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Purposes and degrees of commodification: Economic instruments for biodiversity and ecosystem services need not rely on markets or monetary valuation

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ABSTRACT

Commodification of nature refers to the expansion of market trade to previously non-marketed spheres. This is a contested issue both in the scientific literature and in policy deliberations. The aim of this paper is to analytically clarify and distinguish between different purposes and degrees of commodification and to focus attention to the safeguards: the detailed institutional design. We identify six degrees of commodification and find that all ecosystem services policies are associated with some degree of commodification but only the two highest degrees can properly be associated with neoliberalisation of nature. For example, most payments for ecosystem services (PES) are subsidy-like government compensations not based on monetary valuation of nature. Biodiversity offsets can be designed as market schemes or non-market regulations; the cost-effectiveness of markets cannot be assumed. To avoid the confusion around the concept 'market-based instrument' we suggest replacing it with 'economic instruments' since relying on the price signal is not the same thing as relying on the market. We provide a comprehensive framework emphasising the diversity in institutional design, valuation approaches and role of markets. This provides flexibility and options for policy integration of biodiversity and ecosystem services in different countries according to their political and cultural context.

1. Introduction

Valuation of ecosystem services (ES) and the use of economic instruments are increasingly becoming part of the international discussions on scaling-up biodiversity financing. The Convention of Biological Diversity (CBD) states that "biodiversity values" should be integrated into development strategies, planning processes, national accounts, and reporting systems (Aichi Biodiversity Target 2) and calls for the elimination of harmful subsidies as well as the development of "positive incentives for the conservation and sustainable use of biodiversity" (Target 3).[1]

The focus on biodiversity values and 'Innovative Financial Mechanisms' (IFMs) has for some actors become extremely controversial within the CBD process, especially the use of economic instruments like payments for ecosystem services (PES) and biodiversity offsets.[2] Without appropriate institutional arrangements that safeguard (ensure) biodiversity and equity, there is a risk that economic instruments, as well as other types of policy instruments, will not contribute towards the three CBD objectives (Ituarte-Lima et al., 2014). These are (i) conservation of biological diversity, (ii) the sustainable use of its components, and iii) the fair and equitable sharing of the benefits arising out of the utilisation of genetic resources. The CBD calls for a broader governance approach to valuation and financing so that the IFMs do not "undermine achievement of the Convention's three objectives" (CBD, 2010). This motivates a focus on safeguards, which we define as the specific factors in the institutional design and implementation

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[1] http://www.cbd.int/sp/targets/.

[2] E.g. the CBD COP-10 meeting in Nagoya, Japan, October 2010, failed to agree on Innovative Financial Mechanism (Biodiversity Financing Mechanisms) which motivated a special Dialogue Seminar in March 2012 to resolve these issues, see Farooqui and Schultz (2012).

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procedures aimed to ensure good environmental and social outcomes.

The risks of using market-based instruments for financing biodiversity and ES range from ethical arguments about transforming human-nature relations by "commodity fetishism" (Kosoy and Corbera, 2010) and crowding-out moral obligations as motives for nature protection e.g. (Luck et al., 2012), to instrumentalist arguments focused on the efficiency and equity of the processes and outcomes of such schemes e.g. (Corbera et al., 2007). This is often associated to neoliberalism. Based on McAfee and Shapiro (2010), we define neoliberal ES policies as instruments designed on the premise that the market allocates scarce ecological resources more efficiently than 'command-and-control' regulations and treaties.

Normative framings of ES and commodification are important but sometimes become an obstacle to addressing the empirical instrumental question of how different economic incentive schemes actually perform (Gómez-Baggethun and Ruiz-Pérez, 2011: 622; Dempsey and Robertson, 2012). In this paper we emphasise an instrumentalist approach. The aim is to analytically clarify and distinguish between different purposes and degrees of commodification and to refocus attention on the detailed institutional design of policy instruments, in particular controversial economic instruments.

This paper interrogates the concepts of commodification, valuation, and markets in order to build a framework for policy integration of ES, i.e. addressing and integrating ES concerns in sector policy making (Nilsson and Persson, 2003). Based on this framework, we further analyse the foundations for payments for ecosystem services (PES) and biodiversity offsets, to explore a menu of options for tailoring these instruments to accommodate country-specific concerns. Since biodiversity and most ES are much more difficult to measure than carbon dioxide and other emissions, our framework of commodification is not directly transferable to pollution quotas, carbon markets or emission-trading systems.

2. Six degrees of commodification

Commodification of biodiversity and ES means, broadly speaking, the expansion of market trade to previously non-marketed areas of the environment (Luck et al., 2012). This is often described as a process related to idea of commensurability underlying monetary valuation (Aldred, 2002; Vatn, 2009). Kosoy and Corbera (2010) identify three necessary stages in commodification: first defining an ecosystem service, second assigning an exchange-value, and third create a market. Adding property rights, Gómez-Baggethun and Ruiz-Pérez (2011) identify four main stages of commodification: (i) economic utilitarian framing, (ii) monetary valuation, (iii) appropriating the value of ES through formalisation of property rights, and (iv) commercialisation, i.e. market trade by PES or offsets.

However, these stages need not be consecutive and the process is not necessarily unidirectional or irreversible (Gómez-Baggethun and Ruiz-Pérez, 2011), hence we use degrees rather than stages. Based on Muradian et al. (2010: 1206), we define the degree of commodification as the extent to which the value of biodiversity or an ecosystem service has become a tradable commodity.

We find it useful to analyse commodification in terms of policy integration and in this more empirical context at least two more degrees need to be added, as well as the zero degree (policy integration without commodification). The justification for these degrees is discussed below. Empirically, the degree of commodification is a matter of the institutional design of a particular policy instrument. The stated purpose of introducing this policy instrument is tailored to the specific ideological orientation of the government and can be observed e.g. in national legislation and underlying government bills. Together, the degree (institutional design) and stated purpose (justification) influence the legitimacy of the instrument. When the detailed institutional arrangements are analysed we find that what are generally described as PES and biodiversity offsets may involve different degrees of commercialisation and hence commodification. Hence, we find it useful to distinguish between six degrees (plus the zero degree) of commodification:

0. "No commodification" (zero degree) includes intrinsic or relational appreciation of ecosystems, in which the rationale for protecting nature is nature itself. 'Relational' include indigenous cosmologies emphasising reciprocity and cyclical processes (MA, 2005a: 86–87) as well as interaction for reasons of spirituality and even subsistence farming (Turnhout et al., 2013). The policy options include long-established policy instruments with no commodification such as national parks and nature reserves as well as the more recent notion of 'environmental flow' in water governance[3] when justified by deontological ethics (moral duties) or nature's intrinsic values. This also includes approaches linked to the rights of nature or the inalienable rights of indigenous peoples to sustain their cultural and sacred practices (the viability of biocultural sites for cultural and sacred practices are often linked with protecting intrinsic values of biodiversity).

International legal and policy options involving no commodification include new legal paradigms recognising rights of nature which have been characterised as "Earth Jurisprudence" (Burdon, 2011). As part of this, Higgins et al. (2013) question the belief that the market will provide effective and efficient remedies and have proposed "Ecocide" as part of international criminal law which would aim to pre-empt, prevent and prohibit mass damage, destruction or loss of ecosystems whether committed during or outside of war-time as well as impose an associated legal duty of care upon persons in positions of superior responsibility. Other international initiatives include the World People's Conference on Climate Change and the Rights of Mother Earth,[4] Global Alliance for the Rights of Nature, and the Community Environmental Legal Defence Fund (Daly, 2012). At the national level, examples of intrinsic values include the recent Constitutional recognition of the rights of nature in Ecuador (Burdon, 2011)[5] and rights of Mother Earth and good living in Bolivia's Law 071 and Law 300.[6]

1. The first degree of commodification arises under the instrumental (or even economic) framing of nature, though without explicit efforts at valuation. The separation of humans and nature and hence an instrumental view of nature can be found already in the works of Francis Bacon (1561–1626) (Merchant, 1980). The expansion of this instrumental framing to include ecosystem processes was popularised by e.g. Ehrlich and Mooney (1983) and Daily (1997). Since The Millennium Ecosystem Assessment (MA, 2005) ecosystem services and instrumental framing have become mainstream in environmental policy although this may not involve monetary (economic) valuation

[3] Here understood as "how much water is needed by a river and when, in order to support the river's basic ecological functions" (Groenfeldt and Schmidt, 2013: 2).

[4] http://pwccc.wordpress.com/2010/04/24/peoples-agreement/ Accessed 27 November 2014.

[5] Ecuador became the first country to adopt a Constitutional provision endowing nature with inalienable rights. The Constitution recognises that "Nature or Pachamama, where life is reproduced and exists, has the right to exist, persist, maintain itself and regenerate its own vital cycles, structure, functions and its evolutionary processes" (Burdon, 2011).

[6] See http://www.ine.gob.bo/indicadoresddhh/archivos/alimentacion/nal/Ley%20N%C2%BA%20071.Pdf and http://www.planificacion.gob.bo/sites/folders/marco-legal/Ley%20N%C2%B0%20300%20MARCO%20DE%20LA%20MADRE%20TIERRA.pdf