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Collaborative governance for sustainable forestry in the emerging bio-based economy in Europe

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In recent years, a common theme in social science research, natural resource policies and practical management has been the increasing emphasis on partnerships and other forms of collaborative efforts as effective means to reach tangible and sustainable outcomes. Another significant trend is the increasing focus on the role of the forestry sector in managing the challenges of climate change, and the push towards a bio-based, low-carbon economy is at the epicenter of the public debate in several EU countries. Drawing on research on collaborative processes as well as research on policy design, this paper reviews the current trend to rely increasingly on collaborative efforts to improve sustainability, using forest governance in northern Europe as an illustrative case. It pays particular attention to efforts to balance concerned stakeholders through National Forest Programmes (NFPs), and considers these efforts in an international context. It concludes by elaborating on future research directions and policy recommendations that are critical to achieve intended outcomes in forest governance systems characterized by state-initiated collaborative processes as well as various forms of voluntary initiatives.

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Introduction

It is an unquestionable fact that forests matter: for people, various plants and animals and for the planet as a whole. Current estimations show that around 1.6 billion people depend on forests for their livelihood and forests are home to more than 80 per cent of all terrestrial species [1]. Therefore, the ongoing deforestation and land degradation, caused by human activities and climate change, are major and urgent challenges to sustainable development worldwide [1]. Despite improvements (the net loss of forests continues to slow down, forest biomass per hectare is stable, and voluntary forest certification have increased [2]), the progress in preserving and sustainably managing the world's forests sees large regional differences [3]. Government interventions on all levels have been called for [1,2] and scholars urge policy-makers to recognize that we are breaching planetary boundaries, which require actions to set a new paradigm that allows the continued development of human societies to harmonize with the maintenance of ecosystems in a resilient and accommodating state [4,5].

In discussions on how to manage environmental challenges, at least two current and interrelated trends deserve particular attention in the context of forest governance. First, a common theme in social science research, natural resource policies and practical management has been the increasing emphasis on partnerships and other forms of collaborative efforts as effective means to reach tangible and sustainable outcomes [6,7••]. A recent example is the implementation of the 2030 Agenda for Sustainable Development, which emphasizes partnerships and coherent policies, and an enabling environment for sustainable development at all levels of government and by all actors [2]. Scholars have stressed the need to view forests as complex adaptive systems, which require management at a landscape level, balancing multiple types of ecosystems and taking into account perspectives from a variety of stakeholders [8•]. Meanwhile, what has recently been termed Reflexive Forestry emphasizes the need of putting forestry into a broader natural, social and cultural context, supporting capacity building and societal agreements [7••].

The other significant trend is the increasing focus on the role of the policies governing the forestry sector in managing the challenges of climate change [7••,9•,10•,11,12]. In Europe, one major reason for this trend is the push towards a bio-based economy — a core concept used at the EU level to refer to an economy based on renewable resources — and in particular the transition towards a low-carbon economy [13,14]. Forest biomass, used primarily for heating, cooling and electricity, is an important source of renewable energy and accounts for around half of the EU's total renewable energy consumption [15]. Several European level initiatives describe needs and possibilities to achieve a forest-based bioeconomy, including the EU 2030 Framework for Climate and Energy [16], the Bioeconomy Strategy for Europe [13], the EU Forest Strategy [15], and the land-use and forestry proposal

for 2021–2030 (LU-LUCF) [17] as well as ongoing National Forest Programmes (NFPs) in Member States [9•,18,19].

The boreal forest landscapes in northern Europe are often seen as important in this context as they can be used for production of bio-based fuels and materials, thereby replacing more energy intensive and fossil fuel based products [17,20–22]. However, in the academic literature the optimal management of forestry carbon stocks is debated and contested. The scientific community has primarily tried to sort out what determines the size of C stocks and their components (e.g. [22–24]), associated scientific uncertainties and trends [25], and potential implications for forest biodiversity [26]. Meanwhile, there are notable policy conflicts embedded in the proposed shift to a bioeconomy, not the least the conflict between increased extraction of biomass for energy production and biodiversity protection [4,12,14,27–29]. Such policy conflicts must be mitigated through proper policy design, including various mixes of policy instruments, incentives and collaborative efforts [11,18].

This paper reviews the current trend to rely increasingly on collaborative efforts to improve sustainability, using forest governance in northern Europe as an illustrative case. It pays particular attention to efforts to balance concerned stakeholders through National Forest Programmes (NFPs), and considers these efforts in an international context. It considers research on collaborative processes as well as research on policy design as there is a need for reviews as well as studies that combine these fields of research to identify vital research gaps and policy problems. To study the actual merits and limitations of collaboration, it is important to incorporate the policy design literature with its growing focus on outcomes of a particular design choice.

The paper begins by reviewing recent literature on collaborative governance and policy design, with a special emphasis on how outcomes can be assessed and policy failures avoided. It then provides a review of forest governance with current insights from a north-European context. Finally, the paper elaborates on a set of future research directions and policy recommendations that are critical to achieve intended outcomes in forest governance systems characterized by state-initiated collaborative processes as well as various forms of voluntary initiatives.

Cross-boundary collaboration and policy design — bridging the gap

Approaches in the collaborative governance literature

In recent decades, public administration has experienced a changing role of the state towards more inclusion of non-state actors in policy-making [6,30,31,32••,33,34••,35]. According to Denhart and Denhart [30,31] an important aspect of public institutions is to trust in the efficacy of collaboration and work to bring proper stakeholders to the table in order to seek solutions to the problems communities face. The role of public administration is to take an active role in setting up arenas in which various stakeholders can meet and articulate shared values and collective responsibility for the public interest. For the purpose of this review, 'collaborative governance' is defined as 'the processes and structures of public policy decision-making and management that engage people across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres to carry out a public purpose that could not otherwise be accomplished' [6:18]. The cross-boundary character of collaboration denotes a need for interactions among people from different organizations, sectors or jurisdictions [6].

In recent years, the number of research papers that investigate various aspects of collaborative efforts have grown immensely [6,34••,35]. There is a common understanding that collaboration between a diversity of stakeholders and public agencies with strong interest in the management of natural resources enhance the effectiveness of policy implementation [34••]. Here, effectiveness is primarily understood as the achievement of pre-defined goals or valued outcomes [36]. In the context of forestry, sustainable use primarily covers conserving biodiversity, financial value for land owners and increasing social equality [36]. Yet, to foster meaningful collaboration, stakeholders need to be motivated to participate, be able to participate on equal terms, commit to the decisions made and at the end feel that the time spend was worth the effort [6,37,38]. Overall, this requires inclusive stakeholder participation, transparency of decisions, awareness of collective responsibility, trust building and measurable outcomes [18].

However, although collaborative governance has become important in managing disputes over resources, the actual outcomes, potential synergies and win-win solutions on-the-ground remain largely unexplored [32••,34••,35]. Previous studies of collaborative governance have so far mainly drawn attention to the inputs or process design and sometimes conflate process performance (i.e. results of the collaboration in terms of social capital) with productivity performance (i.e. the actual outcomes on-the-ground) [32••,39,40]. In general, research has found that collaborative efforts are often constrained by a shortage of balanced representation, fairness or direct synergies between various sustainability goals [18,41–43].

From a research perspective, there is insufficient knowledge concerning to what extent implementation failures are due to a lack of legitimacy in the eyes of key stakeholders in the decision-making processes or implementation failures, or a combination of both [18]. This calls for studies that integrate research on collaborative