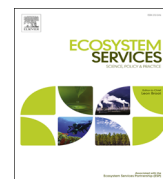




ELSEVIER

Contents lists available at ScienceDirect

## Ecosystem Services

journal homepage: [www.elsevier.com/locate/ecoser](http://www.elsevier.com/locate/ecoser)

# Governance of Ecosystem Services: Lessons learned for sustainable institutions



Carsten Mann<sup>a,\*</sup>, Lasse Loft<sup>b</sup>, Bernd Hansjürgens<sup>c</sup>

<sup>a</sup> Zentrum Technik und Gesellschaft, Technische Universität Berlin, Hardenbergstr. 16-18, 10623 Berlin, Germany

<sup>b</sup> Leibniz Centre for Agricultural Landscape Research (ZALF), Müncheberg, Germany

<sup>c</sup> Helmholtz Centre for Environmental Research (UFZ), Leipzig, Germany

## ARTICLE INFO

### Article history:

Received 31 August 2015

Received in revised form

5 November 2015

Accepted 6 November 2015

Available online 14 November 2015

### Keywords:

Ecosystem services

Governance

Institutions

Actors

Values

Policy process

## 1. The need for ecosystem service governance

Within the framework of social-ecological systems (SES, Ostrom et al. 2009) scientists increasingly apply the concept of ecosystem goods and services (ES) as a way of conceptually bridging human and natural systems (Jax et al., 2013). The close interrelation of natural resource management and human well-being has called for public policy and decision-making to create better, hence more sustainable outcomes that benefit nature and people alike (e.g., *Millennium Ecosystem Assessment 2003*). Understanding how the potential for social-ecological sustainability varies with context in time and space is vital for the formulation of sustainable governance solutions (Leslie et al., 2015). Governing social-ecological systems for ecosystem services provisioning and distribution in a sustainable manner therefore requires adaptive institutions and governance strategies that take these complex, dynamic and multi-level interrelations appropriately into account. As such, the ecosystem services concept provides numerous opportunities to strive towards sustainable development, as elaborated by the authors of this special issue. At the same time, the complexity of socio-ecological systems poses challenges for policy and governance of ecosystem services.

As sketched out in the introductory paper (Loft et al.), this special issue on “Governance of Ecosystem Services” largely draws on the increasing awareness among scientists and policy makers of the various connections and feedbacks between humans and the natural environment. In the following, we build on the challenges outlined in the introduction of this special issue and sum up four major key lessons from the evidence presented to draw conclusions about possible ways of dealing with them:

1. The ecosystem services concept has great potential to function as a boundary object for strengthening multi-level and multi-sector policy integration; it can thus help to identify and implement innovative (hybrid) governance structures and institutions.
2. Identifying actors' rationales, interests, values and attitudes may help us to understand their concrete behaviour, societal conflicts, and power struggles on governance and policy.
3. Ecosystem service governance needs more information and knowledge about societal aspects of ecosystem services as a prerequisite for inclusive stakeholder participation, collaboration and learning. This knowledge is so far under-developed in ecosystem service research and not sufficiently applied in ecosystem management.
4. A research focus on societal and political processes (also in other policy fields) can be very helpful for learning. Experimentation, debate and learning can enhance adaptivity and social embeddedness of governance and policy design and use.

\* Corresponding author. Tel.: +49 30 31428872.

E-mail address: [carsten.mann@tu-berlin.de](mailto:carsten.mann@tu-berlin.de) (C. Mann).

These four lessons are discussed in more detail in the following sub-sections of [Section 2](#). In [Section 3](#) we discuss the implications of these issues for policy and governance of ecosystem services, and highlight a way forward concerning the role of social sciences in analysing these processes and for organising science–policy interfaces.

## 2. Lessons for the governance of ecosystem services

Introducing a governance perspective on ecosystem services is still a new and emerging sub-field. It is only recently that sociological and political sciences perspectives have entered the largely ecologically and economically coined discourses on ecosystem services (Loft et al., 2015). However, the sociological and political sciences can offer additional perspectives on governance structures and institutions, and in particular on actors' interests, values and rationalities. We present the major findings of this special issue around the four key lessons mentioned in the introduction above.

### 2.1. Governance structures and institutions

#### 2.1.1. Governance, institutions, policies: hybrids between hierarchies and markets

The concept of governance is widely used nowadays in environmental sciences and policy making. In contrast to traditional understandings of 'steering' political processes by a central government, governance refers to decision-making processes by which the provision and use of public goods are decided upon by a wider range of stakeholders and societal actors operating alongside, but often in collaboration with the state (Rival and Muradian, 2013). Empirical evidence presented in this special issue suggests that most common-pool resources are neither best governed by the state on behalf of their inhabitants nor by private actors and markets.

As demonstrated by Pham et al. (in this volume), the responsible administration of Vietnam faces severe difficulties in effectively monitoring and evaluating ecosystem services provisioning and use governed by the nationwide Payment for Forest Environmental Service (PFES) programme due to its large geographic scope and the various impacts and feedbacks. In a similar vein, Yin et al., 2013 show how China's centralised initiative to restore degraded croplands, and the effects of large-scale disalignment by standardised government-induced policy schemes failed to reach local ecosystem service providers and beneficiaries. Such policy interventions have thus led to a severe disruption of existing institutions, to blockages and conflict (da Conceição et al., in this volume), and to poor natural resources management (see also Galaz et al. (2008), Ostrom (2009, 2011)). Therefore, the idea of governance seeks to expand cooperation between the state, as a central actor for guiding the provision of ecosystem services (Muradian and Rival (2013), Primmer et al., in this volume), and non-state actors who may have been previously outside the policy processes. In particular, the latter shall be involved more directly in public decision-making and management.

Many contributions in this volume highlight the hybrid, multi-level, and cross-sectoral nature of decision-making and collective action that have to be taken into account for the sustainable governance of ecosystem services (see also Rival and Muradian (2013)). For example, Primmer et al. (in this volume) demonstrate in their meta-analysis that distinguishing between governance structures provides an important entry point for identifying the different arguments and types of logic attached to particular policy and management strategies. Governance structures foster particular rules that organise relations and processes, determine policy objectives, initiate or reduce conflicts and resolve disputes among

actors in different ways with different implications. As such, being aware of and sensitive to the existence of different modes of governance and their distinct underlying rationales and motivations may help to anticipate and identify policy and management impacts and reduce negative feedbacks on the system (see also Ostrom and Basurto (2011)).

Other authors focus on policy instruments, strategies and programmes, which they consider as institutions. Similar to property rights (see, for example, Barau and Stringer in this volume) policies are one form – or subset – of formal rules that coordinate the ways in which actors (shall) behave (see, for example, Mann in this volume). This can take the form of command-and-control instruments, economic instruments such as taxes or tradable permits, or advisory/voluntary instruments, often in combined form as a "policy mix". Such formal rules are complemented by informal rules such as norms, traditions, identity, cultural values and other cognitive frames, which seem to be of crucial importance, in particular for the (local) provisioning and use of ecosystem services.

While formal institutions tend to have a measure of stability in geographical or temporal terms, as for example Schleyer et al. (in this volume) show for mainstreaming potentials of the ecosystem services concept in EU policy, informal institutions can be diverse as a result of the idiographic, and various attributes of local resource users, such as social, economic, cultural and historic factors (see da Conceição et al., in this volume). These factors influence social cohesion and the degree to which political targets are shared, which in turn impacts on the willingness of actors to cooperate, respect the rules, and consider the need for sustainable development. There is growing support among the authors of this special volume suggesting that governance of ecosystem services should ensure that *all* players in a governance system act coherently, (effectively and efficiently) in the pursuit of sustainability, which underlines the crucial role of institutions and their careful design. In this regard, Le Coq et al. (in this volume) elaborate that one promising way to ensure stakeholder buy-in and coherency is to involve them along the entire policy cycle, from problem definition to policy implementation.

#### 2.1.2. The need for institutional interplay

The multi-level and multi-sectoral governance structure of most socio-ecological systems illustrate the challenge to ensure sound institutional interplay as an important element for increasing governance effectiveness (see also Young (2002, 2010)). Keune et al. (in this volume) emphasise that ecosystem service governance must sensitively account for vertical policy scale in relation to cross-scale interactions which ranges from the European Union Mapping and Assessment of Ecosystems and their Services in Europe (MAES), as one key action of the EU Biodiversity Strategy (2011), to national and regional working groups and collaborations. In addition, besides the institutional interplay across vertical levels, Schleyer et al. (in this volume) assess institutional arrangements of the ecosystem services concept among distinct policy sectors at the same (horizontal) level within and beyond environmental policy, such as agriculture, urban and regional development, infrastructure and trade policy. For successful mainstreaming of the ecosystem services concept, the authors conclude that tools and approaches are needed to be able to manage policy integration such as landscape planning or scenario approaches. This calls for more integrative policy and planning approaches which are able to link relevant institutions in governance systems for effectively guiding ecosystem services provisioning and use.

In contrast, problems of institutional interplay occur when institutions in one sector or at one level hamper other institutions and their performance over time. Barau and Stringer (in this

Download English Version:

<https://daneshyari.com/en/article/6556685>

Download Persian Version:

<https://daneshyari.com/article/6556685>

[Daneshyari.com](https://daneshyari.com)