Greater than the sum of its parts: How to develop collaborative networks to solve complex social issues.

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Many contemporary societal challenges are complex, and span different domains of knowledge and expertise. This is especially true for environmental issues where the need for more holistic thinking is strongly articulated. But just bringing a set of diverse actors into a room does not by itself solve complex problems, argues **Örjan Bodin**. *Solutions are often generated by networks that balance a diverse range of actors with active facilitation through a central coordinator.*

Collaboration, networks, and stakeholder involvement are central concepts in public policy, management and administration. Institutional arrangements enabling collaborations in networks are on the rise. This development largely rests on the underlying assumption that moving away from political administrative hierarchies to more inclusive and horizontally organized network approaches increase effectiveness in addressing, for example, complex and sometimes even "wicked" problems.

Ecosystem-based management (EBM) has been presented as a comprehensive approach to better govern the environment, and has made its way into research and practice on different administrative levels and in regard to both terrestrial and marine biomes. EBM stipulates a holistic approach to management emphasizes collaboration as a necessary means to handle many of the environmental challenges of our time.

Image credit: Micro-ecosystem by Pierre Pocs Photography CC BY-SA

But are networked approaches to governance providing more holistic solution to complex challenges? Establishing collaboration among various actors does not by itself necessarily deliver an all-encompassing general solution to public problem-solving and environmentally related governing challenges. And from an empirical point of view, there is no common view on what network effectiveness is exactly and how to measure it. This lack of consensus does not, however, mean that theory and empirical evidence in regard to the presumed benefits of collaboration and

networks is lacking; rather, it implies that different types of collaborative networks can be more or less, or not at all, effective in addressing different kinds of problems.

For this reason we set out to study what characterize collaborative networks that are better able to provide holistic solutions to complex environmental challenges. The study covers five different collaborative planning initiatives aimed at devising new management plans adhering to the principles of EBM in coastal regions in Sweden. We focused on the initiatives varying abilities to come up with plans with high levels of systems thinking and integration.

System thinking encompasses how well the actors have been able to present an integrated and coherent description of the targeted management area taking into account various ecological and social factors of importance. Integration is assessed by evaluating to what extent the different phases of the management plan are consistently linked to one another. Hence integration aims to assess coherence, i.e., whether the description of the system and its different social and ecological characteristics is followed by the formulation of relevant goals and objectives, which in turn are followed up by relevant measures and monitoring/evaluation activities. Together we argue these two features capture key aspects of holistic thinking.

We found that holistic thinking is seemingly supported by collaborative networks that are characterized by many direct social ties between actors from different domains (“collaborative heterogeneity”), and/or that exchange among actors from different domains is facilitated by a central coordinator (“coordinated heterogeneity”)(Fig. 1). Both these findings can be explained from a diversity perspective. Holistic and innovative thinking is often assumed to benefit from actor heterogeneity, i.e., the involvement of actors with different backgrounds and knowledge, since such diversity increases the available pool of knowledge and experiences. Actor heterogeneity is however not sufficient to address compounded problems. Differences among actors also generate challenges for how to navigate different priorities, terminologies, epistemologies, ways of thinking, etc., all of which can pose significant barriers to accomplishing collaboration and thus limit the presumed benefits stemming from the actor diversity.

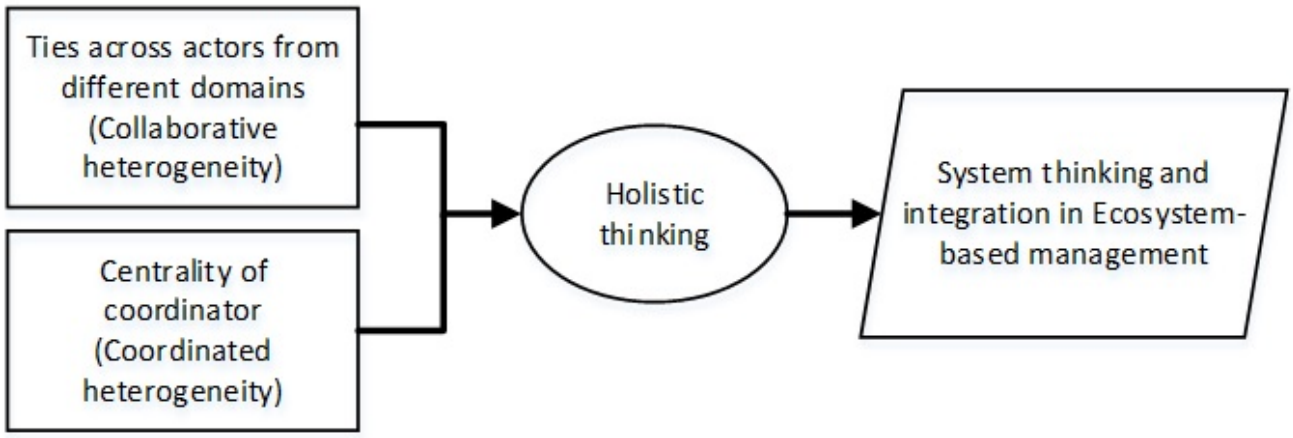

Fig. 1. Two different characteristics of the collaborative networks (left), and how these affect the networks ability to think holistically, and, in the end, deliver Ecosystem-based management plans with high levels of systems thinking and policy integration (right).

Bridging these social boundaries resulting from divergent backgrounds and worldviews therefore becomes critically important to unleash the potential of actor heterogeneity for solving complex problems. Our results suggest that such bridging is supported by either collaborative heterogeneity and/or coordinated heterogeneity. But a key question is then if both of these characteristics are needed, or if one is enough, and in what circumstances? We argue that largely depends on how much time is available.

The development of cross-boundary social relations takes time and requires extensive opportunities for social interactions and the existence of a collaborative environment characterized by, among other things, high levels of trust and deliberation. Coordinated heterogeneity, in contrast, relies on the existence of a coordinating actor with a central position in the network who is able to interact directly with the other actors. Hence, even if both these characteristics seem feasible and ideally any one manager should strive to encourage the development of both, the latter would be more feasible when time is scares. Our results suggest that a centrally located coordinator might be able to compensate, to some extent, for a lack of social processes supporting the formation of cross-boundary relational ties.

In a broader perspective, our study implies that there might be several different causal pathways in accomplishing holistic thinking in collaborative networks. Networks with apparently similar overall network characteristics can perform differently, and networks with different characteristics can perform similarly. This suggests there is no one-to-one mapping between how collaborative networks are structured and how they perform. Thus, a manager can likely choose among different ways to "weave" a collaborative social network to accomplish similar outcomes.

Based on these findings, we argue it is likely a good strategy for a manager to make sure a trusted and competent coordinator (or project leader) is put in place early in the process, and this especially applies if time is limited and the network is initially sparse (which is typically the case if the participating actors are drawn from different domains and therefore have no or only very few prior relationships with each other). However, the next feasible step would be to stimulate the development of many direct ties between participating actors. The development of new ties will not only help to create a network in those cases where no network is present, but it will also indirectly create links between actors of different types, thus creating some level of collaborative heterogeneity.

Finally, the essence of our findings, in effect the link between these collaborative network characteristics and ability to provide holistic thinking is, as we argue, applicable in other policy domains where collaboration and stakeholder inclusion are emphasized.

This blog post is based on the article: Bodin, Ö., A. Sandström, and B. Crona. 2016. Collaborative Networks for Effective Ecosystem-Based Management: A Set of Working Hypotheses. Policy Studies Journal"

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