Protecting forests through partnerships

Ulrika Widman

Department of Political Science
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To Elvy and Göran

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List of Papers

This thesis is based on the following four appended papers, which are referred to in the text by the corresponding Roman numerals:

Paper I: Widman, U. 2015. Shared responsibility in forest protection? *Forest Policy and Economics*, 50: 220-227.

Paper II: Widman, U. 2016. Public-private partnerships in forest protection in Sweden: problems and prospects. (Under review)

Paper III: Widman, U. 2016. Exploring public-private partnerships role in forest protection. *Sustainability*, DOI: 10.3390/su8050496.

Paper IV: Bjärstig, T., Widman, U. 2016. Partnerships potential for protecting forests social values. (Under review)

Paper IV was co-authored with Therese Bjärstig. As lead author I designed the study, Bjärstig collected and analyzed the data about forest owners, we jointly interpreted the results, and I was responsible for the overall discussion, conclusions and writing the paper.

Abstract

This thesis addresses the potential of private-public partnerships (PPPs) to involve private forest owners in formal forest protection. These partnerships have been widely advocated as means to engage actors from diverse sectors in collaborative new relationships, formed in a step-wise manner, to improve management of resources that combine public and private goods. *Nature Conservation Agreements* (NCAs) are the first kind of PPPs to be used in Swedish forest protection. NCAs were introduced in 1993 and are agreements based in civil law between a private forest owner and the Swedish Forest Agency or County Administrative Board. Although NCAs were introduced to promote interest in nature conservation among forest owners, the response has been rather weak. Thus, in 2010 the government launched a pilot project called the *Komet program*, in which private forest owners in selected pilot areas initiated protective measures. Although criticized by environmental non-governmental organizations, the government decided after the pilot project terminated in 2014 to implement the Komet program's working methods nationwide. In this thesis, PPPs' potential to contribute to forest protection is analyzed by applying the "Ladder of Partnership Activity" framework, developed to study global PPPs, with appropriate modifications for a national context. The framework incorporates, in a stepwise manner, context, the actors' motives relating to trust-building, the creation of collaborative advantages in the partnering process and the institutionalization of PPPs. The thesis contributes to an empirical understanding of top-down and bottom-up PPP processes. It is based on studies in which qualitative research methods were applied to examine selected cases presented in four papers, designated Papers I-IV. The main sources of information are qualitative interviews with involved forest actors and policy documents they have produced. Papers I and II focus particularly on trust-building and the partnering process as perceived by involved forest actors, while Papers III and IV address the institutionalization of PPPs and their requirements to change the political order of forest protection in accordance with governmental objectives. The results show that willingness to adopt PPPs is dependent on past experience of collaborative efforts. They also show there is substantial discretion in involved actors' interpretation of prescribed guidelines, and their motives may vary substantially. However, as long as they share the same ultimate objective, i.e. to protect forests, PPPs may still be successfully established. A major potential problem is that public officials tend to prioritize protection of biodiversity, while forest owners want to protect social values and

unproductive (“useless”) forests. Thus, shared motives are essential to establish trust and initiate collaborative efforts. The voluntary element of initiatives supported by the Komet program appears to be essential for deliberation. PPPs need to be implemented nationwide to be institutionalized. However, the Swedish government has not provided sufficient resources and leadership capacity to enable PPPs to play their envisaged role in its forest governance system. If the government wants to adopt bottom-up approaches, it needs to provide sufficient resources so that the partnerships does not compete with other formal instruments and protection arrangements. Furthermore, coordination within and between sectors needs to be improved to clarify the purpose of the policy recommendations.

Key words: forests, formal protection, forest owners, public-private partnerships, Nature Conservation Agreements, the Komet program, forest governance, Sweden

Svensk sammanfattning

Min avhandling studerar etablerandet av *privat-offentliga partnerskap* och deras potential till att skydda skog i Sverige. Privat-offentliga partnerskap innebär att aktörer från olika samhällssektorer gemensamt arbetar för att lösa offentliga och privata problem. Sverige är ett intressant fall för att studera etablerandet av olika former av partnerskap för att skydda skog då majoriteten skog ägs av privata skogsägare. Detta innebär att regeringen måste samarbeta med skogsägarna för att skydda tillräckligt mycket skog. Sverige består av cirka 28 miljoner ha skog varav 23 miljoner räknas som produktiv skog. I dagsläget är endast 5 procent av den produktiva skogen skyddad med något av de formella skyddsinstrumenten: naturreservat, nationalpark, biotopskydd eller naturvårdsavtal. Ett ökat skydd av skogen är nödvändigt då Sveriges regering skrivit under Nagoyaavtalet vilket innebär att minst 17 procent av alla land- och sötvattensområden och minst 10 procent av kust- och havsområden ska skyddas fram till år 2020. Skydd av skog i Sverige är av tradition centraliserat trots en i övrigt decentraliserad skogspolicy. Centraliserat skydd innebär att staten kan expropriera privatägd mark eller att skogsägarens tillgång till sin skog begränsas. Detta har ofta lett till konflikt och avsaknad av dialog mellan skogsägare och myndigheter. Syftet med den här avhandlingen är att undersöka etablerandet av privat-offentliga partnerskap och deras potential att involvera privata skogsägare i formellt skydd av skog i Sverige. Avhandlingen bidrar till en förståelse för hur partnerskap kan etableras och utvidgas som en del av policyn för formellt skydd av skog. För att uppnå syftet besvaras följande frågeställningar: 1.) *Hur etableras och fungerar ”nerifrån” (bottom-up) och ”uppifrån” (top-down) partnerskap i praktiken?* 2.) *Vad krävs för att partnerskap ska formaliseras och bli ett instrument för skydd av skog som är jämställt med de övriga? 3.) Vilken kapacitet har regeringen att använda partnerskap för att formellt skydda skog?*

Partnerskapen analyseras med utgångspunkt från ett teoretiskt ramverk som antar att deras utveckling sker stegvis genom olika lager av förutsättningar: 1.) kontext , till exempel skogens egenskaper, befintlig policy på nationell respektive regional nivå, 2.) skapandet av tillit mellan parterna, 3.) skapandet av samarbetsfördelar, 4.) skapandet av ett gemensamt regelverk och slutligen, 5.) förändringar av den övergripande policyn som omger partnerskapen (i det här fallet formellt skydd av skog). De fyra artiklarna i avhandlingen analyserar de olika former för partnerskap som etablerats sedan 1993 inom ramen för formellt skydd av skog: ”traditionella” naturvårdsavtal, Kometprogrammet, Kompletterande arbetsmetod för skydd av värdefull skog och Naturvårdsavtal för sociala värden. De primära källorna till studiens information har varit kvalitativa

intervjuer med involverade aktörer och policydokument för partnerskap vid formellt skydd av skog.

Naturvårdsavtal inrättades 1993 i syfte att locka privata skogsägare att frivilligt skydda sina skogar. Inom ramen för miljömålet Levande skogar fanns, för perioden 1999 till 2010, ett delmål om att öka arealen produktiv skogsmark som omfattas av naturvårdsavtal med 50 000 hektar. Sedan 1999 har arealen naturvårdsavtal ökat med 25 818 hektar. Sett till andelen skyddad skog och ingångna partnerskap blev naturvårdsavtalen inte särskilt framgångsrikt. Det kan bero på att naturvårdsavtalet vanligen initieras uppifrån (top-down) av Skogsstyrelsen. 2010 beslutade regeringen, med inspiration från det finska skogsprogrammet ”METSO” *(Handlingsplanen för den biologiska mångfalden i skogarna i södra Finland)* att introducera ett försök kallat ”Kometprogrammet”, där det är privata skogsägare istället för myndigheter som initierar skydd (bottom-up). Naturvårdsverket, Skogsstyrelsen och Länsstyrelsen Skåne fick i uppdrag att implementera försöket i fem pilotområden med hög andel privata skogsägare. Kometprogrammet förändrade processen vid formellt skydd, eftersom ansvaret att initiera skydd ålades skogsägare. Tjänstepersoner med ansvar för Kometprogrammet tilldelades en rådgivande roll oavsett om de arbetade för Skogsstyrelsen eller en länsstyrelse. Tidigare utarbetade kriterier för skydd av värdefulla områden åtföljdes inom Kometprogrammet. Kometprogrammet avslutades 2014 och har fått blandade omdömen. En utvärdering pekar på positiva resultat såsom ökat samarbete mellan skogliga aktörer. Miljörörelsen menar emellertid att Kometprogrammet har urholkat kvaliteten hos den skyddade skogen. Trots de blandade omdömena var Skogsstyrelsen och Naturvårdsverket positiva till att implementera programmets metoder nationellt, vilket regeringen gick med på. Naturvårdsverket och Skogsstyrelsen införde därför 2015 en Kompletterande arbetsmetod för skydd av värdefull skog inspirerat av Kometprogrammets arbetsmetoder. Skogsstyrelsen implementerade även 2015 pilotprojektet Naturvårdsavtal för skogens sociala värden. Dessa naturvårdsavtal har tillkommit efter en intensiv debatt om skogens sociala värden, och efter påtryckningar från skogsägarsidan att utgå från andra värden än biologisk mångfald vid skydd av skog.

Min avhandling är intressant ur ett statsvetenskapligt perspektiv då det handlar om att belysa potentialen hos en styrningsform som tidigare sällan studerats på nationell nivå, och som kräver att regeringen har kapacitet att kombinera offentliga och privata intressen vilket är kännetecknande för förvaltning av naturresurser på privatägd mark.

Mina resultat visar att kontextens betydelse är viktig för att förstå hur uppifrån (top-down) och nerifrån (bottom-up) partnerskap etableras. Trots en centraliserad policy för formellt skydd av skog, visar mina resultat prov på myndigheters självständighet genom individuella tolkningar av

skyddsstrategier och hur detta skapar olika förutsättningar för hur partnerskap mottas och implementeras i Sverige. Privata skogsägares motiv till skydd av skog påverkar också partnerskapsprocessen. Skilda motiv behöver inte alltid utvecklas till ett dilemma, om var och en respekterar den andres motiv så kan en gemensam förståelse växa fram mellan skogsägare och myndighet. Skillnaden mellan ett uppifrån (top-down) och nerifrån (bottom-up) initierat partnerskap ligger i hur partnerskapsprocessen är utformad. Inom de top-down initierade naturvårdsavtalen upplevde en del skogsägare avtalet som påtvingat ”uppifrån”. Dessa skogsägare hade känt en press att skydda skog som de i första hand hade velat avverka. En majoritet av skogsägarna upplevde Kometprogrammet som positivt, då ingången till partnerskapet var frivillig. Frivilligheten bidrog till att skogsägarna kände att de hade inflytande över skyddsprocessen. Det finns emellertid en rädsla hos myndigheter att en bottom-up approach kan ge lägre kvalite av formellt skyddade områden.

Vid institutionaliseringen av Kometprogrammets arbetsmetoder identifierade jag både problem och möjligheter. Hur involverade aktörer såg på införandet av en kompletterande arbetsmetod påverkades av deras tidigare erfarenheter inom Kometprogrammets referensgrupp. Aktörernas åsikter påverkades också av ideologiska motiv, där partnerskapsbaserat skydd generellt ansågs mindre effektivt än centraliserat skydd. Det framstår ändå som att ett nationellt skifte skett i vilka motiv som ska råda vid formellt skydd av skog då regeringen nyligen etablerat naturvårdsavtal för sociala värden. Detta skifte kan indikera att partnerskap har en möjlighet att verka som plattformer för offentliga och privata aktörer vid skydd av skog.

Mina resultat visar samtidigt att det råder en brist på statlig kapacitet, vilket brist på resurser, bristande koordinering inom och mellan sektorer och maktassymetri mellan aktörer indikerar. Dessa brister försvårar för att genomföra Kometprogrammets arbetsmetoder nationellt. Det gör att Sveriges policy för formellt skydd av skog ännu inte verkar helt redo för att inkludera nya aktörer. Om Sveriges regering på allvar vill implementera skydd av skog genom bottom-up-ansatser, måste genomföranderesurser tillsättas så att partnerskapen inte konkurrerar med övriga skyddsinstrument. Koordineringen inom och mellan sektorer måste förbättras vilken kan bidra till att tydligare riktlinjer och policy rekommendationer utarbetas. Avhandlingens result måste också ses i kontexten av att partnerskapen är nyligen introducerade inom svensk skyddspolicy.

Det teoretiska ramverket som jag vidareutvecklade möjliggjorde för en analys av potentialen i partnerskap vid formellt skydd av skog. Jag inkorporerade kontext till mitt valda ramverk för att kunna undersöka kontextuella förutsättningar som påverkar partnerskaps utveckling. Genom

att använda mig av detta ramverk bidrog det till en ökad kunskap om partnerskapsprocesser och de problem som kan uppstå när partnerskap etableras inom en nationell skoglig kontext. Ramverket bidrog till att viktiga komponenter för utvecklingen av partnerskap kunde identifieras, och det synliggjorde när en partnerskapsprocess misslyckades eller ifrågasattes av involverade aktörer.

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Ulrika Widman
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Acronyms and Abbreviations

CAB County Administrative Board

ENGO Environmental Non-Governmental Organization

METSO National Biodiversity Program for Southern Finland

NCA Nature Conservation Agreement

NEPI New Environmental Policy Instrument

PPP Public Private Partnership

SEPA Swedish Environmental Protection Agency

SFA Swedish Forest Agency

SSNC Swedish Society for Nature Conservation

WWF World Wide Fund for Nature

Introduction

This thesis explores the Swedish case of protecting[1] forests through public-private partnerships (PPPs). Various authors and politicians have proposed that PPPs can simultaneously promote both public goods and private interests by creating a platform for fruitful collaboration between public and private actors (Bitzer 2010; Biermann et al. 2007; Glasbergen 2011). The governance of Swedish forests provides an interesting case to study in this respect, since the country is heavily forested, more than half of the forested area in the country is held by non-industrial private family owners (see Figure 1, p. 2), more of the forest must be protected to meet governmental targets, and the government has recently introduced PPP initiatives. Furthermore, the Swedish government is a signatory of international agreements to manage and protect forests sustainably, e.g. the Earth Summit in Rio de Janeiro (UN 1992), the Convention on Biological Diversity (CBD 1992), Helsinki Agreement on Sustainable Forestry (Helsinki 1993). However, various aspects of forest protection are highly contested and debated in terms of the amount and quality of protection required, and the optimal means to meet protection targets.

In Sweden, the government is committed, in accordance with the Nagoya Protocol, to increasing formally protected areas from 12 percent of the total terrestrial and inland water area in the country in 2011 to 17 percent by 2020 (Swedish Gov. Bill 2013/14:01). The government's budget bill for 2016 (expenditure 20) indicates that only 10 percent of the forested area is covered by some kind of protection as yet. Just over 5 percent of the total area of productive forest land in Sweden is formally protected by the state. However, this protection is unevenly distributed across the country: 46 percent of the productive forest land above the montane border is formally protected, but just over 3 percent below the border (Swedish Gov. Bill 2015/16:1). The other 5 percent of protected forest is voluntarily set aside through certification schemes such as Forest Stewardship Council certification, or through general consideration of biodiversity and social values during management of private forest land.

This thesis focuses on various forms of partnership established within the formal protection framework, particularly the increased degree of voluntary participation in formal protection that PPPs offer, ignoring the voluntary set asides within the framework of forest certification schemes. Formally protected forest areas in Sweden implies areas protected with the following policy instruments or protection arrangements: national parks, nature reserves, woodland habitats and *Nature Conservation Agreements* (NCAs).

[1] I use the word "protection" in relation to protection of forests. Conservation is used to refer to protection of nature in general.

These policy instruments or protection arrangements are all permanent forms of protection except NCAs, which is a temporary form of partnership under a given time period (see Table 1, p. 11). In my study, the NCAs refers to what I define as top-down initiated PPPs in Swedish forest protection.

These figures, particularly the areas and quality of voluntary set-asides, are questioned by the major *Environmental Non-Governmental Organizations (ENGOs)*, such as the *Swedish Association for Nature Conservation (SSNC)* and Swedish *World Wide Fund for Nature (WWF)* (SSNC 2014a; SSNC 2014b; WWF 2013). Nevertheless, from an international perspective Sweden has a small share of protected forests (Artdatabanken 2015). Thus, regardless of opinions about the quality of set-asides, much remains to be done to reach the Nagoya target.

In addition, there is an ongoing debate about the extent to which private forest owners should be required to protect the biodiversity and social values of their forests. Sweden has strong private property rights combined with rights of public access ("allemansrätten") to all forests regardless of their ownership (Sténs et al. 2016; Sténs and Sandström 2013). Since most Swedish forest land is privately owned, the government is heavily dependent on the willingness of the more than 330,000 private forest owners (SFA 2014a) to contribute to implementation of the Nagoya target. As the government has failed to achieve the protection targets so far this presupposes that the government will be able to introduce new protection arrangements that can increase incentives for forest owners to contribute to the protection of forests (Swedish Gov. Bill 2014/15:1; 2008/09:214).

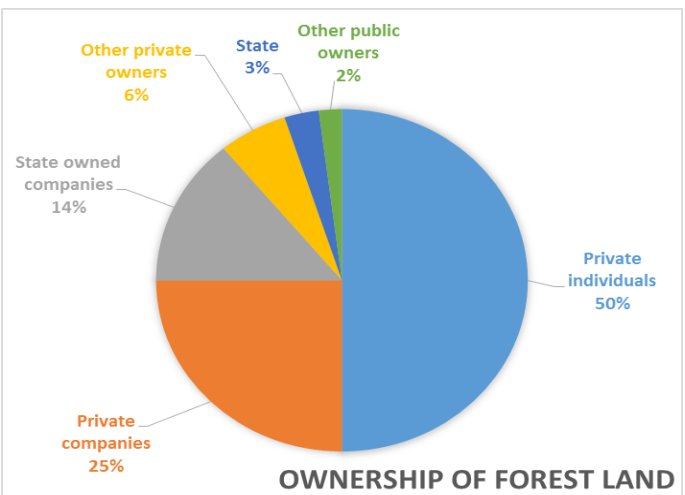

Figure 1. Ownership of forest land (SFA 2014a).

Hence, this thesis on forest protection largely revolves around two theoretical themes. First, the nature of forest resources, which combine both private and public goods since privately owned forests have public values in terms of biodiversity and social amenities, and ways to protect them (Sandström et al. 2011). Second, the consequent advocated need to develop PPPs, in a similar manner to New Environmental Policy Instruments (NEPIs), which are "proposed, designed and implemented by non-state actors, sometimes working alongside state actors, but sometimes also independently" (Jordan et al. 2005, p. 481).

Since private forest owners own a majority of the Swedish forests, the government needs to collaborate with them to protect forests (Swedish Gov. Bill 2014/15:1; 2008/09:214; 1992/93:226.). However, Sweden is far from alone in grappling with the problems arising from forests holding public goods that countries are committed to protect, and the need to provide private owners incentives to adopt new forest management practices in order to secure such protection (Maier et al. 2014; Wiersum et al. 2005). However, in Sweden and most European countries forest owners have potentially conflicting responsibilities because they are expected to take responsibility for forests' production, management and protection (Beland-Lindahl et al. 2015; Hongslo et al. 2016; Wiersum et al. 2005; Ångman 2012). Moreover, in Sweden and the other Nordic countries there is a tradition of state centralized conservation focusing on the protection of habitats with high environmental values (Hongslo et al. 2016), via the use of regulatory instruments and approaches, which many forest owners perceive as infringements of private property rights (Mäntymaa et al. 2009). Thus, the governance problem of managing public goods is well exemplified by the protection of forests, where private individuals are expected to give up rights over some of their forest property as it is considered to hold resources that are essential for society as a whole (Beland-Lindahl 2008).

Partnerships have emerged in several societal domains, including forestry (Cashore 2002), since the early 1990s in response to the problems associated with combining public and private interests (Bitzer 2010). PPPs are defined here as "a process in which actors from various sectors of society (state, market, and civil) restructure and build new social relationships to create a more sustainable management practice" (Glasbergen 2011, p.1). This definition of PPPs is useful since it covers the necessity of including actors from different sectors and their collaborative development of new relationships in a step-wise manner. The apparent need for such partnerships has been reinforced by the growing complexity of modern society in terms of increasing decentralization and fragmentation of public administration, leading to growing interdependence of societal actors (Ysa 2007). These changes are manifested in forest protection policy. Dissatisfaction with traditional, top-down forest policies has, for example,

spurred the development of new partnership-based protection programs (Korhonen et al. 2013).

From a Swedish perspective, collaboration with private forest owners is essential for the government to meet its stated goals, unless it applies regulatory instruments, which could be effective but may obstruct communication and create conflicts (Ångman 2012). Thus, partnerships have been mooted and launched in attempts to meet the goals without creating the problems associated with regulatory instruments.

I focus on PPPs in this thesis, since they are strongly linked to my two theoretical themes, as they are intended to promote both public and private interests and have been introduced by the Swedish government as an arrangement to promote forest owners' interest in formal protection of their forests (Swedish Gov. Bill 2008/09:124).

An NCA is a partnership based in civil law between an individual owner and responsible agency. However, due to the NCAs' top-down character, these PPPs have received limited interest from the forest owners (SEPA and SFA 2010; 2013). Thus, in 2010 the Swedish government introduced a pilot project – *the Komet program (Kometprogrammet)* – inspired by the Finnish forest program *METSO (the National Biodiversity Program for Southern Finland)* to spur interest in forest protection. The Komet program differs from the NCAs, as it places the initiative to protect forests with the individual forest owner rather than the responsible agency. Furthermore, the forest owner involved in the program can terminate the protection process at any stage (Komet program 2014). Based on experience from the Komet program the Swedish government has extended what it calls a *Complementary method to formal protection of forests (Kompletterande arbetsmetod för skydd av värdefull skog)* nationwide (Komet program 2014; SEPA and SFA 2014). In addition, the government has introduced *NCAs for social values (Naturvårdsavtal för sociala värden)*. These changes that have resulted in bottom-up partnerships (initiated by private owners) and partnerships intended to preserve social values complementing top-down partnerships (initiated by authorities) in the Swedish forest protection policy (Komet program 2014; SFA 2014b; Swedish Gov. Bill 2008/09:214) are primary concerns of the thesis.

Previous research with a global perspective has considered how PPPs are established as collaborative arrangements (Gray 2007: Huxham and Vangen 2005), the external effects of PPPs as arrangements for deliberate societal change, and how PPPs incorporate structures of societal decision-making (Andonova 2010; Biermann and Pattberg 2008; Glasbergen 2011). However, despite the growing political interest in establishing PPPs as components of the formal forest protection policy (Swedish Gov. Bill 2014/15:1; 2008/09:214) few studies in Sweden have focused on how PPPs in forest protection function in practice (Angelstam et al. 2011; Appelstrand 2012;

Gren and Carlsson 2012; Hysing and Olsson 2005; Lönnstedt 2012). Furthermore, few partnership studies have analyzed effects of individual factors such as motives as well as process factors, and institutional arrangements related to the establishment of partnerships.

To address the identified gaps in the literature this thesis addresses the major reported aspects of PPPs in an integrated manner, using a modified form of the Ladder of Partnership Activity developed by Glasbergen (2011). The framework is based upon the three main PPP perspectives found in the governance literature, regarding: the nature of PPPs as collaborative arrangements; their external effects and how they develop through collaboration between actors from different sectors; and the consequences of PPPs becoming components of public decision-making structures (Glasbergen 2011). This framework enables the possibility to combine the focal theoretical aspects of the thesis, the specific nature of forest resources (which includes both private and public goods), and the governance of public goods on private land.

However, since the analytical framework was primarily developed to study PPPs on a global level, it has to be slightly modified for application to a national context. This enables analysis of the role and importance of national context — an understudied issue (Appelstrand 2012; Bjärstig and Sandström forthcoming) — and PPPs' potential as a new protection arrangement through empirical eanalysis of the prospects of success for the government's initiative to combine public and private interests (Bitzer 2010; Bäckstrand 2006; Kooiman et al. 2008) in forest protection (Appelstrand 2012; Bergseng and Vatn 2009; Raitio and Saarikoski 2012). Thus, the degree to which PPPs have the potential to contribute to the Swedish forest protection policy is explored here through step-by-step analysis of their development using this modified framework.

Aim of the thesis

As outlined above, the overarching aim of the thesis is to explore the potential of PPPs to involve private forest owners in forest protection. Theoretically, I modify and apply the Ladder of Partnership Activity, originally developed to study global PPPs, in a national case study of PPPs. Empirically, the thesis contributes to the understanding of how both top-down and bottom-up PPPs can be established and extended, while addressing the identified policy need to improve private forest owners' involvement in forest protection. The following three research questions guide the analysis:

1. *How are top-down and bottom-up PPPs established and how do they function in practice?*

2. *What is required for PPPs to develop into institutionalized arrangements and to be incorporated in the existing governance system?*

3. *What is the government's capacity to adopt and apply PPPs to protect forests?*

Outline of the thesis

The introductory section above presents the overall background to the research objectives. The second section outlines Swedish forest protection policy to introduce the issues that PPPs are intended to address in the focal context. The third section presents previous research and understudied issues in the literature on PPPs. The fourth section presents the analytical framework, which has guided the empirical examinations presented in the four appended papers. The fifth section introduces the research design, methods and rationale for doing an embedded case study to examine PPPs in a national forest context. The fifth section analyzes the findings presented in the four papers, addresses the posed research questions, and ends with concluding remarks. The final part of the thesis consists of the four appended papers, each contributing to the research on PPPs in forest protection, which is sometimes referred to in the text as 'my study'.

Forest protection policy in Sweden

Introduction

Sweden is a heavily forested country with a large, export-oriented forestry sector. The Swedish forest sector, here defined as "the economic, social and cultural contribution to life and human welfare derived from forest and forest-based activities" (Beland Lindahl and Westholm 2011, p. 53) has undergone a number of changes over time. The forest sector developed in stages, beginning with the early forest management stage in the 19th century (1820-1890) and progressing through the sustained yield and silvicultural (1890-1945) and intensive industrial management (1945-1990) stages. The current stage (1990-2010s) has been given various names, all indicating a shift towards a more ecological approach in forestry (Sandström and Sténs 2015). Often referred to as the "Swedish forestry model", it evolved following the 1993 revision of the Swedish Forestry Act (SFA, SFS 1979:429), which marked a major shift in policy, as the Swedish parliament relaxed its grip on detailed forestry regulations and established an environmental goal, together with the ambition of maintaining high wood production (Beland Lindahl et al. 2015; KSLA 2009, p. 1). In exchange for greater freedom to manage their land, forest owners were subsequently expected to improve environmental conditions while maintaining high wood production, a policy known as 'freedom with responsibility' (Appelstrand 2012; Sundström 2005). This policy provides private forest owners considerable influence over the environmental measures applied in management of their forests, and incentives for the adoption of voluntary schemes such as forest certification (Johansson 2013). However, this policy requires the forest owners to contribute more to environmental measures than stipulated in the law, if the government's environmental objectives are to be met (KLSA 2016). Thus, as part of the policy change initiated in 1993, the Swedish government has expressed a political will to increase authorities' collaboration with private forest owners through the establishment of partnerships (Swedish Gov. Bill. 2008/124:9).

There is ongoing debate (*inter alia*) about the relative prioritization (and importance) of protection efforts and production goals. While the major ENGOs argue that Sweden provides poor protection by European standards due to intensive cultivation of forests and low funding for protective measures (SSNC 2014a; SSNC 2014b; WWF 2013), the forest industry claims that large proportions of Sweden's forested areas are already protected (c.f. SCA 2014). However, the ENGOs tend to regard only forests covered by

formal protection instruments as protected (see Table 1, p. 11), while the forest industry includes forests with little or no commercial production value, e.g. impediments[2], and voluntary set-asides (FSF 2016). Therefore, there is a clear need for clarification and consensus regarding the definition, management and protection of forests' values in Sweden (Ångman 2012).

It should be noted that formal protection of forest is an important element of Swedish nature conservation policy (SEPA and SFA 2005). Currently this involves the establishment of national parks, NCAs, national parks, nature reserves or woodland habitats. How these protection forms are to be implemented is defined in the *National Forest Strategy for formal protection of forests (Nationell Strategi för formellt skydd av skog)* (2005) as presented in the following policy documents: the Environmental Code regarding area conservation (SFS 1998:808), the Directive concerning Area Protection (SFS 1998:1252), the procedures for working with NCAs, 16 national environmental qualitative targets adopted by the Swedish government, the Natura 2000 EU Directive, and the guidelines for area conservation contained in the Swedish Government Bill: *En samlad naturvårdspolitik (A collected nature conservation policy)* (2008/09:214).

The Swedish parliament decides the overall institutional framework of forest protection. The parliament delegates the right to declare national directives to the Ministries of Enterprise and Innovation, and they in turn delegate power to the three central agencies: the SEPA (Swedish Environmental Protection Agency), SFA (Swedish Forest Agency) and County Administrative Boards (CABs). The SEPA has central responsibility for nature conservation, while the SFA has national responsibility for forests and forestry. The SFA is obliged to ensure that forestry is conducted and developed according to the national policies decided by the government and parliament. The SFA has the main responsibility to defend the cultural, aesthetic, and social values of forests, particularly those close to cities. The SFA should foster dialogue between forest owners and other users in order to reduce conflicts between different interests. The SFA's is also responsible for forests in Natura 2000 areas that are not nature reserves (see Table 1, p.11) and forestry close to protected areas. The CABs are the representatives of government in the counties and implement the decisions made by these. The CABs are responsible for nature conservation, and nature reserves (SEPA and SFA 2005; Ångman 2012). Since 2010 CABs have been able to implement NCAs (SEPA and SFA 2010).

The Natura 2000 initiative is dedicated to the conservation of biodiversity (SEPA and SFA 2005), and large parts of Sweden's Natura 2000-areas are already protected as nature reserves or national parks. Therefore, Natura

[2] Under Swedish law, "impediments" are forested areas in difficult terrain, where trees grow slowly (producing less than a cubic meter of wood per hectare and year).

2000 and similar conservation strategies such as *LONA* (*Lokala naturvårds-satsningen*) and *NOKÅS* (*Stöd till natur- och kulturmiljövårdsåtgärder i skogen*) (SEPA and SFA 2005) are not included in my study. National parks are not included either, since they are usually established on state-owned land (SEPA 2016).

The National Forest Strategy (SEPA and SFA 2005) specifically states, in accordance with the government's *Enhanced strategy for long-term protection of valuable nature areas on forest land (Fördjupad strategi för långsiktigt skydd av värdefulla naturområden på skogsmark)* that formal protection on private land refers to the creation and maintenance of nature reserves, woodland habitats and NCAs. Each county must follow the National Forest Strategy's guidelines and directives. However, implementation of the national strategy has been decentralized since each county has a regional forest strategy, adapted to its forest conditions, based on allocated financial grants (SEPA and SFA 2005).

Although nature reserves and woodland habitats can be initiated by private forest owners, responsible agencies can confiscate private property through expropriation. This top-down strategy has sometimes resulted in severe conflicts between forest owners and responsible agencies (Ångman 2012). To avoid such conflicts, NCAs were introduced as part of the formal protection policy. Since NCAs are based in civil law, they function as partnerships between forest owners and agencies. NCAs, in contrast to the other three formal protection forms (see Table 1, p. 11), are considered as "voluntary" but once established legally binding according to the "Jordabalken" (legal Land Code) and defined as a form of formal protection by the SFA (Beland-Lindahl 2008, p. 44).

In 2010, the regulations regarded expropriation of private land changed. Since then, forest owners have received full compensation plus an additional 25% for the loss in value of the estate incurred through management limitations imposed when a woodland habitat or nature reserve is established (SFA 2013a; SEPA 2013). They also receive financial compensation for the management limitations imposed by entering an NCA, but the amounts (set by civil law) are lower (Table 1, p. 11).

Table 1. Forms of formal forest protection in Sweden (SEPA 2016; SEPA and SFA 2013; SEPA 2013; SFA 2015a; SFA 2014a; SFA 2013a).

Criteria	National park	Nature reserve	Woodland habitat	Nature conservation agreements (NCA)
Year of establishment	1909	1967	1993	1993
Ownership	State	State/municipality/private	State/ municipality/private	Private
Size	Large	Large	Small (approx. 20 ha)	Small
Protection	Permanent	Permanent	Permanent	Up to 50 years
Restrictions	State-owned	Ownership and hunting rights restricted	Ownership and hunting rights not restricted	Ownership and hunting rights not restricted
Compensation	Full compensation plus 25% or the government buys the land	Full compensation plus 25% or the government buys the land	Full compensation plus 25% or the government buys the land	For a 50-year contract compensation payment is up to 60% of the market value of the land set aside.
Total number of protected areas	29	4 209	7 508	5 015
Area (ha) of protected productive forest land	915 500	51 500	24 966	31 006

Introducing voluntary incentives in Swedish forest protection

The need for the Swedish government to protect biodiversity in response to public pressure and to fulfill international commitments has induced shifts in policies and the legal framework, including changes that have enabled the establishment of collaborative relationships between the responsible agencies and forest owners (Swedish Gov. Bill 2008/09:214). This has turned policy-makers' and government officials' attention to new policy options aimed at increasing forest owners' interest in protecting forests and steering through the introduction of various kinds of voluntary arrangements

such as partnerships between public and private actors (Beland-Lindahl 2008).

The first attempt to introduce PPPs for forest protection was in 1993 when NCAs, based in civil law, were introduced. NCAs have proven to be rather inefficient partnerships for attaining national environmental policy targets (Swedish Gov. Bill 2008/09:214). Thus, in 2010 the Swedish government officially launched the Komet program, a pilot project intended to increase forest owners' interest in protection of forests. This partnership approach marked a major change in strategies for protecting forests since the Komet program follows a bottom-up approach rooted in a forest owner perspective (Komet program 2013). The aggregate costs of the Komet program in 2010-2014 were just over SEK 30 million for administration and just over SEK 77 million for compensation to forest owners, equivalent to ca. SEK 27 000 and 68 000 per hectare, respectively (Komet program 2014).

The Komet project was inspired by the Finnish METSO program, which was piloted during the years 2002–2007 before being fully implemented by the Finnish government in 2008 and is set to continue until 2016. Critics, however, argue that the introduction of such methods in Sweden is devastating for the protection of valuable forests that require protective strategies based on scientific criteria (SSNC 2015). Despite the mixed results from the pilot project, the Swedish government has decided to continue and implement the Komet program's working methods nationwide, thereby introducing PPPs as regular components of forest management policy (Swedish Gov. Bill 2014/15:1).

Table 2, p. 13, presents the PPPs I studied: "traditional" NCAs for biodiversity values, the Komet program and the recently introduced nationwide PPPs (partnerships established through the *Complementary method to formal protection of forests* and NCAs for social values).

Table 2. PPPs in formal forest protection (SEPA and SFA 2013; Komet program 2014; SEPA and SFA 2014; SFA 2014b).

Criteria	**NCAs for biodiversity**	**The Komet program**	**Complementary method for formal protection of forests**	**NCAs for social values**
Form	Formal instrument	Formal instruments in a pilot project 2010-2014	Formal instruments in a pilot project 2015-2017	Formal instrument in a pilot project 2015-2016
Implementation area	Nationwide	5 selected pilot areas	Nationwide	Nationwide
Initiator	Forest owner or responsible agency (SFA/CAB/ municipality)	Forest owner	Forest owner	Forest owner or responsible agency (SFA/CAB/ municipality)
Stated goals	Increase forest owners' interest in formal protection Develop/preserve valuable areas' biodiversity values	Increase forest owners' interest in formal protection Develop/preserve valuable areas' biodiversity values	Increase forest owners' interest in formal protection Develop/preserve valuable areas' biodiversity values	Increase forest owners' interest in formal protection Develop/preserve valuable areas with high social values
Year of establishment	1993	2010	2015	2015
Ownership	Private	Private	Private	Private
Protections forms used	NCAs for protecting biodiversity	Nature reserves, woodland habitats, NCAs	Nature reserves, woodland habitats, NCAs	NCAs for protecting social values

To summarize, as in various other countries, Swedish forest policy-makers have sought solutions to problems associated with the combination of private and public goods provided by forests that involve the collaboration of private actors and responsible authorities in voluntary arrangements such as partnerships (e.g. Bitzer 2010; Dang et al. 2015; Moon and Cocklin 2011; Mäntymaa et al. 2009). However, preliminary outcomes of the PPPs initiated to increase Swedish forest owners' engagement in forest protection have received little research attention (Widman 2015).

Previous research

Forest governance

The role of governments and how they govern forests have changed over time. NEPIs (as defined on p. 3) and collaborative protection arrangements such as PPPs are manifestations of recent changes since they have been developed in response to governmental failure to implement effective environmental policies and the increasing costs of regulatory approaches, at least according to advocates of the changes. NEPIs include diverse instruments ranging from information campaigns, through voluntary agreements and market incentives (Jordan et al. 2003). Like NEPIs, partnerships may provide solutions to problems associated with governing resources that have both public and private values, through their voluntary and flexible approach. However, the use of NEPIs and partnerships in practice remains far less effective than often suggested (Glasbergen 2011; Jordan et al. 2013), and several governance levels must be considered in order to understand partnerships' socio-economic consequences (Meadowcroft 2007). It should be noted that critics of the changes note the apparent ineffectiveness of PPPs to date and claim that the true reasons for the shifts are ideological (Bernstein 2000; Buscher 2008; Jessop 1998).

The emergence of NEPIs and partnerships is closely connected to recent governance trends towards collective decision-making involving both public and private actors (Glasbergen 2011; Jordan et al. 2005; Stoker 1998). PPPs, and NEPIs, have evolved as responses to demands for better governance, in areas where states and multilateral institutions are deemed to fail (Andonova 2004, p.1). The overall rise of PPPs in the forest sector is related to such a functional demand since governments have not taken an active role to protect forest or improve the forest governance system (Glasbergen and Visseren-Hamakers 2007). PPPs are presumed to have a greater capacity for problem-solving than governments or markets due to their ability to solve problems of collective action (Börzel 1998).

This is strongly related to shifts identified in a structural dimension of governance, driven by major changes in societal relations and managing society (Bitzer 2010). The shifts are expressed in the institutionalization of private responsibility found in partnerships (Glasbergen 2007), and justified by claims that government regulations are expensive, create conflicts and time-consuming (Jordan 2003; Koontz 2014; Mäntymaa et al. 2009; Sandström et al. 2011). Others conceptualize governance in a process-oriented manner, holding that no single actor can individually solve complex problems (Ansell and Gash 2008; Emerson et al. 2011; Huxham and Vangen 2005; Ysa 2007), although it could be countered that it is misleading to

regard all the governmental agencies as a single actor. In contrast, partnerships have claimed capacity to enable both public and non-public actors to engage cooperatively in problem-solving through deliberation and reflection. This is because of the claimed utility of joint efforts in conflict-ridden situations (Bitzer 2010; Raitio and Saarikoski 2012), as partnerships can help to foster shared understanding and development of mutually satisfactory outcomes, despite differences in interests (Emerson et al. 2011). This thesis combines these approaches to explore the requirements for PPPs in the focal context, the processes involved and the outcomes, in attempts to elucidate the changes associated with the introduction of partnerships in forest protection policy. My findings will enable analytical discussion of the functional roles that the studied partnerships may play in the Swedish forest protection system.

The emergence of PPPs has nevertheless attracted criticism, concerning their representation, since powerful actors tend to define or redefine existing dialogue on how problems are framed (Bitzer and Glasbergen 2015; Glasbergen 2011; Johansson 2013). Furthermore, choosing governance forms is not a value-free activity, as the prevailing systems of governance are deeply implicated in unsustainable patterns of development (Cowell and Owens 2006), and inevitably ideologically rooted (Buscher 2008). Thus, the idea of bringing together actors from different sectors to overcome unequal power relationships is highly contested, as well as their ability to resolve complex socio-ecological problems (Bitzer and Glasbergen 2015; Glasbergen 2011; Kouplevatskaya 2006).

The conflicting opinions reflect the ideological differences regarding PPPs' potential to involve different actors and promote their interests for solving public issues (Bitzer 2010; Buscher 2008). Partnerships are contested (Sabatier 2005) and governments' capacity to govern them is likely to vary (Dang et al. 2015). Therefore, to broaden the knowledge of partnerships, this study focuses on the roles of PPPs' potential to secure forest protection.

Public-private partnerships (PPPs)

PPPs have long been advocated as organizational solutions to societal problems that call for the joint action of government, business, and civil society (Brinkerhoff and Brinkerhoff 2011). They have also been widely established (particularly in the 1990s) globally as key collaborative arrangements to meet governmental obligations while reducing public sector expenditure via delegation of responsibilities for supplying public goods to the private sector (Khanom 2010; Osbourne 2000). They have been most commonly promoted as a means to enhance governance effectiveness. The type of PPP established often depends on government priorities (Boivard 2004; Osbourne 2000). Through collaboration with the private sector, the

government acquires access to established networks for complementary resource sharing. Governments may choose to collaborate with particular types of actors for specific reasons related to the substantive purpose of the PPPs (Brinkerhoff and Brinkerhoff 2011).

However, the concept of PPPs has been contested. Some suspect they dilute political control over decision-making (Boivard 2004) and others that the term itself is sometimes used to avoid political controversy over other strategies such as privatization (Khanom 2010). Contracting out may reduce governments' capacity to ensure they are responsive to citizen demands and contribute to a more inclusive vision of the public good (Rhodes 1997). There is also continual concern regarding the balance between the public and private benefits of PPPs (Brinkerhoff and Brinkerhoff 2011). However, hybrids between public actors, private actors and institutions have always been common in governmental steering (Bäckstrand 2006; Kooiman 2008; Schlyter and Stjernquist 2010). In addition, the literature on PPPs has been criticized for a lack of clarity in definitions of key concepts (Brinkerhoff and Brinkerhoff 2011). For example, the difficulty to find a categorization of different forms of PPPs despite several attempts at categorizing in research (c.f. Bäckstrand 2008; Hodge 2004; Khanom 2010; van Huijstee et al. 2007). Such categorization is not straightforward, as PPPs are used for several purposes such as policy design and planning or policy coordination. However, the main objective of most PPPs is to deliver services and/or produce public goods (Khanom 2010). They are frequently used to supply public goods in efforts to meet global environmental challenges (Bernstein and Cashore 2012; Bitzer 2010; Bäckstrand 2006). Since attempts to sort and categorize PPPs primarily consider a global context, few studies have addressed their applicability in other contexts (Bjärstig and Sandström forthcoming). Thus, to position my study in the debate on PPPs, it focuses on the Swedish forest context and analyzes their potential utility in formal protection and/or environmental regulation, since the empirical interaction between contextual and structural factors is rarely considered (Jordan et al. 2013; Peters and Nispen 1998; van der Heijden 2012).

The development of PPPs in a Nordic forest context

Since the studied phenomena are rooted in a Swedish forest context, this section briefly summarizes how voluntary incentives such as PPPs have emerged in the forest sector in the Nordic countries.

The development of more voluntary arrangements and incentives in the Nordic countries is primarily driven by increased awareness that private forest owners' must be engaged in protection efforts (Bergseng and Vatn 2009; Mäntymaa et al. 2009). Further, since most forest areas have private owners, their motives for adopting selected practices must be considered

(Bergseng and Vatn 2009; Raitio 2012; Ångman 2012). These motives tend to be connected to local site-specific factors (Berlin et al. 2006; Paloniemi and Tikka 2008). However, responsible agencies often make no efforts to develop a common forest protection knowledge base (Angelstam et al. 2011). Along with the Nordic countries' emphasis on individual forest owner responsibility, there have been attempts to formally protect forests. These have not been very successful and the proportion of protected forest area is low by international standards (Angelstam et al. 2011; Auld and Gulbrandsen 2015; Mäntymaa et al. 2009; WWF 2013).

Despite their adoption of decentralized forest policies, the Nordic countries have a tradition of centralized nature conservation in general. Nature conservation used to be managed through hierarchical systems dominated by certain experts (Hongslo et al. 2016), manifested in the state-centric viewpoints of officials in relevant public agencies (Bjärstig and Sandström forthcoming; Schlyter and Stjernquist 2010). However, in efforts to increase the number of protected areas by reducing the numerous conflicts associated with nature conservation programs, Sweden, Norway and Finland have attempted to decentralize its management (Fauchald et al. 2014; Hongslo et al. 2016; Raitio 2008). Norway has been more successful in this respect than Sweden. Local and county municipalities have been delegated major nature conservation responsibilities (Fauchald et al. 2014; Hovik 2008). In addition, more local politicians are involved in Norway, which increases the potential for democratizing nature conservation management (Hongslo et al. 2016). In 2003, the Norwegian forest owners' federation, representing the forest owners and their associations, and the environmental agencies came to an understanding that a new approach to forest protection was needed. Hence, the agencies launched a nationwide bottom-up approach in collaboration with the forest owners. Areas protected through this bottom-up approach have the same legal status as those protected through top-down processes. Since 2003 more than 50,000 ha of forests, of which 20,000 ha are productive forests, have been protected under this protection arrangement (Auld and Gulbrandsen 2015). In Sweden, decentralization of nature conservation management has been more ad hoc and restricted to particularly challenging designation processes, while including far larger numbers of local and user interests (Fauchald et al. 2014). In Finland, a top-down type policy has a relatively large role in environmental policy. Nature conservation was based entirely on establishment of permanent conservation areas until temporary nature conservation contracts became official policy instruments under the current Nature Conservation Act of 1996 (Paloniemi and Vilja 2009).

There have also been major changes in the Nordic countries to reduce conflicts between central and local governments, and encourage 'new' actors to participate in policy-making in collaborative forest programs (Falleth and

Hovik 2009; Vainio and Paloniemi 2013). In comparison with Sweden, Finland has a major advantage in the form of a tradition of a more collaborative culture, in the form of programs in the forest sector that began in the 1950s (Primmer and Kyllönen 2006). However, the Finnish national and regional forest programs function more as strategic level plans, and have not always considered local contexts. Thus, the programs have failed to recognize forest owners as important actors in forest protection (Vainio and Paloniemi 2013). METSO was developed as a response to the process-related failures of Finnish forest programs, and implemented in southern Finland, where most of the private forests are located and there are few protected areas (Mäntymaa et al. 2009). Similarly, in the Swedish Komet program high percentages of the forest in the selected pilot areas have private owners since there is a need to extend protected areas on private land (Komet program 2014). In summary, various aspects of the development of PPPs have been addressed in both governance and forest literature. The governance literature explores the changing relationships between state, markets and civil society, and the expression of PPPs that include both public and private actors (Bitzer 2010; Glasbergen 2011). The forest literature focuses more on whether PPPs have the potential to contribute to the protection of forests (Hysing and Olsson 2005; Mäntymaa et al. 2009; Vainio and Paloniemi 2013). Both of these research streams deal with global and/or national challenges at the regional and local levels where the most strongly affected actors live (Johansson 2013; Sandström et al. 2011). Both of these streams can also enrich explanations of the general development and consequences of PPPs as institutional arrangements (Austin and Seitanidi 2012; Bitzer 2010; Glasbergen 2011), and the Swedish government's introduction of PPPs as components of formal policy strategies specifically.

Analytical framework

Introduction

Previous research has focused on the development of PPPs as: a functional response to institutional and government failures (Bitzer 2010), part of a structural change in society involving the institutionalization of private responsibility (Austin and Seitanidi 2012; Glasbergen 2007), or as a process of collaborative governance (Ansell and Gash; Emerson et al. 2011). My choice of analytical framework is the Ladder of Partnership Activity since it incorporates the major perspectives identified in partnership literature, and explains PPPs' development in a stepwise manner (Glasbergen 2011). However, Glasbergen's Ladder framework is designed to address global PPPs. My study makes a contribution by modifying and applying it in a national context (as described below).

My study also includes both non-state and state actors since the introduction of PPPs shifts "ownership" of decision-making from responsible agencies to all of the involved actors acting collectively (Ansell and Gash 2008). This is consistent with Glasbergen's (2011) definition of a PPP as a collaborative arrangement for actors from different sectors to meet and collectively solve a public issue. Actors are defined as single individuals (such as private forest owners) or groups (public agencies, forest owners' associations and other stakeholder organizations).

The Ladder of Partnership Activity

In a PPP, actors from various sectors restructure and build new social relationships in a stepwise manner. PPPs are assumed to emerge gradually through changes in several dimensions. The first dimension concerns interactions. In an initial formative phase there is a shift in focus from internal interactions among the actors to the interactions of the partnership with the external environment. The second dimension concerns the gradual change in methods as the partnership moves towards institutionalization over time. The third dimension is that of actor versus structure: as a successful partnership progresses there is a shift in the involved actors' intentions and their collaborations that creates more permanent social changes (Glasbergen 2011).

The Ladder consists of five core steps: trust-building, collaborative advantages, constitution of a rule system, changing a market, and changing the political order (Glasbergen 2011). It is assumed, in the original Ladder framework, that both societal and individual factors affect the partnering process (see Figure 2, p. 21). However, I have slightly modified the Ladder

for the purposes of my study to include context as the first step, since the management and perceptions of forest protection is heavily depending on context (Juttinen et al. 2008; Langpap and Wu 2004). Thus, it is deemed essential to consider context before trust building here, in order to understand the identified PPPs' development, requirements and potential limitations in their specific settings. Hence, my version of the Ladder includes the following steps: context, the initial trust-building phase, the creation of collaborative advantages, the constitution of a rule system, and changing the political order. Each step represents an activity that is required for the development of a partnership (Glasbergen 2011).

Glasbergen's fourth step, changing a market, is not included since the identified PPPs are not intended to function as voluntary schemes or instruments that change a global or national forest market, for instance through promoting production of sustainable timber like the Forest Stewardship Council (FSC) certification scheme. Instead, they are intended to increase the degree of forest owners' voluntary engagement in formal protection of forests on their private land (Swedish Gov. Bill 2008/09:2014).

Each of the steps and their relationships must be considered to explain the development of partnerships fully. However, it should be noted that the Ladder is an ideal model of partnership development, which implies that the steps are less variable and dynamic than real-world processes, so they must be operationalized to explain the processes in the focal context (Glasbergen 2011). Thus, to make the Ladder's steps suitable for a national case study, it is necessary to include a detailed process-oriented approach (Collins and Ison 2009). I have therefore incorporated the collaborative governance framework for studying partnering processes presented by Emerson et al. (2011), which includes four basic process factors: discovery, definition, deliberation and determination. These process factors are considered necessary for the development of trust and mutual benefits between actors (see Figure 2, p. 21). In the following sections (pp. 21-26), the Ladder's steps are presented in detail to show how they function and interconnect in relation to partnership development.

Assumed steps of partnership development	Characteristics of each step in my study
5. Changing the political order	Change in formal protection of forests
4. Constitution of a rule system	Determination of rules Financial funding Leadership capacity
3. Collaborative advantages	Definition of shared interests and deliberative processes
2. Trust-building (i.e. motives)	Discovery of shared interest where mutual understanding emerges
1. Context	Policy strategies, discretionary power and past experiences

Figure 2. The modified Ladder of Partnership Activity applied in my study.

Context

Incorporating context into the analytical framework enables recognition of contextual factors' influence on the strategies and development of PPPs (Hardy and Koontz 2010). Contextual conditions can either facilitate or discourage collaboration among involved actors, and between public agencies and actors (Wondolleck and Yaffee 2000). There are several sets of contextual factors that may influence the nature and prospects of collaborative efforts (Emerson et al. 2011), including: biophysical characteristics (Moon and Cocklin 2011), policy and legal frameworks (Bingham 2008), and prior failure to address the issues through responsible agencies (Bryson and Crosby 2008). In my study, the following variables are assumed to be particularly important as initial conditions: the policy strategies for forest protection, the history of collaboration among actors and agencies with discretionary powers (Ansell and Gash 2008; Blicharska et al. 2014; Blicharska et al. 2013; Cinque 2011). Discretionary power is defined as "the notion of choice and power within a structure of rules" (Cinque 2011, 604). These assumptions are based on previous studies' findings on the relevance of contextual conditions in forest protection (Fauchald et al. 2014; Juttinen et al. 2008; Mäntymaa et al. 2009).

The contextual conditions are related to the Ladder's next step, trust-building, since past experiences of collaborative efforts tend to shape interactions between different actors (Ansell and Gash 2008). In summary,

external conditions influence the collaboration not only at the outset but at all times during the course of a PPP, and thus the prospects for opening up new possibilities and challenges (Emerson et al. 2011, p. 9).

Building trust

The second step in the Ladder focuses on the interactions when involved actors initially meet, particularly the degree to which trust is built. The actors' ability for self-reflection is crucial here (Glasbergen 2011). This step is perceived in my study as the point where the government, responsible agencies and private actors create an initial dialogue with each other, and key aspects to consider are the attitudinal elements and mechanisms required to start a partnering process and foster trust.

Trust-building, leading to mutual understanding, occurs when involved actors see the benefits of PPPs. Mutual understanding specifically refers to the ability to understand and respect each other's positions and motives, which is essential for development of partnerships' capacity to act collectively despite disagreement among the actors (Emerson et al. 2011). This is crucial because involved actors often initially have fundamentally different worldviews, and different understandings of how problems should be addressed.

The government is connected to the public good and fulfillment of democratic norms, but governmental actors tend to have their own understanding of the issues to be addressed (Glasbergen 2011). Private forest owners' motives are connected to a variety of formal, environmental and intangible goals (Ingemarson et al. 2006). Previous research has shown that factors that facilitate trust-building include the discovery of shared interests (Emerson et al. 2011), which in the context of forest protection primarily concern the motives for protecting forest (Berlin et al. 2006; Karppinen 1998; Moon and Cocklin 2011). Perceived motivation is one of the most crucial conditions for the development of trust, according to Butler (1991). Furthermore, the behavior of each actor needs to be predictable to some extent. If shared interests are discovered and involved actors behave predictably, trust building will most likely take place and lead to mutual understanding (Glasbergen 2011).

Creating collaborative advantages

The third step on the Ladder concerns the formalization of the partnership through the creation of "collaborative advantages" via development of a reciprocal relationship. The involved actors need to safeguard their interests but find common ground for shared action to gain such advantage: "…something has to be achieved that could not have been achieved by any

one of the partners acting alone, but is in their interest" (Glasbergen 2011, p.5). For this, the actors first need to define their common purposes, agree on the protection form to adopt and its implications, and adjust their tasks accordingly (Emerson et al. 2011; Glasbergen 2011). Second, a deliberative and democratic process must emerge (Meadowcroft 2004, p. 190), which should enhance actors' knowledge and stimulate their active participation. An important requirement for deliberation is equity. An important element of such equity is that all actors should have the same opportunities to raise issues and propose solutions, mediated by equality of access to all relevant information (Zachrisson 2009). However, if actors develop contrary views rather than reaching consensus, or differences in power among the actors result in perceptions that the process is unfair, conflict can still occur (Booth and Halseth 2011). In summary, when shared interests are defined and agreed, involved actors may participate in a deliberative process characterized by equal access to information and active involvement by both private and public actors.

Constituting a rule system

The fourth step of the Ladder concerns the organizational level of institutionalization; the creation of a regulatory framework that supports the partnering processes and their outputs, enabling PPPs to play an integral role in the forest governance system. In this step (if successful) a rule system is established via a deliberative process that leads to the institutionalization of voluntary commitment at the scale covered by the nascent partnerships (here nationwide). Thus, for the PPPs considered here, it is essential to establish formal structures on a nationwide basis. It is also important to take government regulations into account, as PPPs must comply with the existing procedures in which they are embedded (Klijn and Teisman 2003). Hence, it is essential to address the government's role when considering this step. The output of effective partnering at this stage will be a new social contract through which the actors formally invest in each other. If partnerships rely on trust rather than formal control, the provisions of contracts may be less specific and less enforceable than otherwise. Furthermore, contracts are necessary to signify the commitment of each actor to the PPP (Glasbergen 2011).

For governments, partnering is attractive if alliances with private actors from the market and civil society strengthen realization of their objectives. Therefore, the substantive content of the PPP, e.g. how it should be implemented, must be determined (Emerson et al. 2011), and the contract needs to specify the commitment and rules. It is assumed in this thesis that crucial factors include the degree of mutual dependence between actors on a national and regional level (Hardy et al. 2006). Leadership capacity is also

needed, with sufficient financial support to create the necessary conditions for the institutionalization of collaborative efforts on every relevant level, and for setting and maintaining ground rules (Emerson et al. 2011; Huxham and Vangen 2003). The relative importance of such leadership may vary at different steps, and the government's capacity is particularly crucial for creating the conditions required for institutionalization through coordination and funding (Emerson et al. 2011).

Changing the political order

The last step, changing the political order, concerns the changes in policy that follow the creation of new social relations and regulations via PPPs and the solution of public issues, if they function effectively as intended. If so, in the focal context, bottom-up partnerships will then be components of the formal arrangements for protecting forests. Thus, as a partnership progresses there is a shift in focus from the actors' motives, through their nascent collaboration to more permanent and concrete effects (Glasbergen 2011). My study addressed the motives and collaborative attitudes of actors involved in reference groups on both national and regional levels. However, PPPs' influence on the political order associated with Swedish forest protection is difficult to evaluate due to their recent nationwide implementation. Instead, I have considered PPPs' potential to influence institutional arrangements (Meadowcroft 2007) by identifying the requirements for PPPs to create a new environment to address sustainability issues on a political level (Glasbergen 2011). The responsibility for implementing forms of protection is increasingly diffused into wider sectors of society (Bäckstrand 2006), including local sectors (Sandström et al. 2011). This diffusion of responsibility has implicitly involved changes in values, and forced a rethink about how, where and why decisions about natural resources are made (Booth and Halseth 2011). PPPs are examples of this diffusion since they involve direct participation by public agencies and non-state actors involved in political steering (Scäferhoff et al. 2009). In this last step, the rules have already been established and the PPPs have been implemented nationwide. However, this does not necessarily mean that the identified PPPs will have an impact on the forest protection system, nor that any impact will necessarily be beneficial. Although PPPs involve direct participation by public agencies and non-state actors in political steering (Scäferhoff et al. 2009), the success of partnerships is often connected to specific government policies (Glasbergen 2011). In the focal context, the Swedish government sets the conditions for PPPs. The PPPs are connected to formal political decision-making structures, but governments are often part of the problem that PPPs address (Vollmer 2009), and PPPs tend to represent power asymmetries instead of challenging them (Glasbergen and

Visseren-Hamakers 2007; Marin and Berkes 2010). However, such power asymmetries can potentially be countered if the government strives to include new actors in decision-making. Indeed, the economic, social, and political measures pursued in support of the liberal society generally seem to involve a paradoxical increase in intervention (Jessop 2002). Since the government is in charge of the adoption of nationwide PPPs, I assume that leadership capacity from the government is relevant in this step too and should include the government taking responsibility for the long-term development and coordination of strategies for nationwide implementation of PPPs (Bjärstig and Sandström forthcoming). This includes both the final adoption of policy incentives and mobilization of actors in new directions. Such leadership capacity needs to be combined with mutual dependence among actors (Austin and Seitanidi 2012; Hardy et al. 2006).

Summing up

It is assumed in this thesis that to answer the first research question the Ladder's initial steps must be considered. According to the Ladder a number of contextual factors affect the motivations of involved actors to adopt PPPs, including policy strategies, discretionary powers and past experience. The process develops in a step-wise manner and includes the building of trust, which facilitates the discovery of shared interest, and hence development of mutual understanding. The next step is the establishment of a partnering process, in which collaborative advantages are identified through definition of shared interests and created through deliberation. The second research question concerns the constitution of a rule system. Identification of the benefits of collaboration by involved actors eventually leads to the establishment of a rule system, whereby voluntary commitment is institutionalized. The third question, concerning the government's capacity to adopt and apply PPPs, is intimately linked to PPPs' potential to influence and contribute to the forest protection policy, and thus the final steps in the Ladder, following formulation of new rules (see Figure 3, p. 26).

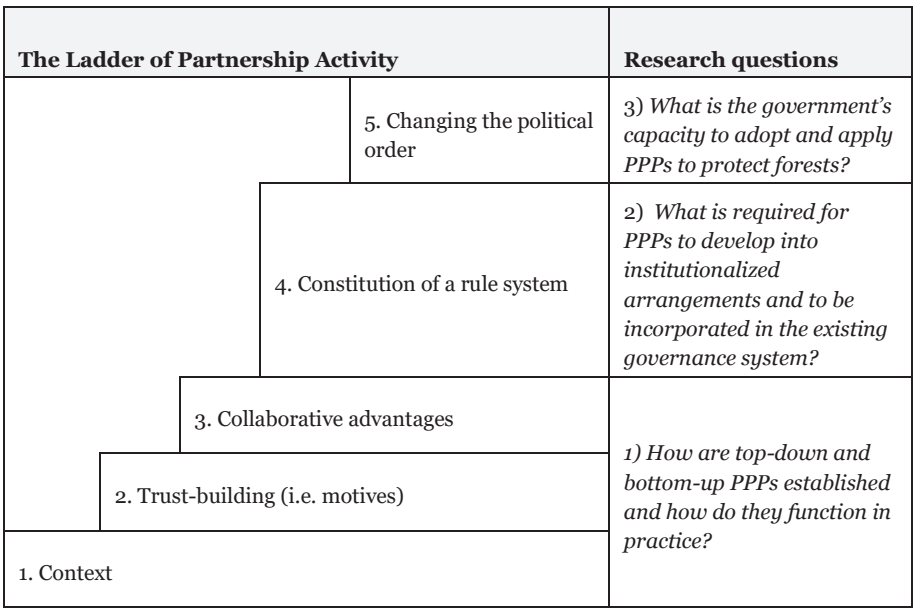

Figure 3. Particularly relevant steps of the Ladder of Partnership Activity to each of the research questions.

Research design and methodology

The aim of the thesis is to explore the potential of PPPs to involve private forest owners in forest protection. In the literature, partnerships are often credited to advance public goods as well as public interest by providing platforms for collaboration between public and private actors (Bitzer 2010). To explore PPPs' ability to do so has been explored via a case study approach focusing on a particular country, Sweden, which recently has introduced new forms of PPPs in efforts to increase the proportion of protected forest. The aim is not to assess the ecological or biological quality of the protected forests, but the potential of PPPs as new environmental arrangements that may contribute to the achievement of overarching environmental policy objectives.

Case study

Sweden is an interesting case for several reasons. It is a typical heavily forested country in northern Europe, where most of the forest land is owned by small-scale private owners. Thus, the Swedish government is dependent on private owners' willingness to collaborate in order to achieve stated forest protection goals and commitments (Swedish Gov. bill 2008/09:124). To improve possibilities to achieve these goals, the Swedish government has recently tested and introduced new forms of steering through PPPs. However, Sweden has a long tradition of centralized nature conservation, followed by severe conflicts, which may prolong and/or obstruct the introduction of new policy instruments and protection arrangements (Fauchald et al. 2014; Ångman 2012). Therefore, it is not certain that the introduction of PPPs to protect forests will reduce conflicts between public and private actors.

The specific approach used here can be defined as an embedded case study or within-case comparison study design (Yin 2009). Although the thesis focuses on Sweden, I explore various forms of partnerships within the country: NCAs, which can be defined as top-down partnerships (Paper I); the pilot bottom-up partnerships established in the Komet program (Paper II); the extension of these partnerships via the *Complementary method to formal protection of forests* (Paper III); and NCAs for social values (Paper IV) (see Table 3, p. 31). These partnerships are all elements of the national forest protection policy. However, the responsibility to implement the policy and establish partnerships is decentralized to responsible agencies (SFA and CAB) at the regional level. There is geographical variation in terms of numbers of partnerships that are established as NCAs or under the Komet program. This is taken into consideration by comparing counties with the

highest and lowest frequencies of these two types of partnerships to identify factors that may explain the variation. The analysis of the *Complementary method to formal protection of forests* focuses particularly on representatives of the agencies involved and stakeholders represented in the Komet program's reference group (Paper III). The *Complementary method to formal protection of forests* and NCAs for social values are recently adopted by the government, thus the processes to establish these partnerships are in focus and not the implementation. Since perceptions of social values in forests are assumed to be context-dependent and place-specific (Bryan et al. 2010; Kangas et al. 2008) the analysis of partnerships for forest social values (Paper IV) builds upon a random sample of forest owners from six heavily forested counties (Västerbotten, Jämtland, Dalarna, Värmland, Kronoberg and Västra Götaland).

Like all methodologies, qualitative case study has both strengths and weaknesses. The strengths include opportunities to obtain a rich or "thick" (highly detailed) description of the focal case (Merriam 1994). A weakness of in-depth qualitative case studies is low ability to evaluate how much something matters (George and Bennet 2005). As Juttinen et al. (2008) note, it is problematic to generalize results from studies of PPPs in forests due to several context-specific factors that affect their development. However, case studies may be useful for testing and developing theory (Merriam 1994; Yin 2009), and this utility was exploited here in the modification and application of Glasbergen's (2011) Ladder of Partnership Activity to explore the potential capacity of the various forms of Swedish partnerships to contribute to forest protection.

Policy analysis and qualitative interviews

The research this thesis is based upon (Papers I, II, III and IV) included qualitative interviews and analyses of various documents since the use of multiple resources is essential for construct validity in case studies (Merriam 1994, p. 179). Collection and consideration of diverse material has also been important to understand the wider forest protection context, forest policy and the reasons for introducing PPPs. In addition, a number of Swedish governmental bills have been analyzed (2015/16:1; 2014/15:1; 2013/14:141; 2008/09:214; 2007/08:108; 1992/93:226). I also closely read several policy documents regarding NCAs (SEPA and SFA 2013; SEPA and SFA 2010; SFA 2015b; SFA 2014b; SFA 2013b), and policy reports for the Komet program (2014; 2013; 2011). During the analysis of the policy documents, certain words and phrases were assigned to themes based on the analytical framework. In addition, I assessed results of a survey by the SFA of forest owners' perceptions of the Komet program (SFA 2012), and the referrals (remisser) regarding the introduction of *Complementary methods for*

formal protection of forests (SEPA, SFA, Federation of Swedish Farmers, 21 CABs, Mellanskog, Norrskog, Norra Skogsägarna, the Swedish Forest Industries Federation, WWF and SSNC).

Since my focus is on PPPs it was essential to gauge the attitudes and motives of all the involved actors, so I interviewed public officials, municipality officials, private forest owners, and representatives of relevant ENGOs, forest owners' associations and forest industries. The main qualitative techniques used were in-depth and semi-structured interviews with 78 forest owners, representatives of forest owners' associations, the forest industry and ENGOs, and officials engaged in various aspects of forest and nature conservation management (see Table 3, p. 31). Interviews were conducted for two main reasons. First, forest owners have become more diverse due to demographic changes and land parcelization, so there is a growing need for detailed, qualitative understanding of the changes and associated shifts in motivation (Bengston et al. 2011). Second, interviews enabled acquisition of detailed understanding of the actors' perceptions of protection instruments and PPPs. I conducted interviews with public officials from CABs and SFA to get information and stories from centrally placed actors. Officials of forest owners' associations (Södra Skogsägarna, Mellanskog and Norra Skogsägarna) were interviewed as they are important actors due to their contacts with both forest owners and the SFA (Törnkvist 1995). I also interviewed officials involved in the Komet program's reference group and the pilot project for NCAs for social values. Interviewed national-level actors included representatives of the SFA, SEPA, Swedish Forest Industries Federation, Federation of Swedish Farmers, ENGOs (SSNC and WWF), and a few of the CABs (Skåne, Västerbotten, Västra Götaland and Örebro). The study presented in Paper IV included interviews with four officials from two municipalities (Umeå and Jönköping) regarding their activities related to protecting forests' social values.

The major aim of the interviews was to capture the respondents' perceptions of PPPs in order to interpret the substantive meanings of PPPs. During the fieldwork conducted for the research reported in Paper I, I also wanted to gain deeper insight into the respondents' world to ameliorate possible misunderstandings due to my own lack of forestry knowledge. I deemed it necessary to meet the respondents face-to-face in that investigation, largely because it focused on forest owners. However, face-to-face meetings with the respondents were regarded as less important for the interviews reported in Papers II, III and IV as the analyses focused on the information provided.

The research reported in Paper I included fieldwork involving travel within the studied case areas Västra Götaland and Örebro County (in the area of Bergslagen) to meet the forest owners where they lived. This field trip gave a general understanding of small-scale owners' forest management,

which was important for my ongoing work. Most of the interviewees considered themselves active forest owners, although they had very different experiences and knowledge of forest management. Most of them owned, and had inherited, local forested areas (Papers I and II). I also interviewed forest owners who lived within the studied areas but had declined to enter into an NCA or participate in the Komet program (Papers II and I). Forest owners that had declined to participate proved difficult to find, and most of those asked did not want to be interviewed. However, to find out why owners did not want to participate, I considered it important to include at least a few of those owners.

In the research reported in all of the papers I interviewed as many respondents as necessary to achieve "saturation", at which no new "themes" emerge if more people are interviewed. In total, I interviewed 51 respondents (forest owners, representatives of forest owners' associations and public officials) for the studies reported in Papers I and II, respectively, 16 (key officials in the Komet program's reference group) for the study reported in Paper III, and 11 (national and regional level officials) for the study presented in Paper IV (see Table 3, p. 31). In Paper IV, the data from the mentioned interviews were combined with information from 57 previously conducted interviews with forest owners in six counties. In each interview I initially introduced the topic of the interview and followed up on the subject's answers to my questions (Kvale and Brinkmann 2009), which were based on a guide listing topics to cover (but not strictly follow). The interview questions, and subsequent analysis of the material, related to the theoretical themes of the research (Ibid.).

Table 3. Summary of interviews and main documents analyzed in the papers.

Papers	**Paper I**	**Paper II**	**Paper III**	**Paper IV**
Year	**2013**	**2014**	**2015**	**2016**
Documents analyzed	Gov. bill (2008/09:214; 1992/93:226), policy documents (SEPA and SFA 2010; SEPA and SFA 2013), regional strategies	Gov. bill (2008/09:214; 1992/93:226), policy documents (Komet program 2014; Komet program 2013), survey (SFA 2012), regional strategies	Gov. bill. (2013/14:141; 2008/09:214), policy documents (Komet program 2014), referrals	Gov. bill (2014/15:1; 2013/14:141; 2008/09:214; 1992/93:226), policy documents (Komet program 2014; SEPA and SFA 2013; SFA 2015b; SFA 2014b; SFA 2013b)
Number of interviews	18 interviews with forest owners, and nine telephone interviews with representatives of SFA, CABs, forest owners' associations	18 telephone interviews with forest owners, and six telephone interviews with SFA, CABs, forest owners' associations	16 telephone interviews with representatives of ENGOs, SEPA, SFA, CABs, forest owners' associations, Forest Industries Federation, and Federation of Swedish Farmers	11 telephone interviews with key officials of the SFA, forest owners' associations and municipalities
Interview character	In-depth	Semi-structured	Semi-structured	In-depth and semi-structured
Case study areas	Örebro and Västra Götaland	The pilot areas of Dalsland and Västerbotten	Sweden	Umeå municipality, Jönköping municipality, Västerbotten, Jämtland, Dalarna, Värmland, Kronoberg, Västra Götaland

Analysis of interviews and material

The interviews generally lasted 40-70 minutes, were recorded and later transcribed. The respondents all had the opportunity to revise the transcripts and/or draft of the paper, which a few of them did. Apart from three 'pilot' interviews, all interviews were tape-recorded. The recordings were transcribed verbatim, typically yielding 10-15 pages of text. I transcribed the material myself, as an essential part of thorough analysis and interpretation. The analytical framework of the Ladder guided the analysis and use of analytical variables. Thus, my coding focused on the theoretical themes in relation to topics raised by respondents in the interviews, such as their motives for entering an agreement, how protection processes worked out, and how they perceived the Komet program's voluntary approach. Quotations from the interviews were later selected to illustrate identified perceptions, map important elements, and relate them (if possible) to the theoretical themes. My strategy for coding focused on meaning units rather than naturally given units of some sort. Some coded units were a sentence or two, but more often they were a full paragraph (c.f. Campbell et al. 2013).

Overview of appended papers

In this section I summarize the four appended papers, all of which I solely authored, except the last, which was co-authored with Therese Bjärstig. All of the papers address the overall aim of the thesis, but from different perspectives.

I. Shared responsibility in forest protection?

There is growing reliance in forest politics on PPPs as a means for forest protection. In Sweden, such PPP characterizes the approach in NCAs in the forest policy from 1993 and onwards. NCAs are negotiated between the CAB and/or the SFA and a private forest owner, where the forest owner agrees to, with some compensation, provide a public service in terms of protecting biodiversity. Most studies of NCAs focus on the outcome in terms of protected forest while few consider aspects related to the process of establishing and implementing partnerships. The aim of this study is to remedy this and determine what factors affect the process of establishing PPPs and how these are perceived among the actors. The empirical material combined document studies, policy documents for NCAs, with face-to-face and telephone-based semi-structured interviews with forest owners, public officials and forest owners' associations. The theoretical framework used to analyze the partnering process is inspired by the framework "The Ladder of Partnership Activity", stating that the development of partnering is a successive process, which through different stages, brings together actors from several sectors of society and builds new relationships to develop sustainable management practices. The analysis focuses in particular on the interactive process between the forest owners and responsible agencies, asking; i) What political, legal and ecological factors affect the conditions to implement NCAs? ii) Which attitudes and motivations promote shared understanding? iii) What process elements promote partnering? and iv) What factors promote the constitution of a joint rule system in a PPP? The analysis focuses on the interactions among the forest owners and responsible agencies, their incentives for collaboration, and the potential for developing shared motives. The paper explores factors affecting the establishment of PPPs in two neighboring counties, distinguished by high and low levels of NCA goal achievement. The results suggest that the discretionary power of agencies influences both the willingness to participate, and the institutional ability to develop well-functioning relationships. The results further show that the included counties have different strategies regarding NCAs. The informal discretionary power of agencies seems to be of importance together

with formal strategies. How formal strategies are interpreted by officials' thus plays a role in how NCAs are framed to the forest owners. Different motives among forest owners do not have a major influence on willingness to participate. More important is how forest owners are treated by public officials. This concerns which factors promote the creation of a joint rule system. This study supports the necessity for compensation and considerable resources. Major findings are that the discretionary power of agencies influences the willingness to participate and how forest owners perceive NCAs. Accordingly, the results indicate that the implementation of PPPs may sometimes leave forest owners with the perception that the responsible agencies exclude them from the process. Therefore, to understand the potential utility of PPPs as tools to attain environmental objectives, we must consider the process-related factors and their continuity. Status: published in Forest Policy and Economics

II. Public-private partnerships in forest protection in Sweden: problems and prospects?

In Sweden, PPPs within the forest sector were launched after the government introduced a more cooperative forest policy. Inspired by the Finnish METSO program, the Swedish government introduced a pilot project – the Komet program – in 2010 to try the public-private partnership approach. Previous studies show that PPPs have been accepted by forest owners in many countries, because in contrast to top-down measures, they generally take into consideration forest owners' motives for providing protection as well as official objectives. However, it has also been shown that they are context-sensitive, the process design matters, and specific incentives may be required to engage specific categories of forest owners. Nevertheless, few studies on forest protection have adopted an integrated approach, considering both individual aspects such as forest owners' motives and process factors. This paper adopts such an approach, exploring both forest owners' motives and process factors using the Ladder of Partnership Activity. However, as the Ladder was originally formulated for addressing PPPs on a global level, here it is modified to analyze PPPs at national or subnational levels. The results show that experiences from the Komet program have several implications for extension of the voluntary approach for protecting forest land introduced by the Swedish government. The partnering process has opened up the possibility for forest owners not just to initiate and influence protection processes, but also to have a final say in the designation of protected areas. According to both interviews and a survey this has improved forest owners' perceptions of the process. In addition, the PPP approach seems to have been able to bridge some differences in motives to protect forest among the

actors. However, one of the recognized strengths may also be one of its main weaknesses. Basing forest protection on PPPs that result in compromises between different motives, e.g. balancing prioritization of forests' social and environmental values, may lead to protection of less valuable forests in terms of biodiversity than top-down protection arrangements, thus 'diluting' the objectives. The findings from this study also indicate that implementation is dependent on individual public officials and both their personal engagement and communicative skills to inform forest owners about the Komet program. Status: Under review

III. Exploring public-private partnerships' role in forest protection

In 2010, the Swedish government established the Komet program — a pilot forest protection project that was initially implemented in five land geographical areas. The Komet program was intended to complement existing formal protection measures by establishing PPPs with forest owners and industries to encourage these actors to take a greater interest in participate more in contributing to forest protection efforts. Despite mixed results, the government chose to implement these partnerships nationwide, thereby institutionalizing the Komet program and making it into a regular component of forest management policy. There is a lack of research on the mechanisms of institutionalization, here understood as the potential to create a framework of regulations to support partnering processes and their outcome in terms of sustainable solutions for public issues. The objective of this case study is to bridge this gap and explore what is required to turn a contested pilot forest protection program into a fully developed form. It is being assumed that the process is influenced by at least three factors. First: (a) the key actors' experiences of the pilot project and the way in which these experiences (good and/or bad) are incorporated into the institutionalization process of a new PPP. Second, (b) the key actors' motives for participating in the nationwide implementation of the new PPP. Third, and finally (c) the capacity of various organizations, particularly the government, to create the necessary conditions for the PPPs' institutionalization. The analytical framework is a modified version of the Ladder of Partnership Activity, adapted to national levels, and combines interactive aspects with mechanisms for institutionalization related to partnering processes. This study paper examines how the Komet program developed and became institutionalized. The empirical material primarily consists of interviews with key stakeholders involved in the pilot period project and the present institutionalization phase. The results highlight the need to consider past collaborative experiences together with existing motives relating to the role of PPPs in forest protection in order to achieve institutionalization. This will

increase the government's capacity to create favorable conditions for institutionalization and may facilitate the development of external interactions in PPPs, leading to the incorporation of new protection arrangements. However, there is a lack of acceptance of this approach among involved key actors. Government action in the form of leadership capacity is required to set rules that will define the workings of new exchanges for forest protection. Status: Published in Sustainability

IV. Partnerships' potential for protecting forests' social values

This paper analyses the potential of public-private partnerships to contribute fruitfully to decision-making concerning resources that provide both private and public goods, which is problematic because of differences in interests and motives among the stakeholders. Thus, it is important to examine the government's capacity not only to govern, but also to collaborate with private actors in order to understand how such differences can be resolved. This paper presents an explorative case study of the SFA's pilot project on a new form of partnerships: NCAs for social values. It addresses the governance of these partnerships by analyzing the involved actors' individual potential to contribute to solution of a key collective problem: the types of values that should be considered in the protection of forests, which provide multiple private and public benefits. Theoretical constructs including context, perceptions and motives, creation of collaborative advantages and the constitution of rules are applied to see if and how these partnerships have the potential to become components of an already embedded governance system. The results contribute new knowledge on how the governance of forests can be designed, and the kinds of values that could be included to spur the implementation of partnerships. The findings indicate that several factors must be changed if these partnerships are to realize their potential to contribute to the forest protection system. In particular, the government must be prepared to engage more deeply, and provide more resources to protect social values in order to resolve conflicts between prioritization of preserving biodiversity (favored by most responsible agencies) and social values (favored by most forest owners). Hence, political prioritization of the forest protection agenda is needed for the development of NCAs for social values to achieve their full potential, particularly in rural areas, where forest owners' motives are not considered in the policy strategy of NCAs for social values, and the government plays a crucial role in coordinating partnerships. Status: Under review

Analyzing the potential of PPPs in Swedish forest protection

This section summarizes and discusses the empirical findings from the studies presented in the four appended papers to address the overall objective of the research, i.e. to explore the potential to involve forest owners in forest protection through PPPs. As already stated, the analyses were guided by the following three questions. How are top-down and bottom-up PPPs established and how do they function in practice? What is required for PPPs to develop into institutionalized arrangements and to be incorporated in the existing governance system? What is the government's capacity to adopt and apply PPPs to protect forests? The following three sections successively answer these questions, using the modified version of Glasbergen's Ladder of Partnership Activity, which also guides the presentation of results. The relevant process factors are operationalized by the collaborative governance framework presented by Emerson et al. (2011), as illustrated in Figure 2 (p. 21). The final section discusses theoretical implications of the results and provides suggestions for future research.

How are top-down and bottom-up PPPs established and how do they function in practice?

Attempts to address this research question involved comparison of two forms of PPPs — top-down NCAs (Paper I) and bottom-up PPPs, such as those initiated in the Komet program (Paper II) — and identification of factors that are important for their establishment. Previous research on PPPs around the world, in which private owners agree to increase or maintain biodiversity in return for economic compensation (Bergseng and Vatn 2009; Moon and Cocklin 2011), has shown that such arrangements can spur interest in forest protection among private owners. However, in Sweden the impact of PPPs in forest protection has been rather weak, particularly before the Komet program was introduced in 2010. This might be due to the policy tradition of exercising centralized nature conservation with regulatory approaches. Furthermore, assessments of the implementation of PPPs show rather inefficient implementation of the nationally set goals in general, despite considerable regional variations (Komet program 2014; SEPA and SFA 2010). However, analysis of the two forms of PPP clearly shows that regardless of whether they have been initiated top-down by a responsible agency or bottom-up by a private forest owner, they have contributed to a more collaborative approach in forest protection.

Contextual factors

Overall, the results show that several contextual factors influence the establishment of PPPs. The investigated counties have established different profiles of forest protection policy (Paper I). One emphasizes collaboration and the need for transparency, while SFA officials in this county actively promote implementation of NCAs. In contrast, strategy documents of the other county only briefly mention collaboration, and it pursues protection largely by authoritative regulation. The latter county has chosen to allocate more resources to nature reserves, which its officials view as more sustainable and efficient options (Paper I). There are similar differences in implementation of the Komet program (Paper II), as one focal county has supported collaboration and dialogue much more vigorously than another. The Komet program has provided the actors with a collaborative platform to promote partnering in the investigated counties. This has been particularly successful when combined with past positive experiences and clear guidelines about collaboration. Past experience with collaborative efforts influence how strategies are formulated. The findings suggest that the counties' policy strategies substantially influenced the relationships between the public officials and forest owners, in relation to both traditional NCAs and the Komet program (Papers I and II). Hence, although every regional strategy is rooted in the National Forest Strategy, different counties emphasize collaboration with forest owners to varying extents and in different ways. This seems related to the extent of the counties' previous experience of collaborative projects and efforts. If a county has been involved in other collaborative efforts, its forest protection strategy may incorporate a forest owner perspective more strongly. How regional strategies are designed also influences counties' prioritizations. Furthermore, differences between counties are reinforced by their officials when they convert laws and guidelines into practical action. Thus, like other studies on CABs' role in nature management (Cinque 2011), my study verifies the importance of officials' discretionary power to interpret and implement the strategies and individual preferences. My results show that CAB officials' primary focus is often directed towards increasing the number of protected areas rather than promoting dialogue. This is not surprising, as the primary task of their agency concerns the creation of protected areas rather than their management (Steinwall 2015), in contrast to the SFA, whose officials also have an advisory role in contacts with private forest owners (SEPA and SFA 2005).

The results show that the forest owners' past experiences are also important. Some of the interviewed forest owners said that they had experiences of conflicts with SFA officials and/or the CAB, which influenced their willingness to initiate a PPP. Generally, most forest owners considered

discussing forest issues with the CABs problematic. This is because they tend to have more regular contact with the SFA, while the CABs are usually involved in relation to the implementation of nature reserves (SEPA and SFA 2010; SEPA and SFA 2005).

In summary, individual officials' discretionary power is highly significant for the perception and adoption of PPP arrangements. Their interpretations are also correlated with informal norms of their agencies, notably CABs' preference for top-down measures and the SFA's greater willingness to foster dialogue to achieve the same objectives (Papers I and II). However, as discussed in the next section, and in accordance with existing literature (Berlin et al. 2006; Mäntymaa et al. 2009), the types of forest owners' and public officials' motivations that promote shared understanding also need to be understood to answer the question.

Discovery of shared interest among involved actors leading to mutual understanding

It has been assumed throughout my study that the discovery of shared motives for protecting forests is strongly linked to the development of trust among actors (Glasbergen 2011). Several studies have shown the importance of understanding forest owners' motives (notably interest in environmental issues) in order to understand why they engage in forest protection (Berlin et al. 2006; Mäntymaa et al. 2009; Serbruyns and Luyssaert 2007). However, less attention has been paid to the public officials' motives, which I considered to obtain a more comprehensive picture of the motivations guiding actors' decisions to participate in PPPs.

Not surprisingly, my findings show that public officials' focus almost exclusively on biodiversity values (Papers I and II). Forest owners' primary motivation for entering an agreement is based primarily on social values, such as protecting one's heritage and areas they visit for berry-picking, recreation, picnics and "fika" breaks with colleagues or friends. The forest owners' emphasis on the value of protecting their heritage is an interesting finding, since it indicates that high interest in environmental values is not always required for forest owners to be motivated. Other research has also shown that forest owners who are willing to enter voluntary incentives focus their management more on recreational and social use than primarily on production (Bergseng and Vatn 2009; Cubbage et al. 2007). A significant finding of my study in this respect is that forest owners tend to take a "holistic perspective" of their forests, incorporating various motives, and considering both production and preservation in their management regimes. This implies that the "well-being" of the forest is mainly a social construct, which depends on the forest owner's individual perceptions. These perceptions are based on the particular forest owner's motives and previous

experiences (Paper I). While a forest owner may consider a specific area useless in terms of production quality, a public official may consider the same area to have high environmental values. I conclude in Paper I that differences in incentives may not be problematic as long as there is a shared goal to protect forests. Even when actors' motives for protecting forest have differed, the collaborative platform provided by PPPs, particularly in the Komet program, seems to have enabled the bridging of differences in viewpoints and the formulation of compromises that have spurred the establishment of NCAs. However, if the motives of a public official and a forest owner vary considerably, which has also happened sometimes in the Komet program, attitudinal differences may still linger beneath the surface and reduce chances for fruitful dialogue (Paper II). Notably, forest owners' choices of areas based more on practical or financial concerns than needs for protection often collide with public officials' choices, based primarily on preserving biodiversity.

In accordance with previous studies (Korhonen et al. 2013; Mayer and Tikka 2006; Moon and Cocklin 2011), my study shows that most forest owners would like to see more flexibility in the development of new methods for protecting forests, which emphasizes values other than biodiversity. The motives of forest owners involved in the Komet program seem to include desires to "protect" remote areas that they do not actively manage, but have high "social values" for them (such as privacy for the owner) rather than areas that other actors deem to have higher biodiversity and/or social values (Paper II). However, these results conflict with previous findings that private forest owners are primarily concerned with economic compensation (Juutinen et al. 2008; Mäntymaa et al. 2009; Vatn 2010). This issue needs to be further analyzed in relation to how financial/economic compensation is designed. Forest owners who participated in my study emphasized the importance of compensation, but did not indicate that was their main motive (Papers I and II). However, compensation was mentioned more often by participants in top-down PPPs (NCAs) than by participants in the bottom-up Komet collaborative initiative (Paper I). The problems associated with compensation and desires for flexibility in protection forms (Papers I and II) seem to have been met to a greater extent in the Finnish METSO program (2008-2016). This program offers higher compensation than the voluntary incentives implemented in other countries, and can be considered as a new way to earn income from the forest (Korhonen et al. 2013). The payments in METSO are meant to fully compensate owners for economic losses, i.e. losses of income associated with lost timber production (Primmer et al. 2013). Compensation for an NCA is lower, up to 60% of the market value of the land set aside. Forest owners who had implemented NCAs also wanted more flexible taxation schemes (Paper I). Thus, the results indicate that when voluntary incentives are presented to private forest owners compensation

must be carefully considered, and account for all aspects of their forests that they value.

To summarize, motives of individual forest owners vary widely. Social values such as protecting their heritage appear to be more important motives for them than environmental concerns (Papers I and II). In contrast, public officials are focused largely on preserving biodiversity, which suggests that conflicts may arise between the actors regarding areas in need of protection. Notably, public officials may have little confidence that forest owners will choose to protect areas with the highest environmental values, if the owners initiate agreements (Paper II). These findings show that specific motives are related to the development of trust building between actors (Glasbergen 2011). However, as long as the ultimate objective is the same, i.e. protecting forests, mutual understanding is possible despite differences in motives among involved actors (Papers I and II). Next, the value of voluntary engagement in a partnering process is discussed.

Creation of collaborative advantages

The previous section concluded that specific motives are necessary for the development of mutual understanding among actors. The next step in the Ladder towards the formation of a partnership is the creation of collaborative advantages.

The results showed that if the dialogue initially failed, the definition of shared interests between the actors was often obstructed (Paper I). Whether an area was selected for protection by the responsible agency, the forest owner, or both, also influenced perceptions of the initial contact (Papers I and II). Similarly, communication in the form of deliberation is reportedly dependent on perceived equity in terms of actors' influence (Wagenet and Pfeffer 2007). The results presented in Papers I and II confirm this assumption, because if owners perceived that they had a well-functioning dialogue with their public official, despite slight differences in motives, they could more easily define common objectives. Hence, individual public officials' dialogue skills affected the forest owners' willingness to enter into a PPP (Emerson et al. 2011). Similar patterns have been found in Finland, where one study suggests that information efforts and education in communication should be directed more towards public officials that have regular contact with forest owners (Korhonen et al. 2013). The cited study showed that information reached forest owners primarily via officials of a regional Forest Agency, but also via forestry magazines and newspapers. The possibility to meet and discuss issues with public officials in various events also facilitated initiation of the Finnish partnership processes (Korhonen et al. 2013). Several studies argue that communicative dialogue between actors has to be improved to engage forest owners' interest in forest protection

(Hubbard and Sandmann 2007; Muth and Hendee 1980; Ångman 2012). Since CAB officials have some form of natural science education, they seldom have systematic training in communication, which the government regarded as important for the implementation of new nature management policies. In response to this deficiency a new policy was launched in 2007, which obliges CAB officials to foster dialogue and support participation-based processes that recognize local interests (Westerberg et al. 2010).

Conflicting somewhat with Finnish findings (Korhonen et al. 2013) providing Swedish forest owners with more information may be counter-productive, as most of those included in my study considered reading material disseminated in information campaigns "time-consuming" and claimed that they already had "too much" information to absorb regarding forest issues. This is paradoxical since a survey by the SFA (2012) showed that most forest owners in the Komet areas were not even aware of the program's existence. The final report concludes that information about the Komet program could have been disseminated substantially more effectively, since approximately two percent of forest owners in the pilot areas submitted expressions of interest. In total, 802 expressions of interest were received during the pilot period. Of the 609 submitted expressions of interest received before March 2014 that met basic requirements, approximately 58 percent were terminated (Komet program 2014). My study found that provision of comprehensive information does not always lead to forest owners perceiving that they have influence over decisions taken. However, directed information provides foundations for dialogue, which eventually leads to shared decision-making. A well-functioning dialogue with their public official and voluntary engagement both foster favorable perceptions of the partnering process by forest owners (Paper II). Nevertheless, building relationships is rather time-consuming and may not be considered sufficiently efficient compared to regulatory approaches by the agencies (Paper II). If the government prefers a more voluntary approach, resources that enable public officials to initiate face-to face contact are also needed. Furthermore, for the Komet program's work method to succeed, a critical proportion of instruments and protection arrangements must first be implemented until forest owners start to report the collaborative value of the program to neighbors' and friends.

In summary, the formation of PPPs as a new form of arrangement (Glasbergen 2011) seems to depend on how involved actors initially perceive the partnering process (Paper II). However, voluntary entry into PPP arrangements is more important than similar motives among actors. The voluntary element of the Komet program could be considered a prerequisite for deliberation, which requires a dialogue-focused public official who knows how to compromise between different interests related to protected areas (Paper I). If these requirements are met, it is possible for both forest owners and public officials to gain wider knowledge of forests' various values. This

suggests that the creation of collaborative advantages might be facilitated if the power relations between the actors are changed.

Despite the occurrence of deliberative processes and generally satisfied forest owners, there was relatively low interest in participating in the program (Komet program 2014), indicating that the agencies have not considered forest owners' motivations sufficiently (Paper II). In a deliberative approach, different public and private actors can allocate tasks according to their respective strengths and select the most appropriate instruments or arrangements to protect forests' values, thereby developing more effective policy (Glasbergen and Visseren-Hamakers 2007). The development of new skills and relationships also provides involved actors with advantages that they could not acquire by acting alone (Brinkenhoff 2002). Paper II suggests that the private actors involved in the Komet program could connect their own motivations for protecting forest with the overall objective of the PPP. However, the public officials were not always confident that the objective of the PPP was met in terms of increasing or maintaining biodiversity (Paper II), as noted in the previous section regarding identified motivations of forest owners and public officials. Mutual understanding can emerge despite differences in motives, as long as all the actors respect each other's opinions (Paper I). However, major differences in motives may impair identification of collaborative advantages, and hence formation of a PPP (Paper II). This correlates with previous findings that collaborative approaches may lead to more "democratic", but not necessarily environmentally friendly, policy outcomes guided by public concerns (Maier et al. 2014; Ångman 2012). Thus, the outcome of the PPPs might not be quite what was initially conceived by public policy, since the private forest owners must also have a say in the process.

To summarize, how involved actors perceived the process and whether they had an ongoing dialogue influenced the formation of PPPs. A voluntary entrance is needed for the definition of common objectives among involved actors. Furthermore, access to information facilitates formation of a deliberative process. Information transmitted face-to-face from a well-known public official is particularly important. Access to information of PPP arrangements seems limited, but information provided in brochures is not always read by the forest owners. Public officials were not always confident that the objective was met in terms of protecting biodiversity. This may lead to future problems, if involved actors perceive that their motives are not considered in a PPP. In such cases, actors may not be willing to compromise their primary motives to reach an agreement.

The study has generated some interesting findings. For the creation of collaborative platforms, counties with past experience of collaborative methods have an advantage over counties that lack such experiences. Previous experience influences whether or not a county's strategy considers

forest owners' motives. The results further indicate that regional strategies are influenced by informal norms regarding how forests should be protected, and hence in their view of the equality of forest owners' opinions. This is reflected in individual officials' use of discretionary power in their interpretation of policy strategies. Hence, individual dialogue skills are considered to be crucial. Motives vary among forest owners. Trust can be built despite differences in motives among involved actors, if public officials are willing to consider forest owners' motives to protect areas, which are not necessarily related to biodiversity values. Notably, forest owners consider social values such as protecting one's heritage to be important, and rate voluntary engagement as more important than compensation. However, this needs to be combined with dialogue and efforts to disseminate information for a deliberative process to develop.

What is required for PPPs to develop into institutionalized arrangements and be incorporated in the existing governance system?

The second question concerns requirements for PPPs to become institutionalized, and more precisely in this study bottom-up PPPs as developed within the Komet program. The government eventually chose to implement these PPPs nationwide, thereby institutionalizing the Komet program. Analysis of how the program developed and became institutionalized led to the following three main conclusions.

First, previous experiences of collaboration in the Komet program's reference group affected how actors perceived the nationwide adoption. This was particularly true for involved national-level actors from the SFA and CABs. Officials of the SFA and CABs who worked strategically at the national -level generally viewed the collaboration during the pilot period favorably. This seems to be a general attitude among these actors since they have also collaborated with each other in previous projects (Paper III). However, actors from ENGOs seem to be more ambivalent towards the Komet program. In particular, officials of the SSNC perceived collaboration to be predetermined, expressing the view that the forest sector's interests dominated the agenda. Such experiences of power asymmetries could also be linked to the perception of not being fully included in the pilot phase. In accordance with previous studies (Bitzer and Glasbergen 2015; Bitzer et al. 2012; Glasbergen 2011), this finding indicates that actors with the most power tend to influence PPPs most strongly.

Second, the decision to institutionalize the Komet program's working methods nationwide was probably influenced by political ideology since the program was established by the former right-wing government. Thus, it was in the government's political interest to develop voluntary incentives in the

formal protection policy. The opinions on whether it is possible to institutionalize the Komet program seem to be further stained by ideological motives related to personal background and informal norms prevailing in certain agencies regarding how protection can best be achieved. Such motives are influenced by beliefs among ENGOs and public officials at the regional level that PPPs are inferior to top-down strategies for forest protection (Paper III). Since these beliefs also permeate to the national level, they affect perceptions of the new methods (Paper III). This is exemplified by the lack of agreement between actors on the necessity of systematizing voluntary incentives, particularly since motives coincide within the involved organizations. I also identified that motives and informal norms may differ between organizational levels. For instance, SFA officials acting at regional levels were more skeptical towards the project than those working on a national level. Those in favor of the Komet program, for instance, the Federation of Swedish Farmers, and primary forest owners' associations, were skeptical since they argued that this nationwide adoption of PPPs does not prioritize forest owners' viewpoints. Actors even more critical of the Komet program, particularly from the ENGOs, argued that the present governance system already allows forest owners to initiate protective actions, so there is no need for further efforts, and point at the low biodiversity quality in Komet areas. Therefore, they did not comprehend the need to extend a pilot project that had failed in their view. The government's attempt to institutionalize the work methods of the Komet program is thus complicated by incompatibilities in the involved actors' viewpoints, which will inevitably hinder attempts to reach compromise solutions (Beland et al. 2015).

Third, how the government acted to influence institutionalization was examined. Findings presented in Paper III show that the government needs to provide considerably more resources when developing new working processes. Most of the national-level actors concurred that this was a general need when formulating new protection instruments and arrangements. Representatives of ENGOs were concerned that granting responsibility (and associated funding) to private actors could severely reduce the efficiency of forest protection policy. Furthermore, the resources allocated to implement PPP arrangements do not consider the diversity of forest contexts. For instance, the number of private forest owners waiting for compensation varies widely within each county (Paper III). In contrast, despite a lack of funding and leadership capacity, the government and both the SFA and SEPA at national level want to institutionalize the Komet program's working methods. These discrepancies reveal the government's lack of capacity to mitigate differences in views, which threatens continuation of the program since several actors are skeptical about its efficiency and ability to protect biodiversity values. Critical voices have been raised not only within ENGOs

but also the CABs and SFA at regional level. Previous studies show that environmental policies are often modified to fit the political and administrative systems in which they are introduced (Hongslo et al. 2016; Knill and Lenschow 2005). As the PPP arrangement must be implemented nationwide to be institutionalized, the government must allocate more resources and improve the coordination within and between sectors to clarify the purpose of the partnering process, and ensure that the quality of forest protection is not reduced when using such bottom-up approaches.

What is the government's capacity to adopt and apply PPPs to protect forests?

The final question regards the government's capacity to adopt and govern through PPPs more generally. As governments are part of the policy implementation gap that PPPs are meant to address (Glasbergen 2011), the consequences of governmental failure need to be examined by analyzing the increasing use of PPP arrangements. My results suggest that once PPPs have been introduced it becomes difficult to step back to traditional governance, despite the challenges. The adoption of PPPs is not merely a neutral protection arrangement for protecting forests.

The SFA's nationwide project NCAs for social values is the most recent attempt to institutionalize PPPs in the focal context (Paper IV). This governmental initiative indicates a shift from the prevailing motives of protecting forests that enables the inclusion of new values in the Swedish forest protection policy. PPPs create political spaces where public and private actors meet for deliberation on public issues, thus contributing to such shifts (Glasbergen 2011). Realization of the government's objectives to establish PPPs in forest protection of social values was assumed to depend on: 1) policy strategies and the discretionary powers of public officials; 2) motives of private forest owners, municipalities, SFA officials and members of forest owners' associations; 3) a deliberative process in which transparent exchange of information is initially crucial; and 4) the constitution of a rule system, with appropriate funding and leadership capacity from the government.

Continuation of PPPs' development is perceived to be a politically motivated decision by the SFA and SEPA to increase collaboration with forest owners while protecting biodiversity (Komet program 2014). Presumably, this decision to institutionalize the Komet program's work methods and include new values in forest protection was influenced by contemporary society's increased use of new protection arrangements (Frank and Muller 2003; Korhonen et al. 2013). However, inclusion of PPPs is not only a transformation to market-friendly approaches in forest protection but also holds promise of more 'democracy based processes' (Maier et al. 2014).

PPPs may contribute to a more general understanding of ways to preserve forests since they include actors from different societal sectors (Glasbergen 2011). However, the SFA and SEPA have not elaborated about how PPPs are to complement present guidelines, which may impair their potential to bridge differences in involved actors' motives and views regarding values that should be prioritized, and thus hinder the development of mutual understanding. The challenges the government and SFA face in governing PPPs is reflected in the rather loose connection between the NCAs for social values pilot project and the National Forest Strategy (Paper IV). This is highlighted by comparison with the Finnish system, where several new flexible protection forms (including temporary agreements and compensation mechanisms) were tested and developed during the trial phase before the METSO program (Mäntymaa et al. 2009). From 2008, forest owners in the area covered by METSO have been able to implement permanent or fixed-term agreements if the forests they want to protect meet the selection criteria (Korhonen et al. 2013).

The majority of the partnership funding, similar to most PPPs, comes from the Swedish government. The success of PPPs appears to be more strongly dependent on specific government policies than private actors' views (Glasbergen 2011), as the government determines the allocation of funds. However, in Sweden the private forest sector has strongly supported the development of PPP arrangements, and even contributed funding in the initial phase of the *Complementary method for formal protection of forests* (Paper III). Although the private forest sector still supports the development of PPPs, its members also perceive a lack of influence in the decisions taken. This is exemplified in the NCAs for social values pilot project, where forests close to urban areas are prioritized. Hence, the strategy does not embrace perspectives of all forest owners, since views of those living in rural areas receive relatively little attention (Paper IV).

Since the PPPs I examined were initiated by the government, the distribution of benefits is also problematic, although Glasbergen (2011) argues that, benefits should ideally be distributed equally among involved actors despite their dependence on the government. In addition, the actors involved have strongly differing opinions, which further obstructs constructive discussion about how resources should be distributed and the values that should be considered. Moreover, since only loose guidelines for implementing PPPs have been published so far, public officials have considerable discretionary power. In summary, my findings show that even when a voluntary approach to PPPs is adopted clearer policy guidelines are needed (Papers III and IV).

The preliminary results from the assessment of the PPPs' implementation nationwide in 2015 confirms the SFA's and SEPA's concerns regarding lack of resources. Several public officials at the regional level also argued that the

government could not afford to experiment with collaborative projects since some threatened species are on the verge of extinction. They also claimed that too little funding has been allocated to approve such "voluntary experiments" (Papers I and II). These comments may be examples of administrative resistance to fully develop new forest protection incentives. Although agencies have to follow governmental policy recommendations, how these recommendations are implemented is partly dependent on informal agency motives and individual officials' interpretation (Hongslo et al. 2016). Since some officials perceive PPP arrangements to be inferior to centralized conservation programs this may influence their willingness to promote such incentives (Paper III). Other officials favor efforts to engage forest owners, and state that they actively work to promote PPPs. These findings suggest that not only governmental capacity, but also agency motives and individual preferences strongly influence the implementation of political decisions (Papers III and IV). PPPs are intended to bring together various actors, but it is still the governmental actors that are given power to define and redefine the particular strategies applied (Glasbergen 2011).

To conclude, the development of PPPs can be perceived as a way to improve consideration of actors' motivations since they focus on dialogue and the creation of mutual benefits (Glasbergen 2011). However, they appear to have limited potential to enhance deliberation in the Swedish forest protection policy due to weak governmental capacity. The logical place of PPP arrangements in governmental policies needs to be highlighted, and contextual requirements must be considered when allocating resources. The government and its executive organs should show commitment to the adoption of PPP arrangements otherwise they will fail. Some difficulties are related to differences in actors' prevailing norms regarding how forests should be protected, which hinders attempts to formulate compromise solutions.

Discussion

The overall objectives of my study were to explore the potential of PPPs to involve private forest owners in centralized (top-down) forest protection instruments with bottom-up approaches, which were initiated in Sweden in the mid-1990s, and to identify factors that may influence their success. Introduction of the PPPs could be viewed as an acknowledgement by the Swedish government of a need to develop new solutions for forest protection problems associated with potential conflicts arising from forests' multiple functions, their provision of public and private goods, and the possibility to exclude users from access to forest goods (Sandström et al. 2011). Perceiving forests as public goods may be questioned by private actors. Therefore, there seems to be an urgent need for adoption of flexible instruments and protection arrangements, which may bridge the gap between forest owners' and officials' motives. PPPs may be considered flexible arrangements since they are developed to engage actors from different societal sectors in collaborative efforts (Glasbergen 2011). However, this voluntary approach is still governed by the state. To explore the role of PPPs I applied a slightly adapted version of Glasbergen's "Ladder of Partnership Activity" framework. The Ladder was deemed suitable for analyzing PPPs' potential since it emphasizes the need for dialogue and the establishment of beneficial interactions between the partners in the initial steps (trust-building and creation of collaborative advantages). However, the framework was too generic as it was primarily developed to assess PPPs' potential to contribute to sustainability at a global level. Thus, as several studies on voluntary protection initiatives have indicated that contextual factors strongly influence the outcome of PPPs (Juttinen et al. 2008; Langpap and Wu 2004; Mäntymaa et al. 2009), I added context as a new stage in the Ladder to enable exploration of context-related factors' effects on PPPs' development.

By applying the Ladder framework, I gained greater knowledge of the partnering processes and the problems that arise within a national forest context. However, as Glasbergen (2011) notes, the steps do not always follow each other neatly. In fact, partnering is a continuous process that is affected, for example, by evolving experiences of the actors, and challenging circumstances (Collins and Ison 2009). To enable division of the partnering process into sequential steps I incorporated factors that influence collaborative governance processes identified by Emerson et al. (2011) into the framework. This helped to clarify individual actors' motives regarding forests and forest protection. It also facilitated analysis of degrees to which regional and/or national conditions facilitated (or hindered) development of a deliberative process.

Overall, the adapted version of the "Ladder of Partnership Activity" framework (Glasbergen 2011) proved to be very useful in the analysis of PPPs' potential in forest protection. It enabled identification not only of essential factors for the partnerships to develop and mature, but also points when the partnership process failed or were challenged by the actors.

Rigorous analysis of the final step, the outcome of the focal partnering process (which may include both intended and unintended socio-economic consequences), was impossible because the bottom-up initiated PPPs have been introduced too recently. However, experience from the bottom-up Komet program has clearly influenced the formal protection policy, and although the *Complementary method for formal protection of forests* is not yet a permanent part of the forest protection policy there are several indications that this form of protection, in which the forest owner is expected to take the initiative rather than the government, is here to stay. In that sense it can be stated that the Komet program of bottom-up partnerships has already changed the political order in Sweden, a country where protection policies have primarily involved top-down governance. An unintended consequence of the Komet program and the following debate and discussions is the decision by the Swedish government to broaden the forest protection concept to include social values. Although it is too early to draw conclusions about the practical consequences of this decision, it clearly marks a profound change in Swedish forest protection policy.

A clear empirical finding is a need for better coordination between involved actors at various levels and between sectors. This was identified in all considered cases, but particularly strongly in the NCAs for social values. There is a need to improve the consistency of the SFA's and municipalities' mapping of forests' social values, and interpretations of social values by the regional authorities (CABs and SFA). Current uncertainty regarding the definition (and prioritization) of values hinders the implementation process.

Although public officials generally regard NCAs for social values favorably, they report uncertainty about how they should interpret these new values in their daily work, as they are not explicitly defined in formal strategy documents (Paper IV). Thus, the National Forest Strategy must pay more attention to social values and exemplify how they should be considered in the designation of a protected site (particularly in relation to biodiversity, which is currently prioritized in protection clauses of the National Forest Strategy).

Lack of coordination between national- and regional-level actors may be exacerbated by weaker emphasis on social values, relative to biodiversity values, in the Forestry Act of 1993 (Swedish Gov. Bill 1992/93:226). However, social and biodiversity values do not necessarily conflict: many areas with high biodiversity values also have high social values (SFA 2014b), and it is important to protect social values in order to foster better understanding of biodiversity values in practice (Baker and Eckerberg 2007;

Eckerberg 2012). Although the government has expressed the importance of considering and protecting social values (SFA 2014b), there is a need to improve the treatment of these values in the Forestry Act. This would facilitate more systematic inclusion of social values in formal protection policy.

Another finding is that collaborative platforms for information exchange can facilitate development of knowledge about PPPs (Paper IV). However, among the municipalities there seems to be a general lack of knowledge about both 'traditional' and 'social' NCAs, at least partly because municipalities are expected to use other voluntary strategies for protecting forests. Nevertheless, the SFA has stated that municipalities have an important role to play in the protection (particularly) of social values (SFA 2014b). Therefore, municipalities can implement this type of NCA, but since they also have to consider the exploitation of forest areas for building purposes, they may consider formal protection as an obstacle to be avoided (Paper IV). Furthermore, a few municipalities have "outdoor and recreation councils", in which actors from the municipality and the SFA are invited to participate, together with representatives of local ENGOs and other civil society organizations. This appears to be a functional solution to increase knowledge of forests' different values. More importantly, such municipal initiatives could engage more forest owners in collaborative efforts since they provide fora that can broaden views on what constitutes "valuable forests".

The needs for better coordination across levels and sectors, clearer definitions of what should be protected, how it should be protected, and inclusion of the municipalities in the initiatives, all indicate that the government must provide a more suitable and predictable framework for partnerships. Otherwise the government's lack of capacity to organize the required framework for partnerships may severely impair the coordination of collaborative efforts. If the government is willing to adopt a broader and more inclusive approach in forest protection this could lead to an increase of flexible protection instruments and arrangements involving private forest owners. My results suggest that a more "user-friendly" approach in forest protection is possible. This could be regarded as a necessary development, due to the high levels of private ownership, and high public values of Swedish forests. However, I found that such approaches to forest protection are contested and there is little reflection on viable alternatives and/or complements to formal protection. There is a pressing need to act, but involved actors' perceptions of forests must be seriously considered. The introduction of PPPs can be viewed as a governmental initiative to realize expressed policy goals that consider various interests and perspectives. In accordance with the Komet program's final report (Komet program 2014), my findings show that PPPs have improved collaboration among involved actors. PPPs have the potential to increase forest owners' interest in

protective measures, thereby increasing the proportion of protected forest land, if the government provides sufficient funding and leadership capacity. However, to avoid pitfalls with PPPs there is a need to clarify existing regulations to reach stated environmental goals. A strategy with specified routines for how dialogue with forest owners is to be conducted is needed. Clear specification of the procedures for conducting dialogue with forest owners is needed. Existing regulations and guidelines should also address contextual conditions to improve consideration of regional differences in numbers and types of forest owners, and other forest actors, including their past experiences of protection initiatives and encounters with responsible agencies. However, taking different conditions into account seems not be prioritized to a great extent at the moment.

My interviews show that most of the involved actors would like the government to take greater responsibility for the partnership processes, which may seem paradoxical in the development of PPPs. Moreover, power asymmetries identified in partnering processes may impair flexible arrangements, where compromises are essential for reaching solutions (Papers III and IV). Such asymmetries may be particularly likely and/or severe if actors with relatively low financial capacity are not favored in the allocation of resources. However, power dimensions can be contested, leading to more open debate among forest actors (Papers III and IV). In such successful partnering processes, the inclusion of new voices will also broaden the forest protection system as new knowledge will be shared and exchanged. While Sweden's traditional protection system is based on scientific criteria, the adoption of bottom-up approaches has resulted in a discussion of new values based on "traditional" knowledge.

My results also show that forest owners perceive that their estates have social values which are equally important to them as biodiversity values (Papers I, II, III and IV). An interesting finding is that private owners acknowledge forests to have public goods, particularly in terms of recreational and heritage value (Papers I and II).

However, results presented in Paper IV indicate that although forest owners may acknowledge social values they do not always perceive a need to protect them, because social values are already safeguarded by Allemansrätten (the right of public access) in Sweden (Paper IV). A connected problem that may arise is that many forest owners may want to protect parts of "their" forest in remote areas where they can be "alone" (Paper IV), which could be regarded as anti-social rather than social. Thus, the government needs to be aware of how a particular resource is defined by different actors if it wants to increase the proportion of protected areas and avoid conflicts (Paper IV).

According to my findings, conflicts often start when forest owners feel forced to protect an area, and hence that their efforts to manage it are not

highly valued by the government. Even a voluntary partnering process can be perceived as forced, if the initial dialogue has failed (Papers I and II), and feelings of loss and disappointment may remain even if forest owners are financially compensated. However, the importance of being fairly compensated was mentioned more often by forest owners who felt forced to protect an area of their forest than by others who did so voluntarily (Papers I and II). Similarly, previous studies in Nordic contexts have found that negative perceptions may eventually undermine a protection process (Bergseng and Vatn 2009; Mäntymaa et al. 2009). During my field trips the forest owners told me that they wanted to share knowledge and have more time to discuss their (many) concerns about protection arrangements and instruments with a trusted public official (Paper I). Such sharing of knowledge between actors seems to have been more frequent in the Komet program than in previous initiatives. Some of the forest owners felt that the debate on forest protection is skewed, and that they were "caught in the middle" between the forest industries' production demands, recommendations from the responsible agencies on forest management, and pressure from environmentalists to preserve biodiversity. The forest owners wanted to manage their properties responsibly, but they wanted more flexibility in the use of protection instruments and arrangements. These findings are not entirely consistent with a general polarization noted between economic and forest protection streams in the environmental debate on forest protection in the Nordic countries (Rantala and Primmer 2003; Vainio and Paloniemi 2012; Ångman 2012). In reality, private forest owners have more pragmatic concerns centering on a need to develop (and coherently explain) new forest management and protection instruments and arrangements. Hence, forest owners do not have the same divided perceptions of forests as the forest industry and ENGOs (Vainio and Paloniemi 2013).

Compared to Sweden, Norway and Finland seem to have more flexible protection systems, which facilitate adoption of PPPs. Previous research has identified differences related to the organization of government between the Nordic countries in the extent of protection, the protection processes and protection measures (Bergseng and Vatn 2009; Fauchald et al. 2014). The earlier introduction of forest programs in Finland than in Sweden has been advantageous. The METSO program seems to consider opinions of the private forest owners more fully than the Swedish programs. For instance, the Finnish protection forms have flexibility through offering short-term contracts. The METSO program also contributes to Finland's implementation of various international agreements and commitments (METSO 2015). Norway has also made efforts to develop environmental incentives, where forest owners' contributions to protection are viewed as important to secure variation in habitats and (hence) biodiversity

(Skogsaktuellt 2016). However, Norway has a longer tradition of decentralized nature conservation management than Sweden, hence conservation decisions are made by the municipalities rather than the state (Fauchald et al. 2014). In contrast, in the Swedish political system centralized conservation dominates, although the SFA and CABs maintain a substantial degree of independence in their exercise of public authority, which encourages different interpretations of forest policies (Cinque 2011). My findings show that the independence granted to responsible agencies enables use of discretionary power. In Sweden, this results in public officials generally basing interpretations of guidelines on a view that voluntary incentives are inferior to regulatory approaches (Papers I and II). Similarly, Lindstad and Solberg (2012) found that effects of national forest policies vary due to variations in opinions of initial status and understanding of the recommendations. In Sweden, the use of PPPs seems to be hampered by the differences in opinions on the status of forest protection. This reveals a lack of capacity to govern by the government, since understandings of the recommendations widely vary.

On a political level, Sweden seems to be adopting partnerships more slowly than other countries (Frank and Muller 2003; Moon and Cocklin 2011; Mäntymaa et al. 2009). It could be suggested that the Swedish Forest Act and its institutional setting is not fully designed for adopting PPPs into its existing governance system. In order to fully develop partnerships for protecting forests the government needs to step in and create a collaborative platform where substantial facts and knowledge on forests can be exchanged, allowing voices to be heard from a number of uses on the same land. In summary, political recognition of PPPs needs to be combined with acceptance by all involved forest actors.

Concluding remarks

PPPs have emerged in response to the problems posed by combining public and private interests, which are strongly manifested in efforts to protect forests and associated documents. I explored the potential of PPPs to involve private forest owners in forest protection (and thus solve the problems) by studying four forms of partnership in a Swedish context: NCAs, defined as top-down partnerships (Paper I); agreements under the Komet program, defined as bottom-up partnerships (Paper II); the *Complementary method for formal protection of forests* (Paper III); and NCAs for social values (Paper IV).

In terms of how top-down and bottom-up PPPs are established and function, my analyses led to several conclusions. I found that Sweden's relatively independent agencies create rather diverse conditions for the establishment of the two forms of partnerships in different parts of the

country, which may explain the variations in achievement of stated protection objectives. The forest owners' motives to protect forests also vary considerably, which may affect the partnering process. However, as long as their motives do not completely conflict with officials' motives, and both are aligned with the governmental objectives to protect forests, mutual understanding can develop and a partnership can still be established. The main difference between a top-down and bottom-up PPP lies in the partnering process. A voluntary and bottom-up approach, such as in the Komet program, appears to foster the establishment of partnerships better than a top-down process. When forest owners initiated protection, they felt they had more influence over the partnering process. Since traditional NCAs are often initiated top-down by responsible agencies, some involved forest owners felt forced to protect part of their forest, and hence resisted the process. However, there is a fear among agencies, in particular, that although the bottom-up approach will increase the proportion of protected forests, the quality of the protected areas will suffer.

In the institutionalization of bottom-up PPPs, both problems and opportunities were identified. Previous experiences of collaboration in the Komet program's reference group affected how key actors perceived the nationwide adoption of the *Complementary method for formal protection of forests*. Furthermore, there is considerable dissent among the involved actors, based on ideological motives, regarding the effectiveness and efficiency of partnerships to protect forests. However, the governmental initiative to adopt NCAs for social values still indicates a shift from the "traditional" motives and procedures for protecting forests. This shift in how involved forest actors perceive protection of forests indicates that PPPs can eventually act as political spaces where public and private actors meet to solve public issues associated with private land. However, the findings show that the government's capacity to adopt and apply PPPs to protect forests has not been appropriately developed due to lack of funding, lack of coordination across levels and sectors, and uneven power relations. Thus, the Swedish forest protection policy has not fully been sufficiently adapted to include new actors effectively in formal protection practices.

The findings of this study should be seen in the context of the relatively recent introduction of PPPs in Sweden. As such partnerships are dynamic and flexible processes it is essential to closely monitor their development and examine how they may contribute to the achievement of overarching environmental policy objectives. It would also be valuable to measure the quality of areas protected through partnerships quantitatively. Future research should pay attention to whether partnerships' inclusion of new values will generate broader understanding of forest protection, and the societal implications of a more inclusive approach in formal protection policy.

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Department of Political Science
Umeå University, 901 87 Umeå
www.pol.umu.se

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