



Payments for Ecosystem Services in the Peri-Urban: Considering Institutional Dimensions

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Abstract

Payments for Ecosystem Services have become a popular environmental management tool in development policies recent years, especially in Latin America. After initial practical applications in developing countries, it has been met with a lot of interest in academia as well. This apparently simple solution to the problem of externalities, proposed by the Coase Theorem, when viewed from an institutionalist perspective, is much more complex as it involves human behavioral changes that need to be mediated. Adding to a predominantly rural debate on PES, this paper proposes to consider the payments for ecosystem services in the peri-urban space where socio-historical dimensions and underlying power relations are even more complex. Here the choice for such a policy solution might cause unintended effects jeopardizing its promise for equity between the rural and the urban.

Key words: Payment for Ecosystem Services. Power. Peri-urban.

Theme Area: Public Environmental Management.

Pagamento por Serviços Ambientais no Periurbano: Considerando as Dimensões Institucionais

Resumo

Os pagamentos por serviços ambientais têm-se tornado em uma ferramenta popular de gerenciamento ambiental nas políticas públicas nos últimos anos, especialmente na América Latina. Após suas primeiras aplicações práticas em países em desenvolvimento, tem recebido também muito interesse pela academia. Esta aparentemente simples solução ao problema das externalidades, proposta pelo Teorema de Coase, se visto de uma perspectiva institucionalista, se apresenta muito mais complexa, pois envolve mudanças comportamentais humanas que precisam ser mediadas. Adicionando-se a um debate predominantemente rural sobre o PSA, este artigo propõe considerar as dimensões sócio-históricas dos pagamentos por serviços ambientais no espaço periurbano onde são ainda mais complexas as relações de poder subjacentes. Aqui a escolha de tal solução de política pública pode causar efeitos não intencionais, comprometendo sua promessa pela equidade entre o rural e o urbano.

Palavras-chave: Pagamento por Serviços Ambientais. Poder. Periurbano.

Área Temática: Gestão Ambiental Pública.



1 Introduction

Ecosystem Services (ES) are commonly conceptualized as "nature's benefits to the people" that conservation biologists and natural resource economists used to exemplify the connections between human well-being and nature. Since the 1990s the concept has seen increasing interest in academia and has finally been mainstreamed in many natural and social sciences through the Millennium Ecosystem Assessment (BERBÉS-BLÁZQUEZ; GONZÁLEZ; PASCUAL, 2016). The payment for such ecosystem services (PES) as a practical means for the implementation of this theory for conservation has become a very popular tool for combining development issues, including, biodiversity conservation, supply of timber or water resources, investment and equity since the 1990 and in prominent schemes on the national and local levels, like e. g. in Costa Rica in the developing world (MURADIAN et al., 2010; KUMAR; KUMAR; GARRETT, 2014).

2 Payments for Ecosystem Services in Current Development Policy Debates

Payments for Ecosystem Services have high policy relevance in developing countries, especially in Latin America, where this policy tool has received much attention. A "favorable international political reception" and scientific interest can be seen as an explanation for the take-off and wide acceptance of PES schemes, e. g. the popular "sister assessment" of MA and IPBES have shown (SCHOMERS; MATZDORF, 2013, p. 26; BERBÉS-BLÁZQUEZ; GONZÁLEZ; PASCUAL, 2016). In an extensive review, Schomers and Matzdorf (2013) analyzed a total of 457 case studies pointing out that, while the tool is applied under varying names in industrialized countries the overwhelming majority of PES studies is found in the developing world, and out of that most cases are in Latin America.

The underlying theory for PES is largely based on sub-disciplines of economics and its debates with other fields related to the study of nature. One of the main assumptions is, that environmental externalities (both positive and negative) are largely not taken into account through marketization, causing long-term costs to society and market actors. These imperfect markets need be complemented or sanctioned and create property rights, so the valuation of and ultimately payment for those externalities can be considered. Institutional economics and environmental economics have made the study of the institutions governing socio-ecological systems a key factor in their considerations for development policies using ES as an effective communication tool (KUMAR; KUMAR; GARRETT, 2014).

These considerations are based on the assumption of a market failure, that is, the free market by itself does not mediate externalities in an optimal way (GÓMEZ-BAGGETHUN; MURADIAN, 2015). However, several authors agree that certainly not all PES are market transactions. The first argument is that even those that may be considered as such, tend to be rather imperfect on the ground. The second argument is that PES is certainly not always the best tool for resolving certain kinds of environmental externality problem (ENGEL; PAGIOLA; WUNDER, 2008; SCHOMERS; MATZDORF, 2013).

According to Schomers and Matzdorf (2013) the "label" PES does not necessarily address the original conceptualization as described by Ronald Coase and emphasized by popular PES definitions as e. g. by Wunder (2005; WEINS, 2018). The applied models often do not resemble simple market-based buyer and seller relations. An important analytical distinction that has to be made in the type of PES, is between governmental payment schemes,

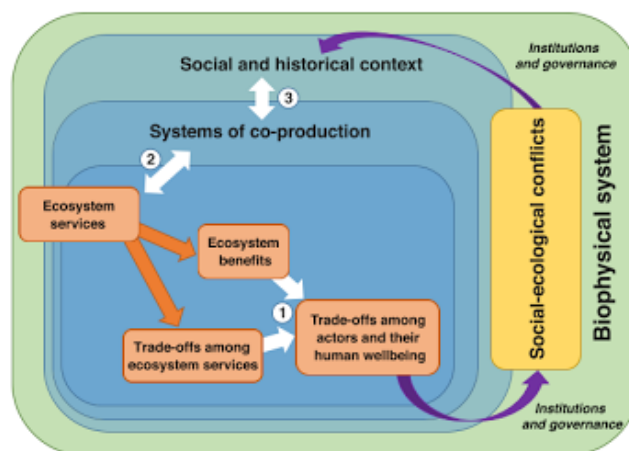


often referred to in technical and scientific literature as Pigouvian schemes on the one hand (VATN, 2010), and small sub-national municipal and partly even private ones on the other. Xiong and Wang (2010, p. 390, apud. SCHOMERS; MATZDORF, 2013) define the minimally differing Chinese approach (“eco-compensation”) as:

“fiscal transfer compensation mechanism that increases the cost (or income) of damaging (or protecting) environmental actions through charge (or compensation), and encourage operators to decrease (or increase) due to the external non-economy (or external economy) brought from the damage (or protection) actions so as to achieve the objective of protecting resources.”

In this context, Vatn (2010: 1245) hold that institutions “can be understood as solutions to collective choice problems,” and the respective PES contracts are governance structures shaping those institutions. Considering institutions as “formal and informal rules which regulate what to do and not to do in a given situation,” PES can be understood as a new institution “designed to enhance or change natural resource managers’ behavior in relation to ecosystem management through the provision of economic incentives” (CORBERA et al., 2009: 745). As such, Muradian et al. (2010), after more than ten years of discussion on the issue, propose to refine the established definition of PES as “a transfer of resources between social actors, which aims to create incentives to align individual and/or collective land use decisions with the social interest in the management of natural resources” (MURADIAN et al., 2010). The consideration of local social interests is important, because, as Berbés-Blázquez, González and Pascual (2016, p. 136) point out, there can be serious equity issues e.g. “where cultural ecosystem services associated with recreation and ecotourism are maintained for the enjoyment of (mostly) affluent groups ignoring local needs.”

Figure 1. Conceptual model showing the blind spots that limit the potential of the MA-IPBES framework for transformational change towards sustainability and social justice.



Source: BERBÉS-BLÁZQUEZ; GONZÁLEZ; PASCUAL, 2016.

Three blind-spots that have not been addressed in the Millennium Ecosystem Assessment and the currently ongoing IPBES processes can be already pointed out. First, the assumption of a linear trickle down effect from ES to human well-being in practice does not hold true. Building on Potschin and Haines-Young's (2011) idea of a rather natural ES cascade, Spangenberg, van Haaren and Settele (2014) state that the "provision of ES is



determined by human agency, not ecosystem functions". Secondly, human labor is need in the co-production of ES (as also pointed out by Kosoy and Corbera, 2010). Huntsinger and Oviedo (2014) even propose to refer to ES as "social-ecological services" to point to the social apparatus involved in transforming an ecological function into an actual benefit to a particular population (apud. BERBÉS-BLÁZQUEZ; GONZÁLEZ; PASCUAL, 2016). The third blind-spot in the ES assessments is that PES is often regarded to be in a surprisingly a-historical environment, often completely lacking socio-cultural and historical context that greatly influences not only the programs' effectiveness, but also its development policy implications. This last key finding of Berbés-Blázquez, González and Pascual (2016) will be explored in more detail below.

Schomers and Matzdorf (2013, p. 27) point out the potential issues of "misinterpretations and unintended outcomes when findings on strength, weaknesses, opportunities, pitfalls or any other factor are simply transferred across countries", as payments "require collective institutions representing and capable of collecting revenue from all beneficiaries of the service" (Farley and Costanza, 2010, p. 2065). It is thus key to understand that ecosystem management in any given setting responds not just to the dynamics of biophysical factors, but also to an institutional context shaped by particular types of knowledge, ways of doing, habits and norms" and that these are historically molded by power relations (MCCUSKER; CARR, 2006). Current approaches to ES valuation, including economic valuation, are generally blind to the historically determined unequal distribution of property rights that determines the potential benefits derived from ecosystems (BERBÉS-BLÁZQUEZ; GONZÁLEZ; PASCUAL, 2016).

Kumar, Kumar and Garrett (2014) conclude that there are "several limitations from human behavioural and rights perspectives. Most of these limitations arise from the necessary precondition required for a transaction to take place between the parties involved." There are several examples of PES aiding to dispossess poor participants and override their property rights. The challenges for poor farmers becoming service sellers are thus both in explicit access rules, as well as in informal structural constraints. In order for PES to reach its equity, participation and social justice promises, underlying social factors like trust, motivations, profiles of the buyers and sellers must be explored and understood by policy makers. The promotion of and investments in technologies that augment availability of and reduce pressure on ES are necessary. But also, the policies that are being created need to take into account country and culture specific contexts. Finally, PES are not "silver bullets" for conservation or development (KUMAR; KUMAR; GARRETT, 2014; SCHRÖTER et al., 2014).

3 PES in the Peri-Urban: A Solution to Disparities?

PES is mostly considered as a conservation tool in rural areas (GUTMAN, 2007; SILVA et al., 2017). Most traditional conservation approaches have lead practitioners to disconnect ecosystems and human society to protect species, ecosystems and landscapes from negative human impacts (MARTÍN-LÓPEZ, B.; MONTES). No territorial perspective is considered and contemplating possible synergies in the rural–urban interface, as those synergies are often not well enough defined. However, those very connections could easily foster place-based policy, considering issue-specific institutional arrangements that transverse administrative boundaries (ALLEN, 2003; SILVA et al., 2017). The idea of ES and PES has made it possible to analytically justify anew the reconciliation of urban economic development with rural environmental conservation and restoration projects (SILVA et al.,



2017).

Allen (2003) confirms that this “urban–rural dichotomy” is indeed deeply internalized in many planning systems, and in its inadequacy currently “(mis)informs” the setting up of institutional arrangements as well as planning approaches and tools. The mixed rural and urban features of the peri-urban space show particular possibilities, but at the same time great “potential for conflicts as a result of the physical proximity of different land uses and related social, economic and physical processes.” The strong implications of geographical and administrative boundaries are not to be underestimated here, as they very often prevent strategic approaches to environmental planning and management, that are ultimately issues also addressing socioeconomic inequalities and political processes.

Based on the findings of Pagiola et al. (2008) on a case study in Nicaragua, Muradian et al. (2010) affirms that poorer landholders do in some cases get to participate as providers of environmental services and benefit from the schemes. However, there is general evidence that the “effects of PES schemes on poverty alleviation remains mixed”. Costa Rica, an international reference case for the developing world in terms of PES, is an example of how a forest conservation scheme can also involve mostly well-off landholders (MIRANDA et al., 2003; ZBINDEN; LEE, 2005; KOSOY et al., 2007 apud. MURADIAN et al., 2010). There is also evidence on discrimination against poor small-holders in terms of formal land tenure titles that are a common requirement for payment contracts. Limited land endowments are reported as a major difficulty in participating in PES schemes.

Allen (2003) speaks of “differential social and economic impacts of environmental change” that do not only have implications for beneficiaries and losers of urban development, but it has broader political implications, as it alters “power relations between actors and the institutionalization of responses to the environmental problematic.” Such findings and consequent considerations have to be taken into account when applying powerful conservation tools like PES. Berbés-Blázquez, González and Pascual (2016) suggest conducting stakeholder analysis and social network analysis in natural resource management as proposed e. g. by Prell, Hubacek and Reed (2009), in order to generate more scientific data to support decision makers. Similarly, more complex models for socio-ecological systems like the IPBES framework could offer an answer to the problems of PES in the rural-urban space. Considering “formal and informal institutions and governance structures as key mediating factors that connect changes in nature/biodiversity and changes in good life/human well-being” must be understood in a systemic and connected way (DÍAZ et al., 2015; BERBÉS-BLÁZQUEZ; GONZÁLEZ; PASCUAL, 2016).

Pablo Gutman (2007), in a comparison with the first urban revolution, proposes a thought experiment on a “New Rural-Urban Compact” in which concerted efforts from governments, nongovernmental organizations but also businesses help to make fair “rules of the game” (as many of the institutional scholars cited above agree) that “encourage the participation of the rural poor in the new ecosystem services markets, and provide them with the start-up support to get there.”

4 Conclusions

Finally, the topic of payments for ecosystem services is an indisputably effective and attractive policy tool for managing and enhancing the natural functions that benefit humans in such diverse ways as providing drinking water, to recreational and spiritual values of being in contact with nature. The debate around the conceptualization of ecosystem or environmental



services, nature's benefits to the people or "nature's gifts" is a still ongoing dispute about concepts and definitions, as well as rights and obligations. Particularly in the rural, but also in the peri-urban realm, where the less well-off communities depend much more directly on the functioning of ecosystems for their daily life, PES schemes and their governance mechanisms are also a source of conflict and dispute about land (território).

As humanity becomes increasingly urban, development issues to be resolved will inevitably become more urban as well. What can not be forgotten however, is that cities highly depend on their natural surroundings, and humans more generally, are much more intertwined and interdependent with the natural environment than it seems. Basic ES like water and food supply, air regulation, but also recreation and education, exemplify how the quality of nature, inside or outside of the city, has a direct effect on the quality of human life.

Disconsideration of the human dimension of those interactions has shown some unintended effects of an initially well-intended tool. PES obviously have to be understood in their natural-physical environment to be effective in terms of biodiversity conservation and improvement or restoration of ecosystem functions. What is equally important however, is an understanding of the socio-historical environment as well. This is especially true when considering the potential effects of a PES scheme on local power relations. Pre-existing institutions, especially when they are informal (undocumented or due to cultural norms) are rarely taken into account in the more and more formalized policy-making processes. Yet, their disconsideration can jeopardize not only the success of projects and programs, and thus investments in conservation that could have been used otherwise, but also social networks and cohesion and worsen the situation of already marginalized populations. A look beyond our cities' administrative borders is necessary to ensure fair and equitable development for the generations to come.

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