



More than money for conservation: Exploring social co-benefits from PES schemes

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ARTICLE INFO

Article history:

Received 24 March 2011

Received in revised form

25 November 2011

Accepted 26 November 2011

Keywords:

Environmental management

Caring for country

Aboriginal land management

ABSTRACT

Recent public policy approaches aimed at halting or reversing environmental decline have embraced market-based instruments (MBIs) including payments for environmental services (PES). A particular advantage of MBIs is cost efficiency as they exploit heterogeneity of opportunity costs of supply among competing providers of environmental services. PES schemes offer financial incentives to land owners and managers to engage in specified environmental maintenance and restoration activities. Such activities support natural capital and ecosystem services, which, in turn, generate human wellbeing. As this paper demonstrates PES schemes can also generate social co-benefits, which add to the total wellbeing gain achieved. This paper differentiates and illustrates – with particular reference to PES schemes involving Aboriginal people in northern Australia – three types of social co-benefits: ‘type A’ benefits accrue to the service provider as a direct result of the remuneration received, ‘type B’ benefits accrue to the service provider in the process of undertaking the service and are unrelated to remuneration, and ‘type C’ benefits represent the broader flow-on effects associated with types A and B benefits. The paper concludes that government PES investment into social co-benefit can provide a socially efficient and environmentally effective investment strategy in the absence of opportunity cost differential and the presence of extreme social disadvantage of service providers.

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Introduction

Human wellbeing is fundamentally linked to the state of the natural environment through the ecosystem services it provides (Daily, 1997; De Groot et al., 2002; MEA, 2005). Agricultural activity in particular has contributed to the degradation of nature’s capacity to provide ecosystem services and governments around the world now actively implement policy approaches aimed at internalising at least some environmental externalities. Approaches include regulatory, suasive and market-based instruments. Market-based instruments encourage behaviour change through market signals rather than through explicit directives regarding pollution levels, for example. They include the use of price-based mechanisms (in the form of taxes and payments), rights (positive and negative), and markets (Stavins, 1998; OECD, 2007). Among market-based instruments, right-based approaches such as cap-and-trade have proved particularly efficient at dealing with point pollutants (Grafton, 2005) while payments for environmental services (PES) are favoured for addressing diffuse impact matters such as water quality and biodiversity (Lockie and Carpenter, 2009). The

concept of PES is aligned with the beneficiary-pays principle, and as such is particularly attractive in settings where ecosystem service providers are either poor and marginalized landholders or influential groups of actors (Engel et al., 2008).

The principal objective of PES schemes is to buy as much environmental outcome (ecosystem services) and associated human wellbeing gain as possible for scarce public or private funding. The maximization of cost-efficiency in PES scheme design is all important (Engel et al., 2008) and cost-targeting mechanisms such as ‘auctions’ or ‘tenders’ can be used in some situations to determine participation and payment levels, in a way that exploits the opportunity cost heterogeneity between potential service providers and minimizes rent seeking opportunities for providers (e.g. Latacz-Lohmann and Van der Hamsvoort, 1997; Stoneham et al., 2003; Connor et al., 2008; Ferraro, 2008; Windle et al., 2009; Rolfe et al., 2011). This paradigm, however, ignores potentially important social externalities. The design of PES schemes is therefore often also influenced by considerations of equity, justice and legitimacy, and other ethical concerns (Turner and Daily, 2008), and by the consideration of social co-benefits that accrue to participating individuals, households, communities, the government and society as a whole.

For example, in developing country contexts, reported social co-benefits of PES have included poverty reduction, transition to more profitable and resilient land-use systems, strengthening of

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social capacity and supportive institutions (Pagiola et al., 2005; FAO, 2007; Milder et al., 2010). Social co-benefits add to the overall human wellbeing gains achieved by PES schemes. There is ongoing debate as to whether and under what conditions social co-benefits can be realized and to what extent they should be considered in the design and implementation of PES schemes (e.g. Pattanayak et al., 2010; Zilberman et al., 2008). There is evidence that the achievement of social objectives might come at the cost of environmental outcomes (Engel et al., 2008) and the consideration of potential trade-offs is therefore important in the design of PES schemes.

This paper contributes to the literature by (i) delivering a conceptual framework of different types of social co-benefits that can accrue from PES schemes, (ii) illustrating the different types of co-benefits with a focus on PES schemes and other government programs in northern Australia¹ and (iii) contributing to the discussion about the role of social criteria in PES scheme design.

Context

Human wellbeing has been variedly defined (Gasper, 2010) and conceptual and quantification approaches continue to emerge (Forgeard et al., 2011). In this paper, the term is used as per (Dasgupta, 2004), who defines it as synonymous with quality of life and distinguishes between personal and social wellbeing. Personal wellbeing is pluralistic and composed of a variety of objects, including material wealth, health, happiness, associational life, job satisfaction and a diversity of freedoms to be and to do. It is inherently subjective in that it is based on an individual's cognitive and affective evaluation of his/her life (Diener, 2009). Social (or community) wellbeing, then, is the aggregate of personal wellbeing at a given geographical or group level (Dasgupta, 2004).

Human wellbeing is fundamentally linked to the state of the natural environment through the ecosystem services it provides. Ecosystem services broadly include commodities and regulating, supporting, and cultural services (MEA, 2005). The term "services" contains aspects of ecosystem organisation (stocks, structure, natural capital), the operation of ecosystems (flows, functions and processes), and the outcomes that provide human benefits (goods, benefits, e.g. potable water; Fisher et al., 2009).

In an attempt to secure the conservation of natural capital and its capacity to deliver ecosystem services to humanity, a myriad of PES programs have been instituted. The term PES has been variedly used to mean either payments for 'ecosystem' or 'environmental' services (Greiner et al., 2009). In the context of this paper the distinction whether environmental services, ecosystem services or changes in environmental capital are remunerated is immaterial and 'PES' is used to encapsulate the full range of interpretations. PES, in their purest sense, fulfill a number of conditions (Wunder, 2005). They are based on voluntary, negotiated contracts between suppliers of ecosystem services and buyers. There is at least one buyer and at least one provider. The services being exchanged in the transaction are well-defined in the sense that they are either directly measurable or surrogate measures are available. Payments are conditional on the supplier meeting the service delivery specifications. In a complex real world, however, operationalising PES requires that conditions be relaxed in most situations (Engel et al., 2008). This paper therefore adopts the more pragmatic definition proposed by Tacconi (2011) of a PES scheme being a "transparent system for the additional provision of environmental services through conditional payments to voluntary providers", thus integrating the key principles of additionality, conditionality and voluntariness.

PES schemes have been largely directed at landscape-scale and diffuse pollution or biodiversity decline issues associated with land use change and agricultural intensification. PES schemes have been particularly popular with governments in Europe (agri-environmental policy) and Australia (natural resource management agenda), and with conservation agencies operating in developing countries (Wunder et al., 2008). In operationalising PES, on-ground programs tend to focus on a singular environmental objective though some bundled programs exist (e.g. Wendland et al., 2010). Focusing on one environmental service will often – but not always – enhance other environmental dimensions, i.e. generate environmental co-benefits (Daily et al., 2009; Nelson et al., 2009; Fisher et al., 2011), for example biodiversity conservation activities can result in water quality improvements. Achieving increases in non-commodity-production ecosystem services commonly involves production trade-offs but can sometimes achieve improvements in agricultural production, for example rainforest protection has been shown to enhance coffee production (Soto-Pinto et al., 2000). Where production trade-offs exist, opportunity costs of supply tend to be reflected in the level of payment received by service providers.

Cost-benefit frameworks have been developed to demonstrate how social efficiency of a program is determined by the relative private benefit/costs and social benefits/costs of targeted activities (Pannell, 2008; Pagiola et al., 2005), taking into consideration social benefits/costs associated with levels of ecosystem services provision. Social efficiency, however, is also influenced by matters such as additionality and leakage² (Engel et al., 2008), and social co-benefits. This paper elaborates on the latter consideration. Social co-benefits are human wellbeing benefits that arise not through ecosystem services purchased directly or indirectly, but rather through the way in which a program interacts with participants. The following section of the paper provides a framework for conceptualising these additional human wellbeing benefits and offers illustrations with specific emphasis on participation by Aboriginal people in PES schemes in northern Australia. We acknowledge that the term 'co-benefit' implies a generally positive association between environmental service provision and human wellbeing. This is not meant to distract from the possibility that poorly implemented PES schemes might generate social costs, particularly in situations where payments for environmental service provision do not fully compensate providers for opportunity costs (Palmer et al., 1995; Moran, 2007).

The social co-benefits of PES

Total human wellbeing arising from PES schemes includes the ecosystems services benefits as well as any social co-benefits they may generate. Adopting the framework developed by Greiner et al. (2009), we can differentiate and conceptualise three types of social co-benefits (Fig. 1), which are discussed below: 'type A' benefits accrue to the service provider as a direct result of the remuneration received. 'Type B' benefits accrue to the service provider in the process of undertaking the service, which are not related to remuneration, and 'type C' benefits represent the broader flow-on effects associated with type A and type B benefits. The sum of these co-benefits gives the total social co-benefits associated with any PES-style program. Subsequently, we illustrate this concept by specifically drawing on examples from Aboriginal caring for country programs in northern Australia because of the multiple ways in which Aboriginal wellbeing is connected to country (Larson et al.,

¹ We define 'northern Australia' to broadly generally encompass the area north of the Tropic of Capricorn and southern parts of the Northern Territory.

² Leakage refers to the displacement of ecosystem damaging activities to areas outside the PES application area.

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