the actors to model structure, or the structural constraints the actors face. The mechanism is the play of putting the set of actors with observed and assumed properties on the stage of the structure, and inferring the resulting outcome. The main assumption made here is that the organizations involved are purposeful actors, with no predefined preference or role applied to any particular actor. There is no aggregate “state” outside the network of organizations – a variety of public organizations acts in the network, similarly to any other organization. Whether they end up with different network positions or more satisfaction with outcomes is an empirical question.

The discussion on actors highlights the importance of methodological individualism for the study here. There is no way to observe how a governance network results in a different policy choice without reference to the individuals acting in the network. If the government is given a different role in the process than others, a priori, there is no way to observe them as participants in the networking process. This answers to the criticisms aimed towards the policy networks tradition, where challengers claimed that networks do not explain anything (cf. Howlett 2002, 236), and explains the frustrations of governance critics, when they try to explain real events in broad-brush dichotomies such as state versus civil society or public versus private (Boettke 2005, 131). Networks only explain via their power to constrain and enable the actions of individuals.

Paying attention to explanations at the micro- and macro-levels clarifies this. The main issue with both the strictly descriptive and the more theoretical approaches is their inadequacy in explanation due to explaining the collective by the collective. They are interested in explaining at the macro-level, on the level of society. In governance research, this might mean taking the macro-status of the system (governance or government, for

example), and the macro-result (the type of policy produced) and looking at the correlations between them (basically what is done in Jordan et al. 2005).

But governance theory does not say anything about the type of policy produced, only about the processes where they are produced. The key quote is from Peters (2000, 43): "if networks are everything, then maybe they are nothing". Networks are indeed everything in the argument of governance, and the definition of governance network *is* sufficiently general to include any type of societal organization. This is, however, a feature, not a bug: it allows us to find define the governance mechanism in generic terms to allow the comparative research Peters himself calls for (ibid. 50).

The focus on individuals holds even though we are fundamentally interested in how the state of the collective situation affects the collective outcome. "Collective decisions are, rather obviously, taken by a collection of individuals" (Chhotray & Stoker 2008, 4). The macro-level is, by definition, an ensemble of its constitutive parts, and explanation should account for the processes at the level of the parts (Coleman 1990, 3-5). The attempt here is to take the governance building blocks and improve the connection to real-world events via methodological individualism and mechanism-based explanation.

Thus, the framework of governance does not aim to be a grand theory of society, but a Mertonian middle-range theory (Merton 1968): a theory that aims to consolidate otherwise segregated hypotheses and empirical regularities. The middle ground aimed for is between grand theories, where one or few features are postulated as essential features of society (Boudon 1991) and simple empiricism. A middle-range theory accepts complexity, but aims to simplify by finding patterns and regularities and accompanying them with plausible accounts of human action could produce those (Geels 2007).

### **2.1.5 MECHANISMS OF GOVERNANCE**

I have argued for a mechanism-based governance model, where collaboration of organizations is empirically observed without roles or positions assigned a priori. The empirical governance account takes the networks, looks at the processes in which they are formed, and then at how the network collaborates to make policy. The theory will help us understand policy outcomes. The model does not suggest any particular policy outcome, but should be able to produce any outcomes, given suitable governance arrangements. The macro-micro-macro -structure for governance is in Figure 1.

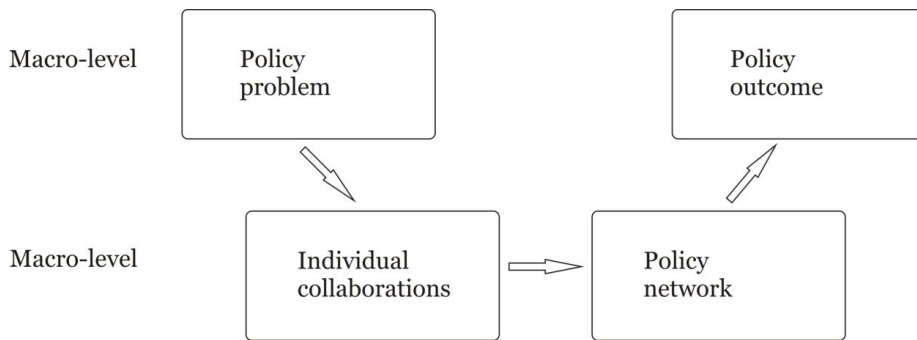


Figure 1. The macro-micro linkage for governance

At the macro level, there is a policy issue that requires a policy response. Governance posits that the policy is made via networks that are, in turn, results from individual level interactions. Governance is further broken into two separate stages of the process (Udehn 2001, 301), the first one explaining why and how the governance networks establish themselves through the actions of individual organizations, and the second how the networks make policy. Conceptually, network building and network policy decisions are separated in the model. This does not imply that the real-life events can be separated into stages of policy-making, as in the classic policy process models or “stage heuristics” (Sabatier 1999, 6). It is a conceptual distinction, made for the sake of enabling analysis.

This two-phased process is in Figure 2. There are six steps, each governed by a social mechanism. The governance process starts at a policy need or a problem to be addressed. This initial agenda can be the result of the governance process itself, but is also heavily influenced by media attention (Walgrave & Van Aelst 2006) and other factors, including popular discourse or the prevalent zeitgeist (Mudde 2004). Agenda-setting also requires some traditional government influence, as policies will still require the government to guard and sanction it. But even an active government is not in complete control of its creations (Newman & Thornley 1997, 985). The agenda gets refined and defined in the network, and policies may diverge significantly from the initial setting.

The policy need leads the actors to initiate the process of network building: one actor realizes it lacks some resource to respond to the challenge, and goes to another for help. This triggers others to act. But the acts are not independent: maintaining connections is easier than establishing new ones, and information on potential new partners is gathered via existing network contacts. In sum, a complex structure of interactions and communication arises, often stabilizing into a temporary equilibrium, or at least patterns that show some stability.

Then, the second phase of the process takes the network and derives the policy from there. The network enables the organizational actors to involve their communication partners in planning the policy, to draw on their expertise as well as influence them. The final policy is produced in this communication process between actors. The communication process consists of many different types of flows, as information exchange, attitude influencing and giving support are different network acts (Borgatti 2005).

In this work, I focus on communication, with the connotation of dialogue, as the driver of the governance network. Modern policy problems feature cognitive due technical issues and unclear causative links, strategic uncertainty due to the number of actors involved, and institutional uncertainty from the many places and arenas where decisions are made (van Bueren et al. 2003, 193-194). Simple broadcast or just passing your information on to everyone is not effective. Informing others of your preference and resource exchange are at background when organizations engage in policy design of collaborative nature. Governance networks are networks of dialogue and reflection (Jessop 2003, 102).

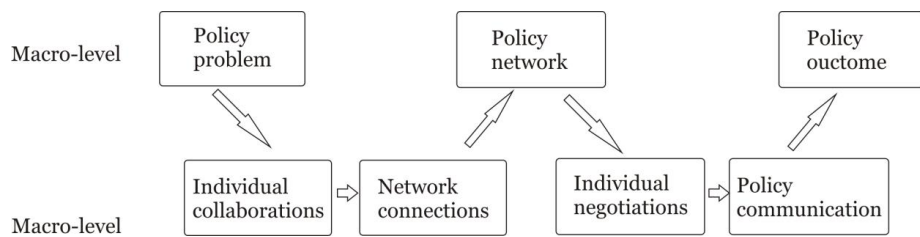


Figure 2. The macro-micro linkage elaborated in two phases

The micro-macro –connection reveals the relationship between governance and systems theory (Kooiman 2000, 140). The connections between the micro- and macro-levels also demonstrate the link between governance theory and the concepts of complexity and emergence (e.g. Jalonen 2007, 127-129; Toikka 2009).

In the framework of Kooiman (2000, 154; 2003), governing interactions are distinguished in two different phases, where first-order governance aims to solve particular problems directly, while second-order governance builds the conditions that enable the problem-solving process. In the macro-micro-macro –framework the second-order governance corresponds to the first phase of network building, first-order to the second phase of decision-making. In the first phase, the actors build the governance structure; these are the ‘games about rules’ (Stoker 1998a, 22), not games under rules.

The framework largely overlooks two central concepts in political science, power and institutions, and this will need a justification. In political games under rules, power is well-defined and important. This is one of the

differences between governance and many political science frameworks. For a governance analyst, power is ill-defined, and less interesting. Traditionally, political science has put an extensive focus on power, going as far as equating politics with power (Dowding 1996), and this includes the earlier network approaches (Knoke 1996, 189-191).

The traditional political science view on power is that power is a pre-existing quantitative stock of influence that can be spent to influence others (McGuirk 2000, 653). When the problem space is defined, power is a simple cake-cutting measure with a constant sum. But in governance, problem-definition is part of the process – the size of the cake, along with the fillings and frostings need to be decided, from an unknown set of options. Thus, the governance framework takes a more evolutive take on power.

This has both empirical and conceptual justifications. Empirically, power has to be over something to be measured, and we cannot measure correlations of undefined policy preferences with similarly undefined policy outcome possibilities. Conceptually, this would not be very interesting anyway, as governance is about defining the problem-solution system (Kooiman 2000, 156). In complex adaptive systems, a detailed knowledge of the parts is not sought after, but the dynamics of the whole system are the focal point (Folke et al. 2003, 445). Power is an individual-level characteristic, and the systems approach is interested in it insofar as it translates into the interactive process. Integration of knowledge is crucial: power is not absent, but without collaboration the power to act does not even exist (Stoker 2000, 92). This does not imply that power is not important, or that policy-making has become a cosy, open process where everybody gets together to figure out solutions to common problems. Politics is still about who get what, when and how (Lasswell 1935), when backed by the option of legitimate use of violence. Power is just not at the centre of a governance analysis.

Another concept that is mostly disregarded is that of institutions. Institutions are the procedures, rules, routines, and conventions defining policy-making that might be embedded in the formal organizations (Hall & Taylor 1996, 938). In the governance literature, institutions have occasionally been defined to include the networks themselves (Rhodes 2000, 73). These emergent network structures are obviously included at the very centre of network governance analysis, but the stricter definition of institutions as the rules and norms that delimit the actions of individuals puts governance at odds with institutionalism. The rules and practices that define policy-making are generated in the networks as part of the game, and while these rules do function as limiting factors for the actors in networks, they are not permanent or even stable. Governance looks at individuals changing institutions as the challenges they were built to help with change; institutionalism looks at institutions affecting individual behaviour.



The empirical analysis in this study deals with policy-making in a city, but the references to the urban sphere in the theoretical setting have been scarce. The framework built here aims to be generic enough to be applicable to multiple settings of policy-making. Arguably, there may be some interesting differences in decision-making between cities and nation states. However, as the fields of general political science and urban politics have always mirrored each other in theoretical traditions (Stoker 2000, 91), this should not be an issue.

## **2.2 SOCIAL NETWORK ANALYSIS**

In this chapter, I will give a short introduction to the methods of social network analysis (for a thorough presentation, see Wasserman & Faust 1994; for a brief introduction, see Wikipedia). Social network analysis is an umbrella of related methods, defined by their focus on network structures and, more precisely, the type and form of data analysed. The data consist of nodes and ties. The nodes are the actors – usually individuals or organizations, but also internet pages or academic citations. A tie is a relation between a pair of nodes. A network is the measurement of a tie between all possible pairs of nodes in the network.

The social network methods take this set of nodes and ties between them, and map and analyse the structures of the network and the positions of the actors in it. Actors are interdependent, so they have to draw upon others for resources, which might be material or non-material. These individual actions of connecting develop into lasting patterns, often an established yet continuously changing structure. This structure is the network that is studied. The set of ties can provide opportunities or set constraints for the individuals, but the network is the basis of these individual effects. (Wasserman & Faust 1994, 4.) From these basic assumptions and simple data, a number of descriptive and inferential methods have been developed. The methods are usually numerical, but often not statistical, as the independence assumption made in statistical analyses is invalidated by the very idea of networks.

Social network analysis differs from the conventional social science paradigms of survey analysis and qualitative research methods by the nature of the data. Statistical analysis in the social sciences is usually assumed to concern samples out of large populations, with data collected by survey. This data treats individuals as the units of analysis and the variables are properties of the units. Most statistical methods have been developed with a built-in independence assumption, violated by the nature of the network data. (Scott 2000, 3-4).

Qualitative methods are interpretive practices making the world visible – making sense and interpreting various materials (Denzin & Lincoln 2005, 3-4). This interpretation is done with a thick description of a variety of detailed material – often extensive bodies of text. Qualitative research emphasises qualities of entities and meanings (Denzin & Lincoln 2005, 10). Social network analysis focuses on a simple definition of a tie, and tries to find and present, maybe even draw inferences, based on similarities. While studying the meanings given to the network ties by the individuals involved can be interesting, it is not social network analysis in the sense used here.

The analysis of the network data can be done at the level of individual actors, dyads or pairs of actors, triads of actors, or the whole network. The individual analyses concern the structural or positional properties. For example, network centrality or prestige is used to compare different actor positions. Also, the study of subgroup membership structures should be considered an individual actor analysis. Cliques are not always obvious or explicit, and network analysis can be used to find and analyse the subgroup structures that might have implications on network efficiency and individual influence. Dyadic or triadic analyses can shed light on tendencies to reciprocate ties in different settings, or tendencies to maintain transitive network structures.

Another persistent feature of network analysis is the use of visualizations. As graph theory underlies social network analysis, the use of graph drawings is natural. A graph drawing is, at the simplest, a representation of the nodes-and-ties -data. At a more complex level, network graphics can be used to explore and display interesting features of the data. Communicating complex and multidimensional information with computational displays has been developed (Freeman 2000), but general graph displays often fail to communicate specific information about particular structures (Brandes et al. 2003, 241). A good graphic should reveal data; induce the reader to think about the substance and present large amounts of information in a concise manner (Tufte 2001, 13). Also, some of the shortcomings of statistical analysis in social sciences that led to development of network analysis (Wasserman & Faust 1994, 7) are the same ones that have prompted statisticians to call for more graphic data analysis (Cohen 1994). For networks, graphical methods of data analysis have been developed. These include methods for displaying different measures of actor's centrality positions in the networks (Brandes et al. 2003) and various algorithmic displays of data.

The variety of individual methods is too great to provide a sensible summary here, as they run from analyses of small egonetworks to analyses of small world networks, taking the whole of internet at once (Watts 2003). The descriptions of the specific methods are left to the later chapters describing the articles and, mainly, the articles themselves. Instead, the particular tradition in network analysis that has had a strong impact on governance networks literature is discussed; the policy network tradition (Klijn 1996 for

a nice overview) shares many of the properties of governance, as well as some intellectual forefathers (Rhodes 1990).

Research into policy networks gained popularity in the 1980s, hoping to explain two of the very same observations that are behind governance theory – that analyses focusing solely on state actors did not produce a satisfactory description of how policy is made, and that the policy process models (Brewer & DeLeon 2000) where policy-making is depicted as an orderly process is problematic, as there is inevitable backtracking, and policy never reaches a real conclusion. This led into the development of the policy network concept, where linkages between organizations are investigated.

At first, simple typologies of networks in different domains of policy were developed (Marsh & Rhodes 1992, 251; van Waarden 1992). The use of these typologies was quickly deemed simplistic and atheoretical (Dowding 1995), and the policy network research community was not able to satisfactorily answer these criticisms (Dowding 2001). Academic discussions really seem to go in cycles: the similarities to the debate on governance theory, undertaken ten years later, are striking. The governance discussion seems to have inherited many of the complications of the policy network debate, but unfortunately many of the insights and answers have been forgotten. Here, many of the analytical instruments used are derivatives from the policy network base – most importantly the assumption that public and private actors can be members of the same network, and that this does not lead to any assumptions about their role in the networks.

The network analyses were completed using three social network analysis packages: Pajek (Batagelj & Mrvar 2011), UCINET (Borgatti et al. 1999) and StOCNet (Boer et al. 2006). All three are packages specifically designed for social network data, and provide a number of methods for data handling, analysis and visualization. All images published were produced using Pajek, and the exponential random graph model was done with StOCNet.

## **2.2.1 ALTERNATIVE NETWORK CONCEPTS**

As with governance, social network is a concept that comes with baggage: the uses in everyday life and research are varied, and some clarifications are in order. The two closest relatives to the networks in governance are the network society, changes in society due to increasing communication enabled by technology (Castells 2000), and actor-network theory (Latour 2005), a social theory for describing material and semiotic relations between human and nonhuman actors as a network.

In the network society, politics and power, too, are manifested through communication. Governance networks pertain to an increased communication, too, but in a somewhat different manner than what is meant by network society theses. The network society – “characterized by the pervasiveness of communication networks in a multimodal hypertext”

(Castells 2007, 239) forms its power relations in the communication field. But this communication field is rather different from the patterns of governance: it refers to the internet, new mass media and so on. While there might be interesting associations between the two traditions, governance networks do not define the media of communication, and network society concepts are of little use here.

On the surface, actor-network theory and social network analysis share many common themes; both can be said to be “strictly limited to the tracing of new associations and to the designing of their assemblages” (Latour 2005, 7). Even the semiotic claim of material things – actors are what they are due to their network relations (Law 1999, 3) – is unproblematic for social network analysis.

It is the differing definitions for network and relational concepts that preclude the use of network analysis methodology in actor-networks. This is acknowledged by both social network analysts (Breiger 2003, 29; Newig 2010) and actor-network theorists (Latour 1997).

In part, the difference arises from working at different levels of theory. Actor-network theory wants to dissect what is called social and society. It is not a grand theory in the traditional sense, but it is not middle range theory either, as it does not aim for simplicity (Geels 2007, 635). Actor-network theorists are most famous and most criticised for their insistence of attaching actor status to non-human beings, objects, and even concepts. The debate on whether agency requires intentionality or simply having a bearing on something else is irrelevant here. Social network analysis makes no claims about what is society, or what should be considered social. It does, however, require a priori definition of an actor in the network of interest. This definition does not try to account for all the forces affecting an actor, or even the most important ones. It derives a single or a few networks from the research questions, and empirically determines if the data on these networks can be used to answer the questions.

The same applies to the relations between these actors: social network analysis defines a small set of relations that can, at least in principle, exist between all pairs of actors. Actor-network theory requires heterogeneity of actors and ties. Social-network analysis requires actors and ties to be homogenous in type, even if not in substance. For example, when a social network analyst is interested in a group of organizations, they are all organizations, even if they can be diverse in the institutional form or motivation. For an actor-network theorist, a network with just organizations is very uninteresting: organizations can probably be grouped together in the analysis, as their relations to surrounding physical objects or institutions are similar.

## **2.3 BACKGROUND**

### **2.3.1 CASE: CITY OF HELSINKI**

Helsinki is the capital of Finland, with a quarter of the population and a third of the gross domestic product of the country distributed in the city itself and the surrounding metropolitan area. The Helsinki municipality itself has 580 000 inhabitants in the municipality, with slightly more than 1 million in the metropolitan area and 1.4 million in the commuter belt region of 24 municipalities. As the capital, Helsinki has always been important within Finland, but the salience of Helsinki in the national economic and political sphere has increased in the past two decades. After a deep recession in the early 1990s, different regions in the country have faced different economic growth rates, with much of the recovery concentrating in Helsinki. Around the same time, European Union membership for Finland meant an increase in international importance for Helsinki. (Haila & Le Galés 2005, 118-119.)

Helsinki has been active in developing local environmental policies, demonstrating the recent trend in bottom-up policy processes, where the local level can be the driver, instead of national government (Gibbs & Jonas 2000, 299). Even though the Helsinki policies have not passed without criticism (e.g. Jalonen 2002, 15-16 for official assessments), these factors make environmental decision-making in Helsinki an interesting empirical case for developing and testing the governance framework presented in this study. The next chapter describes the City of Helsinki administration and the policy-making institutions, followed by a description of environmental policy in the city.

### **2.3.2 LOCAL GOVERNMENT AND GOVERNANCE IN FINLAND**

Finland is an example of the Scandinavian model of local democracy, with independent municipalities with wide-ranging tasks (John 2001, 33), party politics and an educated bureaucratic staff (Saarelainen 2003, 167). Cities are powerful: autonomy from state is dictated in law, and this includes power to collect taxes, as well as provide most public services. Their importance has even grown recently, as responses to external shocks led the national government to grant powers to cities. (Haila & Gales 2005, 118) The simultaneous internal and external shocks from an ageing population, urbanization and environmental issues also constitute major challenges to the state and major urban areas – mainly Helsinki area (von Bruun & Kirvelä 2009).

The main elected democratic body is the municipal council. The municipal councils have between 13 and 85 representatives, elected with an open party-list proportional system. Helsinki as the largest city has the

largest number of representatives. The council delegates its power to the municipal board and further to the municipal committees, who provide political oversight and direction to administrative organizations and may delegate other tasks as well. The board and the committees are not directly elected, but are nominated by the parties, with the usual arrangement being a distribution of seats reflecting the distribution of seats in the council.

Informal delegation of tasks to stakeholders and networks of public and private organizations and to other municipalities is usual, and has become more common in the recent years (Haveri & Pehk 2007, 4). Top civil servants are relatively independent of the council in the management of their field, but they are often appointed on a semi-political basis (Sandberg 1998, 5). Local authorities, both political and administrative, also have considerable leeway in dealing with national requirements and laws, by using direct contracts instead of the more cumbersome ordinary planning procedure (Haila 2009, 812).

The processes that have raised interest in governance are, then, also present in Finland. Networks and governance have also attracted research (among others, see Nyholm & Haveri 2009; Saarelainen 2003; Haveri et al. 2009). Haveri and Pehk (2007) provide an excellent review of the field. They split the network definitions used in the studies into three groups based on the institutional or official status of the networks.

These all differ slightly from the definition used here that builds on social network analysis and graph theory: even the unofficial networks are built on shared values, for example, while the definition here pertains simply to organizations involved. They also apply a different criterion for self-organization, as they require a common interest for the network (ibid. 27), while the more generic network definition does not require this.

### **2.3.3 ENVIRONMENTAL GOVERNANCE IN HELSINKI**

In Helsinki, environmental policy-making involves the city council, the city board, the city environment centre – guided by the environment committee, as well as numerous other city agencies, some of the most important being the city planning, real estate, and public works departments. The city council has the official power to decide, but they delegate that power either permanently or on a case-by-case basis to the bodies below them. Even when they make the decision themselves, the policies are prepared by the city agencies and officials. Environmental policy-making is also affected by the obligations decreed by regional, national, and EU-wide laws, policies, and agreements. Regionally, the Helsinki Metropolitan Area Council is the most important actor, where the Helsinki city council elects half of the representatives to the decision-making body. The importance of the council has increased with the preoccupation over climate change, as the cities have trusted it with many of the biggest climate change mitigation duties.

More complicated and wide-ranging policy efforts are designed in collaborative processes involving a range of organizations. Public and private organizations are involved in a variety of ways with each other. These involvements form the main data for my analyses, and they are described in the following data chapter.

The product of this network, the environmental policy of Helsinki, is defined in a range of documents and policies. Many decisions with a strong effect on the state of the natural environment are permanently delegated to officials, made by the independent city subsidiaries, or made in the council via major, one-off projects, especially in traffic planning. More general are the so-called programme level documents. These are wide-ranging documents prepared in a collaborative effort by the city administration, based on a call to action by the political actors. Since 1990, environmental policy has been considered important enough to mandate a specific sectoral programme, starting out as the Helsinki environment programme and later integrating sustainable development terminology to become the ecological sustainability programme in the latest policy. Besides these, many sectoral programmes directly or indirectly make environmental policy, and the emphasis of the city's actions has lately been on issues such as construction, where many other issues besides environmental ones are at play.

Figure 3 shows the relations between a selection of the most important documents defining environmental action. A more detailed list of these documents is in Appendix 1. The network is generated on the basis of similarities in issue areas that the documents handle, and the network is mapped by making these similarities into proximities in the graphic. The network of documents is based on the set of documents available in 2009, so it is not an exact correspondence to the networks of actors, based on data collected in 2005 and 2006.

The mapping demonstrates the three branches of environmental policy in Helsinki: the official environmental policy programmes, the regional programmes, and the sectoral programmes. A visual analysis of the map points to some interesting features of differences between the substance and role of different programmes. On the vertical axis, the organizing factor seems to be scope, with the sustainability programmes with social, economic, as well as multiple environmental goals placed at the very top, and the policies with the narrowest focus place at the bottom. The horizontal axis represents sectoral focus, with programmes that integrate between sectors placed on the left and those that either only involve one sector or one sector at a time, like energy efficiency arrangements, on the right.



Figure 3. The network of Helsinki environmental policy documents

It highlights the difference between the 3<sup>rd</sup> environment programme and the other programme level documents, as well as the different role for the metropolitan area documents and the larger regional operations through the Uusimaa Programme. The 3<sup>rd</sup> programme is placed with the traditional nature conservation methods due to a narrower definition of the authority of the city. The same goes for the Uusimaa document, as it does not emphasize the importance of the urban structure.

Also, the positions of the sectoral documents for energy policy and construction are interesting. They are grouped with the regional documents prepared through the Helsinki Metropolitan Area Cooperation Council, probably reflecting the importance granted to these fields in environmental policy. The energy policy, for example, does not simply concern energy production, but also all matters affecting energy consumption, from land use to construction. Similarly, even though construction was only one of six themes singled out for further development in the ecological sustainability programme, the budding<sup>2</sup> programme might end up having effects on all the other sectors.

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Only the first part of the document was public at the time of the analysis.



## 2.4 DATA

### 2.4.1 DATA COLLECTION PROCESS

The data collection process for the study consisted of interviews, archival data collection and a coding process to transform the data into a suitable form for network analysis. In the chapter, I will present the interviews, along with the network boundary definition process. In section 2.4.2. I show how a single non-directed, non-valued network was derived from the data. In 2.4.3., I discuss the coding of the background or non-network variables, and 2.4.4. briefly presents the resulting environmental governance network in Helsinki.

The data collection process started with the definition and choice of organizations. As is usual with case studies, multiple sources of evidence were incorporated into the case study database (Yin 2003, 97-105). The data consists of interviews and documents. The data collection procedure followed the recommendations of Bogason and Zølner (2007, 9-16) by using publicly available documents for first impressions, followed by interviews that were the primary source of information about network events, but that were complemented with more documents, including meeting minutes, policy stances, and environmental policies and so on.

The first phase of the data collection was the organization of a preliminary list of organizations in the network. This list was based on documents related to the policy process concerning the 4<sup>th</sup> Helsinki environmental policy programme, with the option of using snowball sampling to add more organizations based on the interviews. A single representative was chosen to represent each organization. These choices were based on documents, on job titles, as well as simply asking the organization for a representative on environmental policy matters. Structured in-depth interviews were conducted with the representatives. The network data was derived from these interviews. The following chapter describes the data collection process in more detail.

Organizational network analysis has an additional ethical problem with consent (Borgatti & Molina 2005, 108): the interviewee can give personal consent, but possibly not on the behalf of the whole organization, and obviously cannot consent on behalf of the organizations she names during the interview. In our data collection the representatives were promised personal anonymity, with the understanding that the organizations can possibly be identified. While informed readers will undoubtedly have no problem identifying some of the specific organizations, a certain degree of anonymity is retained, and no list of the interviewees or the organizations they represent is included.

The initial listing of organizations took the Helsinki Ecological Sustainability Programme and the organizations involved in the official working groups in charge of the policy draft, as well as all the organizations

that left an official comment in the open consultation process after the draft version was completed. This initial list had 73 organizations. The aim was to include all organizations involved, so the possibility of a snowball sampling procedure was left open. The procedure is similar to the one used in Knoke et al. (1996, 66-72), and corresponds to the double strategy for respondent choice recommended by Zølner et al. (2007, 132-133). However, only a few organizations were added to the sample by the snowball procedure. Thus, the complete sampling procedure should be considered an event-based approach based on existing documents (Marsden 2005, 9-10), as the option of an expanding selection procedure yielded essentially the same set of organizations.

Two interviewees represented two different organizations with a very similar background. Theoretically, the pairs of organizations could have been united into a single unit for the purposes of the analysis, but as the interviewees held that the connections of the organizations were somewhat different, they were decided to be included as separate actors.

Thus, 76 interviews were conducted by the primary researcher and a research assistant. The in-depth interviews lasted between 45 minutes and an hour and a half, with about two thirds of the time spent focusing on the questions of the communication partners and the remaining third on the interests, preferences, and expertise relating to environmental policy matters. The interviews proceeded with open questioning over the topics structured in the interview plan, with reminder lists for the interviewer to bring up, should the interviewee have trouble recalling the answers to the questions. The interview plan is in appendix 2. The answers were coded by the interviewer during the interview as well as recorded for further checking. The interviewees were also asked to supply the interviewer with an annual report and any other documents that describe the organization and its activities.

The part focusing on communication generates the bulk of network data. The interviewees were asked to describe all communication that they felt is related to the environmental policy process of Helsinki, even if may not directly concern policy-making. As there are known reliability issues with informant recall (Bernard et al 1981), the procedure for building the network data set requires specific care. I respond to these by a so-called record-assisted recall procedure for the connections, as well as by using supporting archival data in combination with the interviews with a cut-off threshold for reports in the variety of sources for a connection to be recorded in the main network data.

The open questions formulation was supplemented with more specific questions concerning specific organizations with related background, interests, or expertise. The approach combines free recall, best suited for finding established and strong ties, and recognition from a list, better for finding weaker or less frequent ties (Ferligoj & Hlebec 1999, 126-127), into a record-assisted recall process (Bernard et al. 1984, 507). The representatives

were asked to shortly describe the communication between the organizations, as well as the frequency of it. For the description, the interview question was open-ended, and generated answers ranging from one-word characterizations to historical narratives of the relation between the organizations. If the interviewee reported frequency without prompting, it was recorded; if not, the options from the interview plan were listed or shown.

The frequency and characteristics were both recorded in the data at three levels. The frequency was recorded as at least weekly, at least monthly, and less frequent. Even though the reliability of communication frequency measures has been estimated to be low (i.e. people do not recall how often they communicate very well) (Bernard et al. 1981), the use of ordinal scales of frequency has been found to increase reliability in identification of connections (i.e. partners that would not be recalled at all in a binary scheme are reported when prompted for low frequency) (Ferligoc & Hlebec 1999, 126). Thus, prompting about frequency was used to help recall, even if the frequency measures were later transformed into a binary network data set. The types of communication were recorded as strictly related to the environmental policy programmes, or as relating to policy making in general, or all types of communication relating to environmental policy.

#### **2.4.2 NETWORK DATA CODING**

For all the analyses presented here, a single non-valued, non-directed network was used. This is in contrast to the tradition of measuring multiple overlapping networks or types of relations in interorganizational network analyses – traditionally networks of money or resource exchange, information sharing, and moral support (Galaskiewicz 1979).

The choice to focus on a single, general measure of communication ties was partly from research design and partly from necessities to clean up the data. Material and immaterial resource exchange and trust issues were deliberately left out of the data. For immaterial resources, such as policy position and political support exchange, governance theory stipulates open ended policy problems and an open ended policy structure. Policy processes in governance are not easily described as explicit bargaining situations, where organizations trade positions. It is a process of knowledge integration, or solving problems together (Hukkinen 2008).

Exchange models do not easily explain how the organizations choose something that was not on the original agenda or is not a compromise between the earlier positions. Exchange models also need to differentiate between resources of public and private organizations and conceptualize policy as exchanges between public and private sets of actors (Pappi & Henning 1998, 558), against the intent of governance models.

Measurements of trust and material resources were left out due to complications in measuring. Material resources for the set of organizations are too heterogeneous and interdependent to be captured for a single organization, and even less so for exchange between organizations. Evidently, the budgets and resources of municipal departments depend on the city council, but even then the city is responsible for certain services by law and the degree to which resources are controlled by the city council is not evident. Private organizations include for-profits and non-profits with different scales of activity – national, local, or even global, and assigning a proportion of the resources as relevant to Helsinki is complicated.

Interorganizational trust and trustworthiness are important facilitators for cooperation, but no widely agreed method for measuring them is available (Seppänen et al. 2007). For policy networks, trust can even be seen as a constitutive factor (Börzel 1997, 9). Here, direct inquiries about trust were left out of the interviews as they could have been too sensitive. Especially for intergovernmental relations, the assumption was that the respondents would feel uncomfortable reporting problems of trust. For governance networks, trust would possibly be analysed from longitudinal network data, with stabilized collaboration patterns representing institutionalized trust. The cross-sectional data available here does not allow for such developments.

Still, the interviews were designed to incorporate any information exchange or communication patterns with open-ended questioning. The organizations gave rich descriptions of their collaborations, and it would have been possible to conceptualize and code different types of relations from this information. But upon coding, the strongest emerging pattern was overlap in communication – the interviewees usually listed either multiple types of relations they had with partners, or none. The choice to use these as a single measure – does a pair of actors engage in direct communication? – was partly done for convenience, and alternatives do exist.

Network measurements from the interviews were supplemented by archival data. Official minutia and other documents from the policy process (the ones used are listed in Appendix 1) as well as material handed to the interviewer at the interview were used to confirm the more ambiguous network connections.

The documents supplied by the organizational representatives included annual reports as well as environmental reports and corporate responsibility documents. The events and partnerships described in these documents were used to confirm network links that one of the organizations reported but another did not.

Under-reporting of ties to peripheral organizations by the most central ones is a potential problem for a policy network, where the central actors maintain a high number of connections and might forget the less essential ties. To deal with this issue, a threshold model for the ties for the main network was adopted: each tie can be mentioned in up to three

measurements, twice in the interviews at the organizations and once in the documents. All ties that are mentioned in at least two of these sources were included in the final data set.

### **2.4.3 BACKGROUND DATA CODING**

Along the network questions, background, interest, and expertise questions were asked. These questions were open-ended, but were used to derive simple numerical variables in a researcher-driven coding process. It was often necessary to combine the interview responses to the archival documents. This builds on the tradition of coding policy positions based on text (see Laver & Garry 2000), and supplements direct questions when possible. Traditional background variables were mostly derived from the documents, and no questions concerning the size of staff or budget, for example, were included in the interviews. Type of organization is the main variable of interest here, given the importance given to the private-public - distinction in governance literature. These, too, were included based on prior knowledge. The interview did include a short section on how environmental matters were placed in the official organization chart.

The questions on interests or preferences focused on what the organization was hoping to achieve in and through Helsinki environmental policy, and why. The motivations for involvement in environmental policy-making included justifications from ideological goals to commercial interests, and from aiming to alter or better the everyday surroundings in the city or in the neighbourhood, to requirement to be involved in the organizational mandate for administrative organizations. These goals were almost perfectly in sync with organization type, and the questions on general ideology remained fairly superficial, without going into in-depth justifications.

The goal with the preference variables was to estimate the connections between them, the network structure and the chosen policy. But there are two problems associated with this task: organizational preferences are hard to measure and conceptualize, and the timing of the data collection. As the data collection happened after the events had concluded, there were issues with fishing out the original preferences. Also, preference – a psychic state – is problematic to attach to organizations, even if observing organizations acting is deemed feasible (Coleman 1990, 527). Thus, when possible, I relied on the revealed preference over the stated preference when possible.

For the analysis in article I, this meant that when an official comment was given in the drafting procedure, the statements therein were recorded as the organization's preferences, and the interview questions were used otherwise. The interview questions did not specifically ask for each specific policy possibility, but wider themes corresponding to the sub-objectives in the Action Plan for Sustainability. The level of specificity in defining the interest

area varied, leaving an important role for the coding to the researcher. For the most part, the coding was a straightforward task.

The interest areas overlap with the issue expertise areas, but not completely. The expertise questions mapped the knowledge held by the organization, by issue area as well as by perceived base of knowledge. The importance of local ecological knowledge in planning has been emphasized (Yli-Pelkonen & Kohl 2005, 3). Any environmental policy and policy aimed at sustainable development in particular has to account for the variety of sources of information, ranging from the various disciplines of science to local, tacit knowledge.

The interviewees were thus encouraged to bring up fields of knowledge where they felt they had accumulated expertise, whether it was backed by formal institutional status or not. Using a simple, self-reported expertise measure with a single informant per organization provides a fairly crude measure of expertise. As the knowledge resources are distributed in the organization throughout the many departments and individuals who make up the organization, a proper knowledge measurement would require surveying multiple informants for a pre-established set of knowledge resources held (King & Zeithaml, 764-768). As the aim here was not comparing expertise resources between the organizations, building a combined measure from single-informant interview and archival data was deemed sufficient.

For example, if the goal was to see which of the organizations held the most knowledge in ecological construction, and how that affected policy, a more fine-grained alternative would have been required. Here, we are comfortable with measuring which organizations have any expertise in the area, and comparing over issue areas. The measure is useful for looking at the networking process between holders of expertise knowledge in multiple areas – to see how the holders of ecological construction expertise *and* traffic planning expertise are connected to others, who may only have a single base of knowledge. I have used two alternative coding schemes from the data, with either 10 or 15 categories, in Table 1. In retrospect, the fifteen-point scale is better.

To support the organizational data and link the network with the results, policy outcome measures were also included in the data set. Two different ways of analysing the outputs or final policies were also included in the data. First, simply taking the number of policy instruments generated was used to compare policy outputs in different areas. While this measure in no way accounts for the differences in efficiency, budget and real world results, it is a useful measure for comparison of network activity: a more efficient network probably (on average) generates more policy measures, and vice versa. As the effectiveness of policy measures is subjective and complex, and this study does not aim to be an evaluation of policies, a very rough measure of policy success was used. The policies were checked by the researcher and any with significant overlap were combined. The number of policies should work as a

reasonable proxy for policy generation success, as the scope of the policies was fairly similar over issue areas. For example, if the budgets granted to different policies were very different, this might point at a difference in scope; this was not the case for the data used.

Table 1. Expertise areas coding schemes used

Ten categories coding (article I)	Fifteen categories coding (article III)
Climate change and greenhouse gas reductions	Climate change + Greenhouse gas emission reductions
Nature conservation and biodiversity	Nature conservation + Biodiversity
Environmental education and consciousness	Environmental education in city organization + Environmental education, e.g. for children
Residential environment	Residential environment
Local environmental knowledge	Location-specific knowledge + General local knowledge
Traffic issues	Traffic issues
Consumption issues	Consumption issues
Energy use	Energy use + Energy production
Baltic Sea protection	Baltic Sea protection
Ecological construction	Ecological construction

Second, a possible approach is to take a possible set of options or a policy space and compare it to observed outcomes. But traditionally, the policy space is usually conceptualized on a left-right –continuum (Laver 2001, 3-4), and governance implies a more complicated, open policy space. I have taken the input fed into the policy process as the starting point, and compared that to outcomes (article I). The input was the Action Plan for Sustainability, and the output the Ecological Sustainability Program. They are not exact matches in scope and focus, but again, when the idea was to do simple comparisons between different network effects, the measure should be feasible. The measure presented builds the argument that governance can be used to explain policy choice beyond simple government. The government set the network off with an input document, and it is fair to assume it wanted the

output to correspond to the input. Another way to look at it was the median voter model – for each measure, the median voter’s preference for presence or absence of policy goals was calculated. These were compared to network models, where indices of network positions were included.

#### **2.4.4 THE CITY OF HELSINKI ENVIRONMENTAL GOVERNANCE NETWORK**

The network, interest and expertise together with policy output measures constitute the main data set of the study. The materials collected include considerably more information, plenty of which was not used in this main data. The data collection process is not the most efficient, but due to the inherent difficulties in using informants in network data collection (Bondonio 1998, 301-302), an over-intensive data collection is required. Also, the data that is not included in the main data set used for the modelling of governance processes is not discarded, but serves as an extensive source of background materials in making and reporting the analyses.

In the network, many communication patterns emerge, depending on the scope used. Individual organizations vary greatly in the number of communication links they held, but a more detailed analysis (article I) showed that the opportunities to pass information anywhere in the network and opportunities to act as a middleman between organizations were more equally distributed. As expected, organizations within specific sectors cluster their communications, but there are interesting differences between the issue areas and their degree of clustering – these subnetworks and subnetwork structures are analyzed in article II.

Figure 4 summarizes the Helsinki environmental policy network. The figure was generated by applying a graph drawing algorithm that treats connections as forces bringing organizations closer together and places them in the graph in a manner that minimizes stress – or lack of correspondence to the actual ties. The graph was further clarified by conditioning the placement on three concentric circles for central, semi-peripheral and peripheral organizations. For a detailed description of this procedure, see de Nooy et al. 2005, 31-33.

The network is fairly well-connected, with a density (the proportion of ties to the theoretical maximum) of 0.207, or 20.7% of possible ties present. The image displays all the organizations in the network on three concentric circles, according to centrality, and highlights four groups: the core of central administration and the most environmentally oriented city agencies, environmental NGOs and city subsidiaries, local NGOs and interest groups and the less connected administrative actors.

The image points to the conclusions made in article II – while central government still holds the most connected positions, they are not privileged to work as intermediaries between other actors, nor are they privileged with



other actors being more dependent on them to get messages into the network. As discussed in section 2.1.2., governance does not necessarily mean that government has lost all power – just that a more nuanced analysis of policy making in the complex settings should be developed.

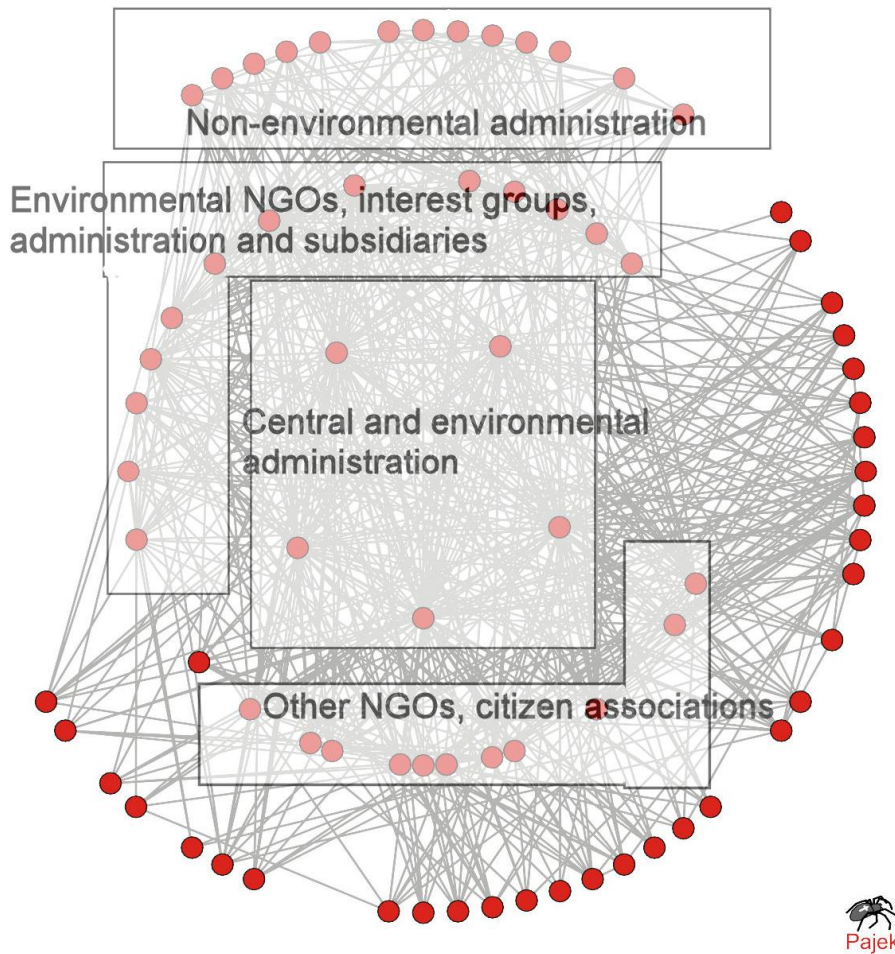


Figure 4. The Helsinki environmental policy network with four major actor groups highlighted.

### 3 RESULTS

#### 3.1 RESULTS OF THE NETWORK ANALYSES

In this chapter, a summary of the results from the analyses is provided, and the results are discussed in light of the governance framework laid out above. The research took place for the most part between 2005 and 2009, with data collection in 2005. The analyses in the articles should be viewed as tools in building the framework, and not a proper application of it. Thus, the presentation of the articles does not follow the order of governance mechanisms they analyse, but rather the chronological order of writing and publishing. Figure 5 places the analyses into the framework. The articles do cover all of the mechanisms, but not in a chronological order, nor do they give similar importance to each.

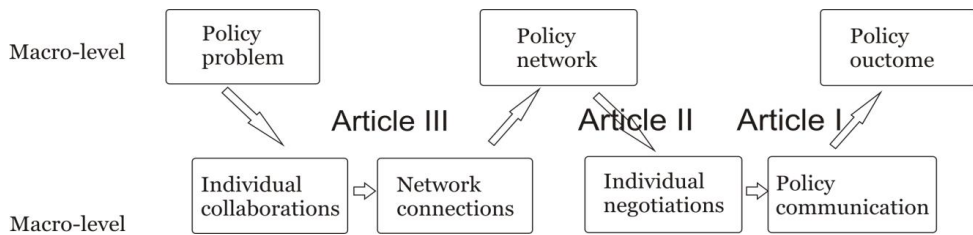


Figure 5. The relation of the articles to the governance framework

The first article connects policy network structures with the policy outcomes. Also, it establishes the links between networks, as the concept is used in social network analysis and this study, and governance writings. The second article elaborates on network structures at different scales, while still linking them to the policy choices made. The third article is mostly focused on the process of network building. In it, I analyze the emerging patterns by modelling the observed network structure in light of network tendencies and background characteristics of the organizations.

### **3.2 THE NETWORK CONCEPT, AUTONOMY AND POLICY DECISIONS**

Article I develops the concepts of network and governance and the interaction of the two. The article starts from the abstract concepts as they often are used in governance literature, and develops them to a logical conclusion. A meaningful definition of governance networks requires reference to patterns in the network structures. The focus of governance analysts – at least at the time of writing – was often on collaborative efforts named networks by the responsible governing body, with varying numbers of organizations involved, but the communication assumed to be open to all. In reality, no communication process ever gives all members – if there are three or more – exactly the same communication opportunities, and the governance model should reflect that. Further, the article discusses the autonomy of the network partners in communication choices, a concept more elaborated on in the third article.

The article also gives an initial exploration into the link between policy outcomes and network structures. Here, a shortlist of possible policies was taken as a starting point, and different models were used for producing post hoc predictions for final policy inclusion. The article works in the second phase of the governance framework. The network structure is taken as already established, and then structures within the network are compared to policy outcomes on the level of the whole network and the complete policy.

The biggest difference between the first article and the final framework lies in the policy decision modelling: the weakness is the assumption of a closed policy space, whereas the theory of governance derives much of its theoretical strength from the definition of policy as multidimensional and open. Of course, any research has to make simplifying assumptions, and this one was very convenient – an exogenous policy space was given, as a prior process shortlisted policies. A more elegant policy space assumption would give the framework more explanatory power.

### **3.3 NETWORK STRUCTURE AND POLICY DECISIONS**

The second article focuses on exploration of network structures. The governance network structure is explored with three sets of measures: centrality measures, structural holes, and subgroup cores. Centrality measures describe the connectedness of the organizations, defined slightly differently to reveal different dimensions in influence that occur when the decision is complex. The network described by these measures appears to be

well-connected on the whole. Administrative organizations and city subsidiaries have the widest range of connections, followed by representatives of the central political organizations, with all private actor groups keeping fewer connections with a more sectoral focus.

Structural holes are network positions allowing one organization to control the network flow between two other organizations. An actor benefits if two of their communication partners can not directly communicate and have to rely on the actor to pass information. The results of the structural hole analysis by organization type are similar to the results from the centrality analysis: the public organizations are less constrained than private organizations. The network cores by organization type were also similar.

The structural hole and subgroup analyses were also done over policy issue areas. This part of the analysis connects the structures to the policy decisions by comparing the structures with a measure of policy productivity. Over six policy issue areas, the amount of policy instruments produced in the networks was compared to average structural constraint in the area subnetwork and the largest cores or cohesive groups in the area subnetwork. Higher network constraint was connected to productivity, as were dense cores of area communication network.

Together, the results imply that dense and well-connected local networks, combined with a sparse global structure where information brokerage dominates, are most efficient at delivering policy. The analysis is similar to the one in the first article, but with different definitions for network structures and policy options. The first article looks at the policy possibilities as a closed set, while here the amount of policy produced is the dependent variable, and could attain any values. The article focuses on the second part of the governance process, the transformation from network into policy output. The fourth mechanism in the framework, network structure effects on individual behaviour, is well-established. The connection of structures and policies is reasonable too, even if it lacks a founded link to individual actions.

The analyses in the article differ from the governance framework in placing more interest on the influence of various types of organizations. This was a response to the often repeated statement about governance overestimating private influence: the idea was to demonstrate a governance network where public and private actors co-exist, and anybody could in theory be the central actor. However, empirically the public actors are more connected. The generalizability and importance of this is doubtful. Probably in a different context, private actors are more central and have more brokering opportunities. But doing the analyses by organization is not easily connected to the final policy: power is simply too evasive to catch, and policy analysis can more efficiently focus on the process itself.

### **3.4 MODELLING THE GOVERNANCE NETWORK BUILDING PROCESS**

The third article sets out to explore the mechanisms of network building. The method of exponential random graph modelling allows the comparison of the importance of various motivations for establishing communication links. These can be network structures themselves, or they can be actor attributes. The analysis uses a set of network structures that summarizes all possible local structures, and complements these with three actor attributes: expertise, type of organization, and similarity of type of organization (i.e. are public organization more likely to communicate with other public organizations, and private organizations with private organizations).

The model results report a strong preference for subgroup building, along with a medium one for expertise, and weak effects for type of organization and type similarity. Controlling for other effects, the government actually appeared slightly less attractive as a communication partner than private organizations. The figure of the networking process that emerges from the model is one where organizations initiate the network building to organizations of the same type that hold information. Dynamically, these result in subgroup structures that are more important in the establishment of later links.

As the article is chronologically the last one, it most clearly reflects the framework. The model covers the first three mechanisms, or how the network results from the initial policy needs. The link to individual actions is established, and there are no real differences between the model and the framework.

### **3.5 SUMMARY OF THE EMPIRICAL RESULTS**

The empirical data was of considerable importance in the building of the framework, and this has inevitably contributed to the shape of the model. This goes against the traditional suggestions in statistical research, but should not compromise the mechanism-based model. The mechanisms were based on literature and theoretical thought, and the empirical application developed mainly via learning from the data.

Also, the model and the mechanisms were not uniformly applicable and satisfactory even in this single case. The first phase of the framework worked well. The network building based on expertise was observed, and statistical estimates of the process were obtained. A longitudinal data set would improve this tremendously, and should be used if it is possible to collect.

For a single network observation, the exponential random graph approach is probably the best way to distinguish between the different motivations in link building. A qualitative assessment would be overwhelmingly strenuous, and the data might be even less reliable than the simple numerical data: the interviewees are not necessarily able to differentiate between the relative importance of the motivations they have, and the reporting might focus solely on the most important one.

The second phase of the framework is more complicated. There are two issues: first, the individual communication actions are very hard to observe, while in principle observable. Second, the policy outcomes are easy to measure, but the process of policy generation in the network is not. The most likely solution would be a simulation modelling approach, making assumptions about actor behaviour and comparing different parameterisations to actual policy results. Again, this does not really solve the problem of open policy space: the model has to start with some initial set of possible policies, which is not always possible.

## 4 CONCLUSIONS

### 4.1 GENERAL CONCLUSIONS

The aim of this work was to develop a research framework for governance analysis, along with an empirical application of such a framework. Empirical study and theoretical work were interlinked throughout the process. The framework is based on existing literature and theoretical thinking, but the empirical material was used to strengthen the link between theory, methodology, and empirical results. The process started with the initial theoretical work leading into data collection, which in turn led to theory refining.

The central theoretical argument of this work is that governance terminology opens up new avenues of analysis, if it is not regarded as the opposite of government. Accounts of historical change are quite weak and easily challenged, since they work with ideal models of both government and governance that never existed, leading to classifications of old and new governing styles that have little analytical value (Treib et al. 2007, 2). Governance analysis currently works with weak assumptions about policy preference by type of actor – i.e. private actors want soft, voluntary instruments (Hysing 2009, 651; Jordan et al. 2005, 481-483). While this might often be true, it has no direct connection to the theory of governance, and in some cases the opposite may hold: a government-granted monopoly is surely the best thing for a private company, for example (Hillman & Katz 1984, 104). The role of the state is complex, and it is continuously changing in many directions, as Hysing (2009, 665) concludes. This is exactly where governance theory steps in. To analyse the complexity of events and communication patterns, we need good tools– and this is what governance theory provides. Governance can and should cover the whole range of institutions and relationships in the process of governance (Pierre & Peters 2000, 1).

In this way, the network theory of governance suggests an empirical toolbox for analysing the policy-making processes. I have built on the network concepts and the literature on policy networks and recent developments in social network analysis methods and software. The analysis has been exploratory, even if driven by theory. My approach has been to look at the different aspects of the theory and try to tease out empirical support for them in the data. Formulating the governance statements into empirical, testable hypotheses is quite complicated – and doing it did make me understand why certain critics have felt governance is anything and everything. Still, network analysis provided tools to dissect governance processes in ways that are uncommon in the current literature and do not rely on ideal classifications too much.

I have mostly remained quiet on the implications for network management. Much interest has been given to the possibilities of the state or the central government to build and manage governance networks (Rhodes 2007, 1256). There are three main instruments in managing governance networks: intervening in or building of network relations, consensus building and problem solving (Kickert & Koppenjan 1997, 45). These roles are important, and the state will often work as the initiator of the network, as they did in the Helsinki environmental policy process. Still, insufficient resources and knowledge force any actor to open itself to the networking process – efficient network management would require much of the same skills as efficient policy-making itself. Obviously, an alert reader might be able to specify situations where using insights from this theoretical work can help them to act in the network, but, by and large, there are few if any conclusions I can give to a policy-maker.

## **4.2 FUTURE RESEARCH**

Hopefully, this research will be able to motivate others to pursue similar questions in a similar vein. Even popular jargon, such as governance, can be fruitful for research, if subjected to rigorous thinking and hairsplitting attention to detail.

The next step would be to start a straightforward theory confirmation process, where the framework is settled before data is collected, and the goodness of fit in application directly tests for goodness of fit in theory. This ideal research process is rarely possible in social sciences, but the next step here would be an application of the framework, holding the general framework constant, but allowing for different foci depending on context. The best two solutions would be longitudinal data and a stronger connection to the theory of adaptive systems through socio-ecological systems.

Data sets on the evolution of governance networks and policies over time would be a wonderful tool. The link between policy problems, network establishment, policy process, and policy outcome could be dissected in detail. Longitudinal data would enable the evaluation of the claims of governance as historical change. Even in this work, where I argue that this change is not a necessary part of governance, I have often referred to the complexity of policy issues. Network time-series would link network boundaries and structures to the problems in an analytical manner. For example, the implicit use of seemingly more private policy instruments as a proxy for governance could be broken down for analysis.

The next step forward would be to develop a more systematic approach to the framework. If the micro-macro –conceptualization outlined here were maintained, each step should probably receive a dedicated method, with



explicated criteria for evaluating the analyses and running comparisons. Disappointingly, the limitations of the policy networks tradition have led to the discarding of the methodology kit of social network analysis, and many of the recent developments available have not been used for governance analyses. For example, the evolution of networks over time can now be estimated and analyzed.

Deeper integration of the network governance framework with the socio-ecological systems perspective would benefit both: links to the material limits and the real-life issues within governance would be clearer, and the integration could help to define the policy problem more clearly. The socio-ecological systems framework would benefit from a more detailed description of the political system.

The complexity of patterns in governance communication is great, and this research is but a feeble attempt at understanding it. Hopefully, my work can serve as one step in the ladder leading towards a better understanding.

I will leave the reader with a quote that does a wonderful summary of the arguments presented here. I have argued that governance is about self-organizing networks, and that the roles of public and private actors are complicated, and cannot be explained without reference to their network positions. Network governance does not mean there is no government, just that a clear hierarchy does not exist. The quote comes from Haveri et al. (2009) and is from an interview with a Norwegian local government manager. Faced with the task of managing governance networks, the exasperated manager laments:

*"Oh my God ... this runs itself"*

*Haveri et al. 2009, 551*

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## APPENDIX 1: THE MAIN CITY OF HELSINKI ENVIRONMENTAL POLICY DOCUMENTS

All online documents accessed September 2009. The English name is the translation used in this text. All documents in Finnish, some also available in Swedish or English. First six were used as reference points in the interviews.

Environmental Policy Programme 1990-1994. Helsingin kaupungin ympäristönsuojeluohjelma 1990-94. Seurantaraportti. Helsingin kaupungin ympäristökeskuksen monisteita 2/1991.

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Helsinki Sustainable Development Programme 2002-2005. Helsingin kestävän kehityksen toimintaohjelma. Paikallisagenda 21-projekti.

<http://www.hel.fi/wps/wcm/connect/de565a804a174aeeb370fb3d8d1d4668/agenda-ohjelma.pdf?MOD=AJPERES>

Local Agenda 21 -idea kit. Ideapakki. Paikallisagenda 21-projekti. Helsingin kestävän kehityksen toimintaohjelman liite- ja tausta-aineisto I.

[http://www.hel.fi/wps/wcm/connect/e1514b004a174aeeb371fb3d8d1d4668/ideapakki\\_1.pdf?MOD=AJPERES](http://www.hel.fi/wps/wcm/connect/e1514b004a174aeeb371fb3d8d1d4668/ideapakki_1.pdf?MOD=AJPERES)

Sustainable Development Indicators. Helsingin kestävän kehityksen yleisindikaattorit. Helsingin kaupungin tietokeskus.

[http://www.hel2.fi/tietokeskus/julkaisut/pdf/06\\_12\\_21\\_kestava\\_kehitys\\_vj38.pdf](http://www.hel2.fi/tietokeskus/julkaisut/pdf/06_12_21_kestava_kehitys_vj38.pdf)

Helsinki's Ecological Sustainability Programme 2005-2008. Helsingin ekologisen kestävyuden ohjelma. Ympäristönsuojelun painopisteet vuosille 2005-2008. Helsingin kaupungin ympäristökeskuksen julkaisuja 1/2005.

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Helsinki Metropolitan Area Vision 2025. Pääkaupunkiseudun tulevaisuuskuva 2025. YTV.  
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Helsinki Nature Conservation Plan. Helsingin luonnonsuojeluohjelma 2008-2017. Helsingin kaupungin ympäristökeskuksen julkaisu 16/2008.  
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## APPENDIX 2: SUMMARY OF THE INTERVIEW PLAN

Before the interview, some organization-specific information was prepared to support the interview and help with recall processes. These included basic details, the reasoning for inclusion in the list, and any communication links and experience areas that were evident in the documents used to prepare the interview. These were used as additional help in questioning – i.e. if two organizations were known to communicate, this was asked directly instead of showing the generic list. If no information was available, the whole list of organizations was used.

### Background information

- Describe your position in the organization
- Describe the organizational structure and position of environmental issues in it
- If you wish, give archival materials to support the interview

### Network questions

- List any communication you have had with other organizations in the environmental field
  - o describe the fora used
  - o describe the reasons for communication
  - o describe the patterns of communication
  - o describe the extent of communication
  - o describe the frequency of communication
- [show list of organizations] Add and describe any additional communication relations with any of following

### Participation into policy-making

- List and describe any non-direct forms of participation into environmental policy-making
- For example:
  - o official statements
  - o participation in large scale meetings
  - o participation in committees
  - o participation in implementation

## Conclusions

### Organizational goals related to environmental policy in Helsinki

- List specific goals related to environmental policy
- If necessary, prompt with list 1:
  - o Climate change issues
  - o Nature conservation and biodiversity issues
  - o Energy use issues
  - o Construction and planning issues
  - o Consumption issues
  - o Traffic issues
  - o Local issues

### Importance of environmental issues

- Evaluate the importance of environmental policy issue areas for organization
- If necessary, prompt from list 1

### Expertise

- Estimate the expertise within your organization over the issue areas
- If necessary, prompt from list 1
- Estimate the importance and familiarity with a selection of Helsinki environmental policy documents
  - If necessary, prompt with list:
    - Environmental Policy Programme 1994-1998.
    - Environmental Policy Programme 1999-2002.
    - Local Agenda 21 -idea kit.
    - Sustainable Development Programme 2002-2005.