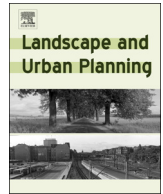




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Perspective Essay

The potential for integrated landscape management to fulfil Europe's commitments to the Sustainable Development Goals

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ABSTRACT

The aim of this perspective essay is to discuss how integrated landscape management (ILM) can contribute to the implementation of the Sustainable Development Goals (SDG) agenda in Europe. Challenges for sustainable development become evident in the emergence of land-use conflicts. Facing multiple, and in sometimes conflicting, land-use objectives and policies, we elaborate on the potential of ILM to support multifunctionality and integration across sectors and scales. Based on three recent land-use conflict cases from distinct European contexts, we empirically identify and discuss key characteristics of ILM for land-use conflict resolution as a means for SDG implementation. These conflicts are (1) agricultural production versus nature conservation, (2) urban sprawl and rural land abandonment versus landscape integrity, and (3) renewable energy generation versus landscape aesthetics. In our cases we find common concerns of decreasing landscape quality as a basis for actors to engage in collective action, the need for multi-actor/multi-sector collaboration, and the assignment of clear rights and responsibilities for land management. In contrast, issues of capacity building, transparency in decision-making and flexibility for adaptations are found lacking. Finally, we discuss ways how ILM can improve policy and practice to handle ambiguous interests and goals, and highlight the future role of landscape research in supporting SDG implementation at the landscape level in Europe.

1. Introduction

Three decades after its international appearance in the Brundtland report, the quest for sustainable development remains high on policy agendas from the regional to the global level. Continuously pressing environmental problems such as natural resource exploitation and land degradation underscore the need for a systemic understanding of environmental and social problems, and the creation of adaptive management and policy solutions (West et al., 2014). The Millennium Development Goals (MDGs) were recently superseded by the Sustainable Development Goals (SDGs) which, different to their precursors, apply to all countries regardless of their level of development. At their core, the 17 SDGs and their 169 associated targets propose a global transformative agenda towards sustainable development and a transition to sustainable lifestyles (Hajer et al., 2015; Keesstra, Quinton, van der

Putten, Bardgett, & Fresco, 2016). They highlight the close inter-connection between healthy ecosystem management and sustainable economic growth (Milder, Hart, Dobbie, Minai, & Zaleski, 2014), and foster the integration of environmental and societal agendas at all scales for improved coordination of policy and civil society initiatives (Mbow, Neely, & Dobbie, 2015). The implementation of the SDG agenda (from here on referred to as SDG implementation) builds on three basic principles: Indivisibility – all goals need to be implemented; inclusion – all people shall benefit; and acceleration – the need for actions that have multiple development dividends. While these principles serve as a universal orientation, it is at the level of landscapes where farmers, foresters, agencies, non-governmental organisation (NGOs), businesses and civil society encounter concrete development demands, and where land management systems have to balance the trade-offs between them (cf. Thaxton et al., 2015).

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Local actions of land managers can either directly or indirectly align with most land-related SDGs (cf. Bouma, 2014), for example by contributing to food security and an end to hunger (SDG 2), to healthy lives and well-being (SDG 3), to sustainable water management (SDG 6), to modern energy supply (SDG 7), to combat climate change (SDG 13), and to the sustainable use of terrestrial ecosystems (SDG 15) (cf. Reed, Van Vianen, Deakin, Barlow, & Sunderland, 2016). As land resources are limited and many European landscapes have to accommodate multiple land uses, we propose the promotion of multifunctional, integrated, and collaborative management solutions as an essential component for SDG implementation in Europe.

Although the debate on SDG implementation has not fully emerged yet in the European context, there are reasons to assume that it will prove challenging. While a lack of appropriate institutions often hinder SDG implementation in developing countries, barriers for Europe are more anchored in sectoral approaches, path dependent agency responsibilities, and institutionalised land-use conflicts (cf. Hersperger, Joja, Steiner, & Tudor, 2015). Even though there is growing acknowledgement that sectoral approaches to addressing interconnected social-ecological problems are insufficient (Freeman, Duguma, & Minang, 2015), the institutional context in Europe is largely characterised by a lack of synchronised policy objectives and interagency collaboration (Young et al., 2005). It has been anticipated that many regions will be unable to achieve sustainable development objectives without modifying current policy frameworks and land-use practices (Mbow et al., 2015; Seto & Reenberg, 2014). Other authors even raise fundamental doubts about the overall compatibility of economic and environmental developments (e.g. Redclift, 2005). In addition, neither a theoretical framework for SDG implementation nor guidance for SDG prioritisation exists for different context, which makes trade-off analysis problematic. Expected challenges for SDG implementation in Europe become already visible in the emergence and intensification of land-use conflicts that are largely caused by distributed responsibilities among sectors and scales, diverging land development objectives, and the lack of enforcement of existing sustainable development strategies (e.g. Keesstra et al., 2016; Reed et al., 2016).

Taking these challenges as a starting point for our essay, we argue that implementing agencies may consider integrated approaches to land management that have the potential to bridge different SDGs. We draw on recent contributions from landscape research where concepts of integrated landscape management (ILM) are currently on the rise (e.g. Opdam, Luque, Nassauer, Verburg, & Wu, 2018; Plieninger et al., 2015; Shuttleworth & Palang, 2017).

The aim of this perspective essay is to explore the potential of ILM in three different European contexts as case study examples to highlight how ILM can resolve conflict and contribute to SDG implementation in Europe. ILM refers to a range of management concepts that promote stakeholder collaboration to address linked social-ecological challenges. It can support the implementation of the SDG agenda in Europe as landscapes represent a suitable operational scale for sustainability goals, linking local actions to the global context (Estrada-Carmona, Hart, DeClerck, Harvey, & Milder, 2014; Wu, 2013). The sustained delivery of multiple benefits for natural and human wellbeing can be elaborated in concrete contexts, landscape challenges assessed, and ways for conflict resolution among development objectives debated in a participatory way (Mbow et al., 2015; Milder et al., 2014). In this regard, we focus on terrestrial land-uses and ecosystem service provision, and analyse which ILM approaches can support land-use conflict resolution. Each of the examples highlights a particular challenge for land management in Europe, i.e., targeting a typical land-use conflict, and highlighting ways how integrated management can – or seeks to – foster multi-actor and multi-sector collaboration for enabling a transition towards achieving the SDGs. More particularly, we address the following two objectives:

1) To identify main characteristics of ILM based on insights from

landscape research;

2) To analyse the role these characteristics have played in land-use conflict resolution in three different European contexts. The analysis then serves as a basis to derive recommendations on how ILM can contribute to SDG implementation in Europe.

This paper is structured as follows: In Section 2, we introduce the main characteristics of ILM. From these we derive a list of eight analytical questions and select three ‘typical’ cases of land-use conflicts in Europe to explore how ILM is used for conflict resolution and the extent ILM characteristic have played out (Section 3). In Section 4, we discuss the potential and limitations of ILM approaches for SDG implementation across cases, and in Section 5 we draw conclusions for European landscape policy and practice.

2. Approach

2.1. Main characteristics of integrated landscape management

ILM has become a new strategy for landscape governance to address growing land-use conflicts in response to multifunctional management of landscapes worldwide (Freeman et al., 2015). Compared to conventional landscape planning approaches, ILM is more holistic, flexible, and coherent with a range of land uses and sectors (Reed et al., 2016). Its aim is to involve a range of stakeholders and to combine policies, information, planning, control, and negotiation for multiple land-use objectives, such as agricultural production, rural livelihoods, and nature conservation. ILM explicitly considers land rights, restrictions, and responsibilities (Estrada-Carmona et al., 2014).

Generally, ILM builds on four central characteristics: (a) It promotes multifunctional land uses and fulfills a range of land use objectives (cf. Mastrangelo et al., 2014); (b) it works at the landscape scale and includes deliberative planning and co-design of management approaches (Milder et al., 2014); (c) it incorporates inter-sectoral cooperation and the alignment of activities, policies, or investments, acknowledging conflicts and interference with other policy sectors and actors (Stenseke, 2016); and (d) it is participatory, in that it supports collaborative management within a social learning framework (García-Martín, Bieling, Hart, & Plieninger, 2016).

The underlying rationale for ILM is to achieve conflict resolution with the help of participation, collaboration, and learning. The appeal of ILM has resulted in the production of manifold concepts over the past 20 years that mainly differ in their management focus (e.g. Milder et al., 2014; Sayer et al., 2013; Scherr, Shames, & Friedman, 2012). Examples include Integrated Water Resource Management (IWRM), the Ecosystem Approach, Integrated Rural Development (IRD), and Integrated Natural Resource Management (INRM) (Reed et al., 2016). Related discourses in Europe have used terms such as Collaborative Landscape Planning, Landscape Approach, Landscape Governance, or Landscape Stewardship (e.g. Angelstam et al., 2013). Out of these more regional and sectorial approaches, ILM has developed as an umbrella discourse that is applicable globally and in science, practice, as well as policy (cf. García-Martín et al., 2016; Zanzanaini et al., 2017).

Landscape research has suggested central concepts for landscape approaches and principles of ILM for their better operationalisation and use. Sayer et al. (2013) were among the first who set up a comprehensive list of ten ILM principles. Based on a systematic review of hundreds of ILM cases, Freeman et al. (2015) recently identified six cross-cutting concepts that all guide the design and conduct of decision-making processes in landscape contexts as ‘good practices’. These, according to Mbow et al. (2015), can be further distinguished between principles that are related to overall stakeholder needs and aims, while others function as prerequisites or action items. Building on these conceptual considerations, we investigate whether ILM may overcome challenges related to SDG implementation in Europe due to its capacity to collaboratively achieve land-use conflict resolution.

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