Ecosystem Services xxx (xxxx) xxx–xxx

Contents lists available at ScienceDirect

Ecosystem Services

journal homepage: www.elsevier.com/locate/ecoser

Adoption of the ecosystem services concept in EU policies

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ARTICLE INFO

Keywords:
Ecosystem services
European Union
Directives
Policies

ABSTRACT

The concept of ecosystem services has gained a strong political profile during the last 15 years. However, there is no specific EU policy devoted to governing ecosystem services. This article shows that the ecosystem services concept is already embedded in recent EU (environmentally-related) policies, such as the Biodiversity Strategy 2020 and the Invasive Alien Species Regulation. Our review of 12 policies shows that, overall, the coherence between existing policies and the ecosystem services concept is moderate. Policies showing very high coherence are confined to the policy arenas that address natural ecosystems, forestry, or agriculture. Given the sectoral nature of most EU policies and the limited options for revision in the near future, opportunities for improving coherence are most apparent in furthering the integration of the ecosystem services concept in the implementation of existing EU policies at national and regional levels.

1. Introduction

Concepts – encompassing a set of ideas – develop and change over time and often become embedded in policies and legislation. Even individual ideas have been recognised as an important factor instigating policy change (Hall, 1993). Why some ideas become policy relevant, and others not, and what triggers their adoption into policies, programs, and philosophies, has been a subject of study in political science (Schmidt, 2008). At a time when streamlining regulation and deregulation have been called for, it is important to understand how new concepts fit in with existing policies (Taylor et al., 2012). The way new concepts are operationalized to become a target and a means of steering, and the ways in which they fit the existing policies, is a matter of policy coherence. Policy coherence usually refers to the extent to which policies complement or are in line with one another or form a meaningful ensemble (Nilsson et al., 2012). Ensuring policy coherence is particularly important in cases where the policies feature a mode of steering that is detailed or complex.

A rapidly institutionalizing concept dealing with the relationship between humans and nature is the 'ecosystem services' (ES) concept, which highlights the interdependence of ecosystems and humans. The first ideas on the importance of nature as a resource for humans were coined in the 1940s. The term 'ecosystem services' was first introduced in 1970 (SCEP, 1970; cf. Mooney et al., 1997). At the beginning of the 21st century, the ES concept entered the policy agenda, following several important science-policy projects, such as the Millennium Ecosystem Assessment in 2005 (MEA), The Economics of Ecosystems and Biodiversity in 2010 (TEEB), and the establishment of the Intergovernmental Panel on Biodiversity and Ecosystem Services (IPBES) in 2012 (Chaudhary et al., 2015; Mace, 2014).

Since 2009, a uniform definition and a standardised typology for ecosystem services has been developed in the European Union (EU), namely – the Common International Classification of Ecosystem Services (CICES) (Haines-Young and Potschin, 2011). The EU has mandated a Mapping and Assessment of Ecosystem Services (MAES)

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http://dx.doi.org/10.1016/j.ecoser.2017.02.014
Received 30 June 2016; Received in revised form 9 February 2017; Accepted 12 February 2017
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(Maes et al., 2012), and several European countries have conducted systematic national ecosystem assessments; the UK and Spain being the forerunners (NEA UK, 2011; Spanish National Ecosystem Assesment, 2013). These assessments categorise ecosystem services into provisioning, regulating, cultural, and supporting ecosystem services,[1] paying varying degrees of attention to the overlaps of and interdependencies between these categories. In these ecosystem assessments, attention is also given to the role of biodiversity in securing the provision of ecosystem services as well as in defining the limits of this provision.

The EU has subscribed to the '2030 Agenda for Sustainable Development', which aims to eradicate poverty and achieve sustainable development by 2030. The ambition might be met through an explicit consideration of the effects of different policies on the three dimensions of sustainable development: economic, environmental, and social. The ES concept might provide an overarching framework that supports this consideration in a structured fashion and that is sensitive to the interactions within and across different ecosystems and socio-economic systems. The first EU policies addressing environmental problems in the early 1970s have gradually developed into the current elaborate field of environmental policy, with a number of instruments (Jordan and Adelle, 2012). Among these, two major categories of instruments at the EU level can be identified: 1) binding legislative instruments, such as directives, regulations, and decisions, and 2) non-binding programme instruments, such as strategies, recommendations, and communications. In this article, 'policies' refers to both binding legislation and non-binding programs.

Although some specific environmental policy areas derived from particular ideas or concepts can be distinguished, such as pollution prevention or biodiversity conservation, concepts are not always framed as distinct policy areas. Indeed, there is no specific EU policy framework addressing ecosystem services, despite the fast increasing use of the concept. Instead, the ES concept might – and in fact is already to some extent implicitly – embedded in existing policies on nature and natural resources (Maes et al., 2013). This fragmented inclusion of the ES concept in EU policies is the motivation for our analysis.

The aim of this article is to evaluate the adoption of the ES concept in EU policies by analysing the use of the concept in twelve policies that deal with or are directly related to the use of natural resources or land: Green Infrastructure Strategy (2013); Habitats Directive (1992); Biodiversity Strategy to 2020 (2012); Invasive Alien Species Regulation (2014); Water Framework Directive (2000); Marine Strategy Framework Directive (2008); Forest Strategy (2013); Common Agricultural Policy (2013); Thematic Strategy on the Urban Environment (2006); Renewable Energy Directive (2009); Climate Change Adaptation Strategy (2013), and Trans-European Network – Transport (2014) (Table 1). We review coherence at the level of definitions, objectives, and implementation. On the basis of this analysis, we discuss what factors might advance or hinder the operationalisation of the ES concept in practice. Finally, we provide some ideas for increasing the explicit uptake of the ES concept in EU policies.

2. Empirical methods and analytical framework

To get an overview of the EU policies in which the ES concept is already addressed – either explicitly, i.e. actually using ecosystem services-related terminology, or implicitly, i.e. by referring to particular services or with terms referring to ecosystems as complex systems or ecosystem functions – we carried out a policy scanning in three steps. First, a literature and document review resulted in an initial list of 53 EU policies; second, the policies were prioritised based on their relevance for a set of case studies analysing the operationalisation of ecosystem services (OpenNESS, 2012); and, third, EU policy makers identified key policies at a focus group workshop in Brussels in January 2014 (Schleyer et al., 2015).

The eleven EU policies selected through this process included both binding and non-binding instruments, covering the policy fields of biodiversity, forest, climate, water, and rural and urban areas, as well as a mobility and infrastructure-related policy (see Table 1 for policy fields and reviewed policies) (Schleyer et al., 2015). Finally, to account for recent developments in the field of environmental policies, we supplemented the original selection of policies with the Invasive Alien Species Regulation, which was adopted in October 2014.

As we were interested in how the ES concept is used in EU policies, we did not apply one particular standard definition or delineation. We reviewed the documents for the term '(ecosystem) services' and whether particular services were mentioned. For analytical and illustration purposes, however, we assigned specific ecosystem services mentioned in the EU policies into the three categories being provisioning, regulating, and cultural ecosystem services. The review focused on the main policy documents (Table 1), and did not review all supporting documents (guidance manuals, impact assessments, plans and programs).

As we were also interested in how the policies were funded, we reviewed some of the main funding instruments associated with the selected policies and the extent to which they referred to the ES concept. The following funding mechanisms were reviewed: Cohesion Fund; EU Agricultural Fund for Rural Development (EAFRD); EU Regional Development Fund (ERDF); LIFE/ LIFE+ Program.

We analysed coherence at the level of definitions, objectives, instruments, or in implementation processes (Nilsson et al., 2012; Volkery et al., 2011) and use the term coherence to show the extent to which the different EU policies already address or can incorporate the ES concept to 'produce' a meaningful and integrated policy at each of the levels. We investigated internal (or vertical) coherence to understand the link between goals, objectives, instruments, and the implementation processes within a particular policy field as well as the coherence between the ES concept and the EU policy. External (or horizontal) coherence was used to analyse the overlap or alignment across different policy fields. In other words, the analysis sought to answer the question: what is the level of internal coherence between the ES concept and the various dimensions of a particular EU policy. To account for the gradual integration of the ES concept, we noted the date the policy came into force and possible revisions made since then.

As EU policy is considered to be regulatory in nature (Jordan and Adelle, 2012), it is usually implemented and analysed with an idea of a top-down implementation process, even if attention is paid to processes taking place at different governance levels in a non-hierarchical fashion (Hooghe and Marks, 2001; Wurzel et al., 2013). In practice, several directives and regulations define the ambitions, goals, instruments, and settings as well as the targets to be achieved, leaving little room for 'freedom' of implementation. In this approach, the interest lies in the dominance of goals, ambitions, and instruments formulated by the EU and how they are designed, as well as the'coherence' of policies and policy instruments across policy fields.

Another approach to the implementation of policies argues that the meaning of policies is constantly reframed in various debates at all levels of implementation (i.e. EU, national, regional, or local level) (e.g., Hajer and Wagenaar (2003)). This reframing can lead to situations in which the original policy intent deviates considerably from what is happening 'on the ground'. The attention is on implementation practices and the degree of freedom inherent in the design of a particular policy: how policies are (and can be) interpreted and modified at the various implementation levels, how they play out in real life, and how this varies in different settings (Howlett and Rayner,

[1] Earlier publications on ecosystem services distinguish supporting services. More recent studies, including CICES, identify only three main categories: provisioning, regulating, and cultural services – supporting services are now usually considered part of regulating services.

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