

EXPLORING THE HARDSHIP OF INSTITUTIONAL DESIGN FOR BIODIVERSITY CONSERVATION: THE CASES OF THE GREY WOLF (FINLAND), THE AMUR TIGER (RUSSIA) AND THE BIG-LEAF MAHOGANY (PERU)

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Biodiversity is globally on the decline. Yet the most important proximate reason for this development is the rapid transformation and loss of habitats, many species also suffer from the direct harvest or eradication of their individuals from the wild. This can be due to various motives, but most commonly the rationale behind the removal of the species' individuals can be tracked down to their use value and/or the harm they cause to human livelihoods.

Paradoxically, institutional incentive structures have commonly allowed and even encouraged activities that contribute to biodiversity loss and promote the intentional simplification of species assemblages and ecosystems. Surprisingly, this is also the case with the biodiversity-related institutional designs. In this paper, we explain why the formal biodiversity arrangements tend to work against their purpose. What is it that makes the recipients of policies to resist, self-organize and adapt in such ways that the purpose of the institutional design is not met. Our hypothesis is that the processes of institutional design do not pay critical attention to the nature and dynamics of habituated behaviors and unorganized collective actions within the particular socioecological settings.

In literature, the gap between the formal and informal rules is the usual suspect of the problems in the design and implementation of legal norms and the reception of these norms. Depending on the scholar, the gap is bridged with the enforcement mechanisms, sanctioned rules or the like. A binary thinking applies also with those who focus on the friction between norms and organizational routines and the misfit between the societal arrangements and ecological settings.

We do not take the above divides as given. Instead, we overcome the divide by taking the transaction to our unit of analysis. According to the classical institutional economics, in the transaction the rights of ownership to future benefits are transferred. The question is then not about the gaps between the realms of rules or actions, but about what constitutes the rights to future benefit streams. In our work, we give to both of our key concepts—the transaction and the right—a socioecological interpretation. In consequence, we will give a new treatment also to the concept of ecosystem service.

We analyze the difficulty of implementing effective conservation measures by exploring three analogical efforts of protecting biodiversity. Each case poses a unique combination of underlying reasons for human pressure. First, in the case of the Grey wolf (*Canis lupus*) in Finland, the main reason for illegal hunting, poaching, is the perceived threat the wolves cause to humans and their livelihoods in rural areas; second, in the case of the Big-leaf mahogany (*Swietenia macrophylla*) in Peru, the reason for detrimental harvest is the high commercial value and subsequent international demand for products derived from the species; and third, in the case of the Amur tiger (*Panthera tigris altaica*) in the Russian Far East, the killing of tigers is based on a combination of the two above mentioned underlying reasons: the tigers pose a perceived threat to local

human livelihoods while their parts also have important economic value in illegal international trade.

Our transactional account of rights enables us to see that our three cases have striking similarities in some respects. In all places, the authoritative agents and the recipients' have exercised resistance, resilience and adaptations. But the details concerning which pathways the action-reaction interplay has taken depend on emotional regimes and exercised capabilities. In other words, how the new biodiversity-related institutional designs are received depends on both the authoritative agents' and recipients' powers to imagine, create and to act upon the new benefit streams or the means of maintaining the basic socioecological functionings despite the institutional change. In our paper, we will explain these institutional features in detail. In this paper we will also explain how the refurbished definition of ecosystem services provides a promising ground for the reasonable institutional design in complex socioecological settings.