



# Surveying views on Payments for Ecosystem Services: Implications for environmental management and research



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## ARTICLE INFO

### Article history:

Received 18 July 2017

Received in revised form 8 November 2017

Accepted 9 November 2017

## ABSTRACT

The concept of Payments for Ecosystem Services (PES) is globally of increasing interest. However, little is known about the views and expectations of professionals and practitioners expected to enable or implement this concept. Since these individuals design, select, shape and deliver environmental management, their views and expectations are critical to understanding how PES may play out in practice. Using the first survey on this topic, in the UK this research discusses the implications for future research and environmental management.

Responses indicate a range of views about PES and its potential effects. Most expect to see greater use of PES in future; and are cautiously positive about the environmental, social and economic consequences of doing so. Many hope PES may overcome existing challenges facing environmental management, subject to conditions or changes. The research also revealed tensions related to broader challenges in environmental governance – e.g. calls for standardisation may conflict with requests for adaptability. Meanwhile, other expectations – e.g. improved engagement with groups currently uninterested in the environment – indicate priorities that may be better addressed with other instruments. Varied views are likely in most countries and must be assessed to better understand the prospects and potential of PES.

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## 1. Introduction

Recent decades have seen increasing support for the use of Market Based Instruments (MBIs) to achieve goals in environmental management. MBIs are imprecisely defined, but usually involve pricing environmental attributes or ecosystem services, with the expectation of improving the economic efficiency of their management (Gómez-Baggethun & Muradian, 2015). MBIs include instruments such as carbon trading, wetland banking, biodiversity offsetting and Payments for Ecosystem Services, known as PES (Pirard, 2012). The growing attention to MBIs has attracted many critiques and questions (Muradian and Gomez-Baggethun, 2013). These critiques reflect misgivings about related concepts such as markets, capitalism, commodification and/or neoliberalism (Brockington & Duffy, 2010) and also practical doubts about when and how these concepts may be applied in practice (Reid & Nsoh, 2016).

PES schemes are particularly prominent in this debate. PES is typically defined as voluntary transactions where ecosystem ser-

vices are bought and sold between beneficiaries and providers of those services (Wunder, 2005). Payments are expected to be conditional on the delivery of ecosystem services, or actions to deliver those services; and the schemes are expected to provide 'additionality' i.e. go beyond what would be delivered in the absence of the scheme (Derissen & Latacz-Lohmann, 2013). However, there is debate about whether all these elements must be present for an intervention to 'count' as PES (Kumar et al., 2014; Sattler & Matzdorf, 2013; Wunder, 2015).

Implementation of PES is particularly widespread in developing country contexts, specially water management in Latin America (Martin-Ortega et al., 2013), where there have often been few other tools available to improve management. Even though PES has been identified as suitable for places with weak governance (Engel et al., 2008) it is now of interest in many developed countries that have a strong tradition of controlling environmental problems via regulation. Since the 1990s, many of these countries have implemented Agri-Environment Schemes (AES), which some argue are a form of PES, since the government pays farmers for actions intended to benefit the environment (Schomers & Matzdorf, 2013). However, there are potentially many other forms that PES could take. There are thus many debates about when and how to choose and use these approaches (Reid & Nsoh, 2016), and how to relate them

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to existing conservation approaches (Sattler & Matzdorf, 2013), a challenge compounded by theoretical dispute over what 'counts' as PES (Wunder, 2015).

One issue that has so far received little direct attention is the views of the range of professionals working on environmental management, who would be expected to enable and implement PES. Reviews and comparisons of schemes (e.g. Brouwer et al., 2011; Grima et al., 2016; Martin-Ortega et al., 2013) do not usually focus on attitudes *per se*, but indicate that the social context of schemes can be an important factor shaping the progress of interventions. Meanwhile, studies of individual schemes have highlighted a range of perceptions and attitudes held by stakeholders within schemes (e.g. Rodríguez-Robayo & Merino-Perez, 2017). These might range from enthusiasm to doubt or even hostility, which may relate to questions over the effectiveness or equity of PES outcomes (e.g. Calvet-Mir et al., 2015).

However, existing studies rarely provide insight into the perceptions of those 'environmental professionals' expected to enable and implement schemes. This can encompass anyone from a policy maker through to site managers, NGO groups through to academics. The interaction of these individuals and their institutions can have a large influence on understanding how PES practice evolves and differs from abstract concepts and logic of PES (Brimont & Karsenty, 2015). Since these individuals design, select, shape and deliver environmental management, their views and interpretations are critical to understanding how PES may (or may not) play out in practice.

It is therefore important to understand current views of individual instruments such as PES, to better understand the prospects and potential for further such instruments as well as to build understanding of the plurality of views within the environmental sector. To address this challenge, this study reports the views on PES held by the first survey of environmental professionals. The research uses the UK as an example of a developed country where there is a clear policy interest in PES. The UK is certainly not alone in developing experience on this topic (Schomers & Matzdorf, 2013), and use of the PES format amongst other European or developed countries is particularly notable in Germany and the United States (Matzdorf et al., 2014). However, the UK carried out one of the first national ecosystem service assessments, which highlighted the need to incorporate these in 'economic decision-making' (Bateman et al., 2013): subsequently Defra, the Department for Farming and Rural Affairs, commissioned three rounds of pilot PES projects between 2012 and 2015 (Environment Analysis Unit Defra, 2016). When we hosted a 2015 cross-sectoral workshop to share experience and ideas on PES in the UK, we encountered a wide range of understandings, attitudes and questions about PES (Waylen et al., 2015b). This suggested that academic views or policy support might not always be mirrored by the wider community of environmental professionals, and highlighted the need for more evidence on this issue.

Our research questions are: (1) What are current understandings of PES, and expectations of what it may achieve, within the UK environmental sector? (2) What does this indicate about whether and how to enable PES, to improve environmental management?

## 2. Methodology

### 2.1. Survey design and sampling procedure

We used a structured online survey to elicit understandings and opinions on PES held by environmental professionals in the UK. The design of the survey was informed by the PES literature (see previous section) and a 2015 workshop that we had co-organized

with the Ecosystem Knowledge Network<sup>1</sup>. Forty-five people had attended the workshop, from all parts of the UK and from all sectors (public, private, third sector and from research organizations). This had identified a wide range of expectations about PES, both positive and negative, and some confusion about the links between PES and other practices and concepts. This indicated a need for further research and action on this topic. Further details on the workshop and its outputs can be found in Waylen et al. (2015b).

The survey questionnaire (see [Supplementary Material](#)) aimed to build understanding of three topics: i) understandings of PES, i.e. what attributes constitute PES, what is the relationship between PES and other environmental instruments; ii) expectations of the effects of PES, i.e. are views about its consequences positive or negative and why, what types of effects are expected, and why or when might PES be appropriate; and iii) ideas about if and how to go about further developing PES in the UK, including priorities for future research and practice.

Each topic was probed using a mixture of open and close-ended questions, preceded by questions that profiled the respondent's background and familiarity with PES. The survey included both compulsory and non-compulsory questions and included opportunity for respondents to enter additional comments. The design of the questions did not presume an expert understanding or positive attitude to PES. The survey and overall research plan was checked and approved by the James Hutton Research Ethics Committee.

The survey was hosted on Leeds University servers and piloted three times in spring 2016 for its content and for web-programme functionality. The answers to the last pilot were incorporated into the final dataset, since no further substantive changes were introduced after this pilot. Questionnaire testers spanned representatives from several sectors (public sector, third sector, environmental knowledge broker and academic), as well as an expert in survey development. The survey was open from the 10th of May to 14th of July 2016. On average, it took around twenty minutes to be filled.

The research was purposively targeted at any individual "who works on any topics related to nature conservation or environmental management within the UK". Those who did not define themselves as such were screened out at the beginning of the survey. Emails to individuals, list serves and networks were used to promote the survey using the extensive network of contacts of the authors and their partner organizations. A snowball process was promoted as contacted individuals were asked to circulate the survey amongst their own contacts. Our emails emphasised that we encouraged any environmental professional to take part on the survey, regardless of their pre-existing understanding or views on PES. However, there may have been some self-selection by professionals with a degree of confidence in their understanding of PES, or a positive view of PES.

### 2.2. Survey participants

Our sample size (N) varies from 160, the number of respondents who completed the first parts of the questionnaire, through to 100 who reached the final question. For most questions, answers were not compulsory. There is thus variation in the sample size reported for different questions in the findings section.

Respondents included a range of job roles and professions, and were quite evenly spread across the private sector (28.1%), public sector (26.9%), third sector (22.5%) and academia (also 22.5%). Respondents' roles ranged from enabling, studying or directly carrying out management of nature and the environment. 60% of our

<sup>1</sup> The Ecosystem Knowledge Network is the primary network promoting information sharing and learning across the UK in support of holistic and inclusive management of the environment <http://ecosystemsknowledge.net/about>.

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