



# What's in a name? Epistemic perspectives and Payments for Ecosystem Services policies in Nicaragua



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## ARTICLE INFO

### Article history:

Received 3 October 2014  
Received in revised form 25 May 2015  
Accepted 27 May 2015  
Available online 2 June 2015

### Keywords:

Payments for Ecosystem Services (PES)  
Epistemic circulation  
Neoliberalism  
Conservation  
Sustainable development  
Nicaragua

## ABSTRACT

As Payments for Ecosystem Services (PES) continues to gain attention as a policy tool for securing efficient and effective environmental governance, a rising tide of criticism warns of the potentially detrimental social–ecological consequences of nature commodification and ‘green neoliberalism’. These concerns are also expressed at international policy fora, where the market rhetoric has met with political resistance from countries belonging to the ‘Bolivarian Alliance for the Peoples of Our America’ (ALBA). But despite this ideological opposition, some ALBA countries are increasingly integrating PES into their environmental policies. In this article we consider the reasons underlying this apparent contradiction and relate it to the notion of ‘epistemic circulation’. On the basis of a study on the evolution of PES-thinking in Nicaragua (an ALBA member) and a reassessment of the supposed ‘success’ of an influential pilot project, we shed light on the forces driving the adoption of particular PES modes and contextualise practical difficulties to endorsing more critical approaches to the tool. Instead of either ideologically rejecting PES as a neoliberal evil or embracing it uncritically as the new panacea, we argue that it is precisely through the socio-political processes surrounding environmental governance debates that the application of PES is shaped. In practice, it may either contribute to an imposed and dispossessing form of capitalism, or tend towards a more negotiated and socio-culturally embedded version of it. Only through its reconceptualisation based on political–cultural primacy rather than market-fetishism can PES achieve its true potential within a broader strategy towards improved environmental governance.

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## 1. Introduction

With the widespread adoption of the Ecosystem Services (ES) framework, new market-inspired conservation policy instruments, such as Payments for Ecosystem Services (PES), have come to dominate international environmental policies. Market-based instruments (MBIs) for conservation are hailed for their capacity to ensure efficient and effective environmental governance (Pagiola et al., 2002). A detailed conceptualisation of what ‘markets’ constitute and the extent to which MBIs are based on real markets remain points of contention (e.g. Pirard, 2012). Moreover, a growing body of critical literature largely conflates MBIs to the idea of nature commodification and contextualises it within a broader political-economic ideology of ‘green neoliberalism’ or ‘neoliberal conservation’ (Büscher et al., 2012; McAfee, 1999). The rising popularity of MBIs has also engendered pragmatic resistance to its

practical implementation. Many challenge the uncritical enthusiasm for MBIs and highlight potentially negative social and environmental consequences of market-based conservation mechanisms (Büscher, 2012; Muradian et al., 2013). Such concerns have been voiced at international policy fora such as the UNFCCC, where market rhetoric has faced substantial political resistance from countries belonging to the ‘Bolivarian Alliance for the Peoples of Our America’ (Spanish abbreviation ALBA)<sup>1</sup> (Bull and Aguilar-Støen, 2015; Pirard and Lapeyre, 2014). Despite the ideological opposition to MBIs and PES schemes, various ALBA member countries, including Ecuador and Nicaragua, are increasingly integrating PES into their national environmental policies (e.g. de Koning et al., 2011; Van Hecken, 2011). In this article, we consider what factors underlie this paradox. On the basis of a study of PES thinking in Nicaragua, our analysis sheds light on what drives particular modes of PES adoption

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<sup>1</sup> ALBA brings together the socialist-governed countries of Latin America and the Caribbean.

and it contextualises the practical difficulties to endorsing more critical approaches to PES.

We focus on Nicaragua for several reasons. First, Nicaragua faces some urgent environmental challenges. Its current deforestation rate of 2.11 per cent per year, with a net annual forest loss of around 70,000 hectares, is one of the highest in Central America (FAO, 2010). Second, confronted with such challenges, the Nicaraguan government has been obliged to reassess its predominantly top-down and largely ineffective regulatory environmental policy model (Ravnborg, 2010). New market-based approaches, including PES, have been proposed and piloted in Nicaragua. Although most PES experiments are incipient, small-scale and driven mainly by international or national NGOs and multilateral organisations, Nicaraguan state actors are showing growing interest. Nonetheless, as will be discussed in due course, policy formulation and implementation in Nicaragua are still far removed from the more articulated and state-driven PES approaches encountered in countries like Costa Rica, Mexico and Ecuador (de Koning et al., 2011; Fletcher and Breitling, 2012; Shapiro-Garza, 2013). Finally, Nicaragua's active participation in the 'anti-neoliberal' ALBA alliance provides an interesting case for assessing how this alliance's ideological opposition to market-based PES discourse plays out in practice beyond the rhetorical references to respecting 'Mother Earth'.

In the following section we outline the theoretical context of our analysis. In so doing, we consider the conceptual underpinnings of PES and the related academic debates on different approaches to PES. They differ in their degree of reliance on market-based conceptualisations as panacea solutions and the level of integration of PES into a broader, explicit and deliberate, socio-institutional approach. In Section 3 we discuss the incipient adoption of references to PES in environmental legislation and policy discourses in Nicaragua, and we analyse some of the main drivers behind the emergence of PES thinking in the country. This provides insight into the dominance of an implicit market-based framing of PES and the paradox of its practical implementation despite ideological opposition. The key issues in the academic PES debate and the agency that local actors possess in (re)shaping market-based interventions are illustrated in a critical reassessment of a key PES pilot project (Section 4) that became a model for 'epistemic circulation' (Büscher, 2012, 2014) of market-based PES solutions in Nicaragua and elsewhere. Our empirical reinterpretation of this 'showcase' uncovers the limitations of the market-based panacea approach and underlines the need for deliberate and critical scrutiny of supposed 'causes and effects' in such 'success stories'. More specifically, our empirical example reveals how representations that frame complex social–environmental problems in simplified, one-dimensional terms of individual economic rationality and externalities risk profoundly misrepresenting underlying social–political realities and plainly ignoring critical structural power and knowledge issues. In Section 5 we draw lessons towards a more coherent and flexible environmental policy framework, for Nicaragua and elsewhere.

## 2. PES – beyond market rhetoric?

Although there is debate on the precise governance nature of PES (e.g. Muradian et al., 2010; Wunder, 2013), it is generally considered a market-based conservation instrument (Engel et al., 2008; Muradian et al., 2013). Mainstream PES is founded on the belief that environmental degradation is caused by the failure of conventional markets to duly account for the public goods or positive externalities that ecosystems provide to society. In this context, PES also builds on the supposition that private landowners will incorporate conservation or provision interests into their

decision-making if they coincide with their direct economic interests. Payments for positive externalities (ecosystem services) associated with environmentally-sound land-use practices are assumed to provide sufficient incentive for environmental considerations to be included in landowners' decision-making (Engel et al., 2008). Indeed, Wunder defines PES as a *voluntary* transaction where a *well-defined* ES (or a land-use likely to secure that service) is 'bought' by an *ES buyer* from an *ES provider* if and only if the ES provider secures ES provision (2005:3). This mainstream approach to PES builds on a popular interpretation of the Coase theorem, which predicts that, if transaction costs are sufficiently low and property rights clearly defined and enforced, individual and voluntary bargaining through the market will lead to the most efficient allocation of externalities (Coase, 1960).

Although Wunder's definition has been widely criticised for being overly restrictive and normative (e.g. Muradian et al., 2010; Tacconi, 2012), it aptly captures the theoretical characteristics that distinguish PES from other environmental policy approaches. First, the voluntary nature of the transaction presupposes that ES providers can choose to either respond or not to the monetary incentives provided by the potential purchaser of ES. This characteristic distinguishes the transaction from command-and-control approaches, where choice of ES supply is restricted by force or by consensus<sup>2</sup> (Wunder, 2005). Given the difficulty of organising the market on the demand side, it is often more convenient for the state (usually with the support of international donors), local authority or other governance body to assume the role of the buyer and to act as the representative expression of public demand (Vatn, 2010). However, even if governments, communities or other outside organisations finance PES, it remains a market-based governance model, as the supply response stems from individual decision-making mediated by price incentives<sup>3</sup> (Van Hecken and Bastiaensen, 2010a).

Second, PES requires a transfer of (monetary or in-kind) resources from buyer to provider, possibly via an intermediary (e.g. a water utility or NGO). Here, the PES approach is particularly innovative: rather than to focus on indirect conservation actions (as in Integrated Conservation and Development Projects, e.g. Wells and Brandon (1992)), it ties the payments directly to the environmental goals (Ferraro and Simpson, 2002). Finally, the hardest and most important requirement to meet, according to Wunder (2005), is the conditionality criterion, whereby payments are dependent on contractual ES delivery. In practice this implies the establishment of a baseline and the monitoring of compliance by the buyers or intermediaries, which – in addition to technical/scientific feasibility issues – may give rise to prohibitive transaction costs.

As the revenue flow generated by selling ES is believed to contribute to local development, PES is also widely perceived as a promising tool for rural poverty alleviation (Pagiola et al., 2005). This optimism is reflected in international climate policy frameworks, which, through the promotion the UN programme for

<sup>2</sup> Note, however, that freedom of choice is usually limited either to accepting or rejecting payments for the provision of certain (arbitrarily chosen) ES, which raises important questions of procedural or 'franchise' equity, the latter referring to 'the process of defining which [ecosystem] services are to be conserved' (Farrell, 2014:138).

<sup>3</sup> The terms 'Coasean' and 'market-based' refer to a governance model and approach to PES based largely on the belief that compliance and individual or collective action can be achieved through decentralised and individual price incentives. The term 'market-based' refers to Uphoff's (1993) distinction between three main governance models (bureaucratic or command-and-control, market-based, and community-based or voluntary action models). Each model relies on different instruments and underlying philosophies to induce compliance and collective action. In the market-based model, 'decisions are left to individuals to calculate private advantage without reference to broader interests of the public good' (ibid: 610).

Reducing Emissions from Deforestation and forest Degradation (REDD+), are engaging in 'the world's largest international PES experiment' (Corbera, 2012).

The presumed advantages of PES over other policy instruments are, however, not uncontested. Some scholars renounce PES as a neoliberal political instrument, a technical-institutional fix that fails to prevent further destructive capitalist expansion and actually reinforces detrimental social and environmental outcomes (e.g. Büscher, 2012; McAfee, 2012). Their resistance stems from fundamental concerns about the commodification of nature (Büscher et al., 2012; McAfee, 1999). Kosoy and Corbera (2010) refer to PES as a form of 'commodity fetishism' whereby the creation of new commodities (ES) threatens to disguise the social relationships underlying the production process. Thus, PES implementation can result in increased competition for control over valuable flows of services and the ecosystems that provide them, possibly leading to new forms of environmental dispossession and 'green grabbing' (Fairhead et al., 2012; Redford and Adams, 2009).

PES mechanisms are also increasingly questioned on the grounds of global environmental justice issues (e.g. Sikor and Newell, 2014). For example, the economic 'lower-cost-of-conservation' argument underlying most international ES trading mechanisms, including the Clean Development Mechanism (CDM) and voluntary carbon markets, entails an apparently purely technical opportunity for developed countries to buy conservation more cheaply in developing countries. However, it can amount to payments for 'renouncing development' among 'the poor who sell cheap' (Martínez-Alier, 2004), with local populations being compensated according to their current poverty level (Karsenty, 2007). This raises fundamental ethical questions that compromise potential win-win synergies of PES in terms of development and conservation (Muradian et al., 2013).

However, analysts have observed that in reality most PES programmes do not correspond to market mechanisms, where nature or ecosystem services would be valued and traded through an encounter of demand and supply (Muradian et al., 2010). The use of a market narrative in PES often reflects a strategic or pragmatic argumentative strategy rather than a genuine belief in market environmentalism (Sandbrook et al., 2013; Shapiro-Garza, 2013). This recognition has resulted in a more 'socially-attuned' conceptual approach to PES (e.g. Muradian et al., 2010; Farley and Costanza, 2010), which more explicitly recognises the socio-institutional complexity in which PES schemes operate and are inevitably embedded. This approach avoids a dichotomous, polarising analysis whereby PES-thinking is either to be rejected as a neoliberal 'Trojan horse' or embraced as the new market panacea (McElwee, 2012). This at once implies that 'the significance of the PES policy model lies in the political and social effects of its design and implementation, not in its functioning as a market per se' (Milne and Adams, 2012: 136).

This position is backed up by growing empirical evidence of PES cases around the world that clearly demonstrate the hybrid outcomes of these projects and the agency of local actors in reshaping market-based PES interventions to better fit local notions of justice and equity (McAfee and Shapiro, 2010; McElwee, 2012; Shapiro-Garza, 2013). Hence, despite PES being conceptualised and promoted as a merely technical market-based instrument, it requires explicit socio-political governance and legitimisation (Muradian et al., 2013). PES should therefore always be analysed and conceptualised in a broader socio-institutional and political perspective, with due attention for how its application ties in or not with the interpretative frames and related interests of the various stakeholders (e.g. Higgins et al., 2012; McAfee and Shapiro, 2010). As we argue in this article, these socio-political processes shape how PES contributes to the replication or consolidation of

existing or emerging development pathways, or even helps shape radical alternative pathways.

### 3. The evolution of PES thinking in Nicaragua

In this section we present and interpret the evolution of PES-thinking in Nicaragua, and explore how this relates to the academic debate on the distinction between an apparently technical, market-panacea approach to PES and a more explicitly political and socio-institutional interpretation of the tool, as one might expect to encounter in an ALBA member country. In order to assess how PES-thinking evolved in Nicaragua, we focus first on public environmental policies and the legal-institutional framework. Then, we look at the main drivers of PES discourses and practices, and argue that there is a strong influence from multilateral/international organisations, given the discursive power they exert through market-based PES narratives presented as blueprints for resolving complex environmental issues. The analysis in this section is based mainly on interviews with key stakeholders. The interviewees were representatives of various state institutions and companies as well as relevant (multilateral and bilateral) donor organisations and local municipalities. The interviews took place between April 2013 and June 2014. Additionally, we analysed existing legal and policy documents (laws, decrees, national policy plans, etc.).

#### 3.1. From regulatory to market-based environmental policies?

As in many other Central American countries, environmental legislation in Nicaragua is relatively recent. Although the Sandinista revolutionary era of the late 1970s and 80s saw the creation of some environmental regulation and corresponding state entities, priority in these turbulent years was given to agrarian reform and development, often further advancing rather than containing the agricultural frontier (Maldidier and Marchetti, 1996; Mordt, 2001). It was not until the 1990s that the current legal basis for public environmental policies was established. With the promulgation of the General Law on the Environment and Natural Resources<sup>4</sup> in 1996, the majority of Nicaragua's present public environmental policy instruments were first defined. That same period saw the establishment of many of the country's current environment-related state entities, not least the Ministry of the Environment and Natural Resources (known under its Spanish abbreviation MARENA).

Although the General Law on the Environment and Natural Resources already hinted at certain financial instruments for stimulating environmental stewardship (including property tax exemption for private properties enrolled in reforestation or biodiversity programmes, or income tax cuts for certain conservation activities), most conservation efforts in Nicaragua have relied on a centralised, top-down, or command-and-control approach to natural resource management. Their main emphasis has been on the restriction of certain resource uses and the creation of protected areas (Ravnborg, 2010). Limited human and financial resources, however, have hampered institutional presence and vigour in the field (Van Hecken, 2011).

At the same time, for both social and environmental reasons, there has been growing (national and international) concern over the limitations of 'fences-and-fines' approaches (Brockington et al., 2006). This helped fuel interest during the 1990s in the potential of decentralised community-based approaches to natural resource management (Blaikie, 2006; Ostrom, 1990), and, more recently, it has stimulated new globalised narratives on the

<sup>4</sup> Law 217, National Bulletin No. 105, 6 June 1996.

promise of so-called ‘innovative’ market-based approaches (McAfee, 2012). The latter encouraged the Nicaraguan government from the 2000s onwards to consider the adoption of new financial and economic instruments for environmental governance. The apparent success stories of neighbouring Costa Rica’s well-publicised national Payments for Environmental Services programmes (e.g. Pagiola, 2008), the international opportunities arising from new global carbon (and other ES) financing mechanisms, and ‘successful’ PES experiments such as the RISEMP project (see Section 4) inspired the Nicaraguan government to refer to PES in policy statements and legislation.

The National Environmental Policy Plan for 2001–2005<sup>5</sup>, drawn up by the conservative-liberal administration of President Aleman, committed to creating ES markets in order to generate sustainable funds for conservation actions. Furthermore, with a view to entering international carbon markets, the government established a Clean Development Mechanism Office in 2002. The intention was to subsequently broaden its remit and to turn it into a National Office for Ecosystem Services responsible for developing a national PES programme (Wheelock and Barrios, 2007). Despite pressure from various private and civil society organisations (which by then were grouped under the national ‘PES Council’ umbrella), no such transformation has materialised. The subsequent National Development Plan for 2005–2007, devised by President Bolaños’s conservative-liberal administration, reiterated the intention of establishing a national PES mechanism and mandated the elaboration of a National PES Law by 2007. Again, to date, no such law has been introduced.

The current Sandinista government, which came to power in 2007, publicly adopts a divergent discourse on the desirability of markets and payment mechanisms for ES. In line with its socialist orientation, it promotes direct political guidance and control rather than to leave societal issues to be resolved by private market actors (Cameron, 2009). Yet, in its National Strategy for the Environment and Climate Change (2010–2015), the government underlines the need for additional and sustainable conservation funding and recognises the potential funding opportunities emanating from international and (potentially future) national PES mechanisms (MARENA, 2010). At the same time, it takes a more critical or pragmatic view of market-based instruments, openly rejecting the ‘market approach’ (Nicaragua’s Minister of the Environment and Natural Resources in *La Prensa* (2012)). As mentioned before, Nicaragua is a member of ALBA, which questions and purports to resist current forms of capitalism, including market-based approaches to resolving environmental problems such as climate change (Backer and Molina, 2010; Bull and Aguilar-Støen, 2015). ALBA renounces such approaches as apolitical and fetishist, and as a promulgation of neoliberal policies in which ‘the payer is allowed to pollute’<sup>6</sup> (Koschuetzke et al., 2013). It also supports Bolivia’s attempt to develop ‘non-neoliberal’ alternatives to REDD+ (Bull and Aguilar-Støen, 2015).

The position of ALBA countries as an ideological union, however, does not preclude heterogeneous national approaches to natural resource governance, even if seemingly contradictory to the common ideological stance. In Ecuador, for instance, there is some discrepancy between, on the one hand, the endorsement of market-based environmental programmes (such as the Yasuní initiative (Pellegri et al., 2014) and the Socio Bosque programme (de Koning et al., 2011)) and, on the other, a more general anti-imperialist and eco-centric line. We note a similar

contradiction in Nicaragua, as the emergence of a PES discourse in national environmental regulation seems unaligned with the country’s critical position as an ALBA member. Despite this ideological opposition, the Nicaraguan government continues to provide openings for PES, albeit in a piecemeal and experimental way. In 2013, the government obtained a US\$ 3.6-million REDD-Readiness fund from the World Bank in order to unfold its national strategy for participating in a prospective post-2012 international REDD + payment mechanism (World Bank, 2013). At sectorial level, various PES-related initiatives – mostly funded through multilateral or bilateral aid – are under design or have been partially implemented (see Sections 3.2 and 3.3). And in 2012, the national government signed an agreement with all Sandinista-held municipalities under which 7% of the state-to-municipality budget transfer was earmarked for local payments for hydrological services. Due to budget and human resources constraints, however, most municipalities still lack the capacity to implement such mechanisms.

### 3.2. Legal and institutional PES framework

Despite the growing interest in PES, specific national legislation or regulation is effectively lacking. As depicted in Fig. 1, references to PES mechanisms can however be found scattered across various general and sectorial laws. The 1996 General Law on the Environment and Natural Resources, for example, created the National Fund for the Environment (established since 2001), which was initially conceived as a potential financing mechanism for projects and programmes intended to generate ES. Despite occasional and small donor-funded contributions, the Fund never really attracted significant budgets, leaving it practically non-functional (Wheelock and Barrios, 2007).

The 2003 Forest Law<sup>7</sup> provided incentives for the development of the forestry sector and mandated MARENA to propose a PES regulation within 12 months after its publication (which to date, however, has not been effected). This Law also established the National Fund for Forest Development, which lists among its most important objectives the development of markets and payments for ES. To date, it is the only operational national Fund for financing (small-scale) PES projects. Although the Fund should in theory receive a yearly endowment from the national budget, it actually relies on small international donations and a 50% share in national forest levies, amounting to a limited annual budget of approximately US\$ 450,000 (FONADEFO, 2013). With these funds, it manages to finance a dozen or so small-scale forest-related PES projects, each with an approximate duration of just 2 or 3 years. Since there are no clearly established rules on the design of these projects, they have tended to be inspired by mainstream approaches and *ad hoc* short-term projects with little prospect of continuity. They are clearly market-based, offering short-term monetary incentives for individual producers-beneficiaries with little attention for longer-term strategies for steering away from the dominant agricultural development pathways (see also Section 4).

Finally, two other laws are worth mentioning. First, the 2007 National General Water Law<sup>8</sup> recognises Payments for Hydrological Services (PHS) mechanisms as critical water governance tools at the watershed level, but it does not specify how these mechanisms should be organised, administered and implemented. It rather avoids this complex issue by reiterating the need for a Special Law on PHS. The National Water Fund, embedded in this same Law and pertaining to the financing of watershed management actions (including PHS), remains inoperative. Second, passed in 2008, a

<sup>5</sup> Presidential Decree 25-2001, National Bulletin No. 44, 2 March 2001.

<sup>6</sup> From this political-ethical perspective, buying the right to pollute by purchasing PES permits (from the poor in the South) is morally unacceptable. On this ground, the notion of an international ES market restoring the environmental balances without rectifying fundamental economic and political imbalances is rejected.

<sup>7</sup> Law 462 on the Conservation, Stimulation and Sustainable Development of the Forestry Sector (National Bulletin No. 168, 4 September 2003).

<sup>8</sup> Law 620, National Bulletin No. 169, 4 September 2007.

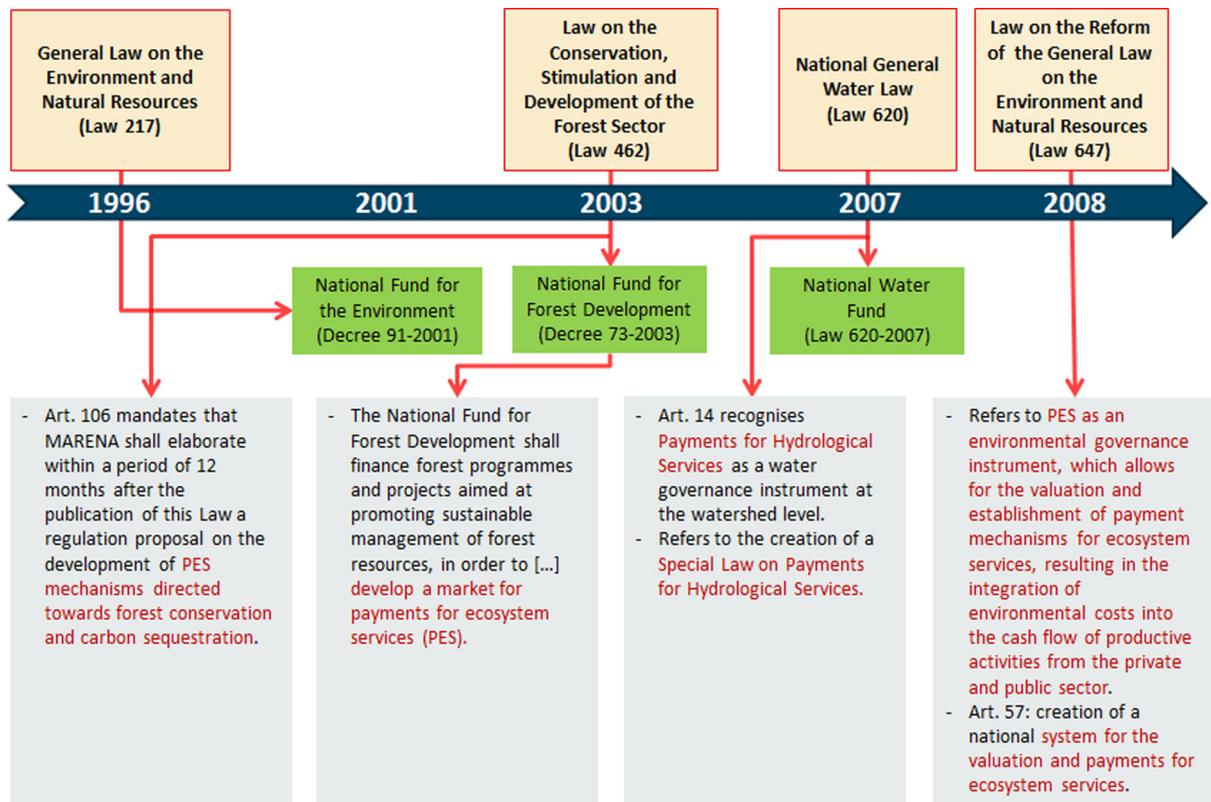


Fig. 1. PES references in the Nicaraguan legal framework. Source: Authors' own elaboration.

Reform Law<sup>9</sup> on the General Law on the Environment and Natural Resources includes an explicit recognition of PES as a valid environmental governance tool<sup>10</sup> and mandates the creation of a national system for the valuation of ES and the creation of corresponding payment mechanisms, an assignment that has yet to be realised.

### 3.3. PES in practice

Despite scattered legal references and various attempts to develop an unequivocal PES framework and strategy, Nicaragua still lacks an articulated policy and legislation in this field. Consequently, as in most other Central American countries (with the notable exception of Costa Rica), the tendency has been to introduce rather isolated, project-based and donor-funded small-scale PES mechanisms, without the 'backup' of a national PES framework Law or encompassing policy (Wheelock and Barrios, 2007). Over the past decade, a growing number of mainly small-scale local PES schemes have been implemented across the country, under various payment schemes:

- (a) *User-financed upstream-downstream watershed compensation mechanisms*, e.g. payments from downstream water users to upstream farmers for improving tap water provision in the *Paso de los Caballos* watershed (Cinco Pinos) (Kosoy et al., 2007);

- (b) *Private-public upstream-downstream watershed compensation mechanisms*, e.g. a payment scheme in the *Gil Gonzalez* watershed (Rivas) whereby a private sugarcane producer compensates upstream farmers for sustainable land-use practices in order to secure irrigation of its downstream plantations (Hack, 2010);
- (c) *State-financed forest and watershed compensation mechanisms*, e.g. the previously mentioned projects under the National Fund for Forest Development; and a payment scheme in the *Apanás* watershed (Jinotega), where the Nicaraguan National Electricity Company pays upstream farmers for the implementation of sustainable land-use practices to secure the water supply to the country's principal hydroelectric plants (IADB, 2014);
- (d) *NGO-funded reforestation/forest conservation schemes*, e.g. the *CommuniTree* Carbon Programme in San Juan de Limay (Somoto), which pays farmers for reforestation out of funds obtained on international voluntary carbon markets (Taking Root, 2014); and
- (e) *Globally-financed international PES pilot schemes*, e.g. the GEF/World Bank funded RISEMP in Matiguás-Río Blanco, remunerating farmers for biodiversity conservation and carbon sequestration ensuing from the adoption of silvopastoral practices (see Section 4).

A detailed evaluation or comparison of these schemes is beyond the scope of this article. We do, however, make two important observations. First, almost all of these initiatives are co-designed and co-financed by bilateral and multilateral (conservation) organisations (see also Section 3.4). Second, an analysis of the narratives of project leaders and project documents underlying these initiatives suggests that most were conceived in market-based PES terms: the project design is framed almost exclusively in an

<sup>9</sup> Law 647, National Bulletin No. 62, 3 April 2008.

<sup>10</sup> Article 57 of this Law mandates the creation of a national system for the valuation of ES and the creation of PES mechanisms '(...) as an environmental governance mechanism, with the objective of valuing and paying for ecosystem services, and in order to generate funding and incentives for the promotion of conservation, preservation and sustainable use of the environment and natural resources'.

economic idiom that oversimplifies the diagnostics of inherently complex social–environmental problems. The specific contexts are straight-jacketed into ‘externalities’, ‘ecosystem services’, potential ‘buyers’ and ‘sellers’, and the need to economically and financially value ES. Hence, the narrative is often narrowed down to creating the appropriate institutional setting and finding the ‘right’ exchange prices for a PES mechanism to work.

Whether or not the resulting PES mechanism is actually dependent on market exchanges is irrelevant to the argument elaborated here. As discussed elsewhere (e.g. Büscher, 2014; Irvine, 2010; Milne and Adams, 2012) and reiterated in Section 4, the framing of ecological problems in terms of market-inspired metaphors directs interventions towards standardised solutions and practical applications that ignore the social–political context, resulting in a circle of ‘PES fetishism’. To locate the origin of prevailing PES framing in Nicaragua, we must consider some of the driving forces behind the adoption of specific PES discourses.

### 3.4. Driving forces behind PES-thinking in Nicaragua

Having previously hinted at some of the key factors behind the adoption of PES policies, let us consider why – given the apparent ideological opposition of the Sandinista government to market-based conservation instruments – market-inspired PES policy tools continue to appeal.

Crucially important in this respect is the global context wherein PES narratives are formed. Various studies indicate that discourses and corresponding policies promoted by global governance institutions are increasingly inspired by neoliberal notions and the assumption that conservation efforts should be governed by market principles (e.g. Büscher et al., 2012; Fairhead et al., 2012; McAfee, 1999). The discursive power concentrated around these institutions allows PES to be promulgated as a promising conservation and development tool (McAfee, 2012). However, the proliferation of PES depends heavily on the construction of PES success stories by specific epistemic communities, consisting of ‘experts sharing a belief in a common set of cause-and-effect relationships as well as common values to which policies governing these relationships will be applied’ (Haas, 1989: 384, as cited by Büscher, 2014:80). Büscher (2012, 2014) and Irvine (2010), for example, show how these experts (i.e. consultants, government officials, NGOs, etc.) work hard to ensure that their proposed projects are sufficiently in line with the favoured approach of global funding institutions, yielding a self-congratulating circle of knowledge and experience generation. Uncritical support becomes institutionalised within the workings and logic of funding and the ‘*bon ton*’ of the large conventions and international organisations regarding sustainable development (Büscher et al., 2012).

Thus, the strong dependence of Nicaraguan environmental policy programmes on foreign aid<sup>11</sup> provided by multilateral and non-governmental donor organisations, such as the GEF, the World Bank, the United Nations Environment Programme (UNEP), and the Inter-American Development Bank (IADB), increases the likelihood of the country adopting similar PES policies as promoted by those organisations (see also McAfee, 2012; Irvine, 2010). Systematic underfunding of relevant government institutions (MARENA and others) results in weak internal staff capacity and overreliance on powerful intermediaries such as (inter)national consultants, who often respond chiefly to mainstream discourses and frames (Rocha, 2005), thereby undermining the national capacity to critically counteract the narrative and particular PES framing by powerful actor groups (see also Pokorny et al., 2012).

Second, and related to the previous point, the limited availability of conservation funding in Nicaragua also stimulates the country to proactively engage in constructing a national framework for tapping into other potential sources. In this context, the international alignment of Sandinista Nicaragua with the ALBA alliance does not seem to counterbalance the power of Western-dominated global money. For example, the REDD + mechanism as currently envisioned by the global community, is largely PES-inspired (Fletcher and Breitling, 2012; Corbera, 2012). Establishing a coherent national PES framework that will increase Nicaragua’s chances of engaging in these mechanisms is therefore perceived as an important step towards obtaining fresh conservation funds (MARENA, 2013). Consequently, we expect Nicaragua’s adoption of PES-related discourses to hinge more on strategic and pragmatic considerations (cf. Sandbrook et al., 2013) than on a true commitment to ‘neoliberal’ conservation policies whereby nature is commodified and monetarised while the central role of state or community governance is denied (see Matulis (2013), McElwee (2012) and Shapiro–Garza (2013) for similar findings in relation to state-led PES adoption in Costa Rica, Vietnam, and Mexico respectively).

Last, the increasing receptivity for PES mechanisms at the local level can to some extent be related to decentralisation processes initiated in the mid-1990s, whereby municipalities have assumed greater responsibility for local environmental management (Larson, 2002). However, lack of funding for municipal environmental policies underscores the critical importance of NGOs, who have tended to promote local payment mechanisms for watershed conservation (Mairena et al., 2010). Regardless of the absence of national legislation in support of such initiatives, municipal councils have thus taken the lead (Wheelock and Barrios, 2007). While this again points to the influence of external actors and to the ‘epistemic circulation’ of certain ideas, it also reflects the increasingly internalised view that certain PES elements are effective in solving poignant local problems (see also Section 5).

## 4. Reinterpreting a PES ‘success story’ in Nicaragua

To clarify and contextualise the theoretical critique of the mainstream market-panacea approach to PES, as well as the need for more social–politically informed interpretive framings, and to illustrate how market-based PES framings unfold in practice, we consider the case of the Regional Integrated Silvopastoral Management Project (RISEMP). This World Bank and Global Environment Facility (GEF)-funded PES pilot experiment was implemented in Costa Rica, Colombia, and Nicaragua between 2002 and 2008. Although no state actors were involved in its implementation, it is considered an influential policy showcase for PES experiences in Nicaragua (Pagiola et al., 2007) and Latin America (Pagiola and Arcenas, 2013; World Bank, 2008). In Nicaragua, the project stands as an important model for replication: it is commonly regarded a success story that ‘created awareness and provided information to policy makers in Nicaragua as regards the PES-model’ (Pagiola and Arcenas, 2013:4). The prevalent mainstream managerial interpretation of this initiative and its supposed results continues to influence PES narratives in Nicaragua and elsewhere. As we will show, this interpretation does, however, dangerously misrepresent and simplify the real-world dynamics underlying the intervention’s environmental and social outcomes.

### 4.1. The study site

The Nicaraguan component of RISEMP was implemented in the rural municipalities of Matiguás and Rio Blanco, located in

<sup>11</sup> For example, in 2014, MARENA was assigned less than 0.5% of the total national budget. Furthermore, the Ministry heavily depends on donor funds and external loans, which in 2014 constituted over 55% of MARENA’s budget (MHCP, 2014).

Matagalpa Department in central Nicaragua (Fig. 2). The region is part of the so-called 'old agricultural frontier', colonised since the early 20th century (Maldidier and Marchetti, 1996), as increasing demand for land in the Pacific regions forced peasants and land-lords towards the forest boundary in search of space for farming and cattle raising. It was the beginning of a process of deforestation, accelerated between 1950 and 1980 by the opening of US markets to Nicaraguan meat. Temporarily halted by the *guerilla* war of the 1980s, the deforestation process picked up pace rapidly after the peace agreements of 1990. According to local estimates, the past 20 years have seen the destruction of over 40% of the region's forested area. An unequal and extensive model of economic development, based mainly on large-scale cattle raising with very few animals per hectare, is the most important driver behind this evolution (Polvorosa, 2013). The establishment of fresh milk collection centres, following the construction of an all-weather road to the capital and other cities, has recently resulted in a significant shift from beef to dairy cattle, coinciding with strong local economic growth. However, these evolutions have generally not led to more intensified cattle farming, but to a further expansion of land cultivation, a process spurred primarily by wealthy farmers who prefer to acquire cheap land than to invest in improved production techniques (e.g. pasture quality improvement or fodder crop cultivation). As they buy out poorer farmers, the latter are pushed eastward towards the new agricultural frontier, consolidating the dominant socially exclusionary and environmentally destructive pathways of cattle-driven development (Polvorosa, 2013).

Despite growing awareness of the detrimental effects of such development pathways, excessive reliance on poorly enforced command-and-control measures has seen local policy failing to put a stop to deforestation. Prevailing local perceptions of conservation also affect how environmental governance is embedded locally and how it interacts with both formal and non-formal institutions. Entitlement to land is associated with the (now imaginary) act of colonisation, i.e. the conquest of the 'wild and unproductive' forest to make it arable (Van Hecken and Bastiaensen, 2010b) and effectively transform it into a 'moral landscape' (Setten, 2004) of productive farms with cornfields, pastures and cattle. Hence, local farmers regard forest clearings as '*mejoras*' (improvements) (Bastiaensen et al., 2006). Moreover, because of its remoteness, the periphery of the region has little state presence, further compromising any attempts at command-and-control (Ravnborg, 2010).

#### 4.2. Project design

It was against this background that RISEMP was implemented. The project sought to encourage the use of silvopastoral practices<sup>12</sup> in cattle raising by offering conditional payments and technical assistance (TA) to individual farmers. The project designers expected more intensive and environmentally friendly approaches to cattle raising to generate additional ES in the region and to reduce livestock-related deforestation (Pagiola et al., 2007; Pagiola and Arcenas, 2013; World Bank, 2008).

The project was conceived from the outset as an important test case for further PES policy dissemination (World Bank, 2008). With this in mind, a randomised control trial (RCT) was conducted to scientifically corroborate the effectiveness of PES (ibid). The project was thus designed as an action-research experiment that assessed the impact of different incentive packages on the adoption of the desired practices. The RCT involved various participant groups

receiving different incentives (payments only or payments combined with TA) or no intervention at all (the control group). This setup was intended to separate the effect of PES and TA from other contextual variables in order to assess their relative effectiveness.

In Nicaragua, the project was implemented by the Nitlapan research and development institute of Universidad Centroamericana, and included 123 randomly selected farmers. Payments to participants were based on improved land-use, measured on an environmental service index (ESI) score for the participant's farm (for details, see Van Hecken and Bastiaensen, 2010b). Farmers were paid an annual sum depending on their ESI score relative to the baseline score at the start of the project.

#### 4.3. Project results in terms of land-use changes

As discussed more extensively elsewhere (Pagiola et al., 2007; Van Hecken and Bastiaensen, 2010b), the results of the project in terms of land-use changes were encouraging. During the intervention period the relative area of degraded pastures shrunk by over 20%. It was largely replaced by fodder banks and improved pastures with trees. Furthermore, the area occupied by annual crops was halved, while the length of living fences almost quadrupled. The area of forest and scrub habitats remained stable. Pagiola et al. (2007) and Pagiola and Arcenas (2013) attribute this success to the payments made to the farmers, claiming it tipped the balance in favour of the desired silvopastoral practices and away from degraded pasture and annual crop farming. In this interpretation, the RISEMP experience was yet another PES 'success story' (Pagiola and Arcenas, 2013), ready for 'epistemic circulation' (Büscher, 2014), i.e. the self-reinforcing construction and use of supposedly successful cases to maintain the faith in a given policy approach (see also Sections 3.4 and 4.4). However, the attribution of project success to payments only, and thus the argument for a market-based one-size-fits-all PES panacea model, is questionable.

#### 4.4. A socio-institutional reassessment of the RISEMP experience

To corroborate the optimistic conclusions about the impact of the PES incentives, we thoroughly reassessed the research results obtained by the 'official' RISEMP team (Pagiola et al., 2007; World Bank, 2008). We also analysed the data from the original project surveys and reinterpreted the RCT experiment. This desk-top analysis was complemented with a two-month qualitative field study following project termination and encompassing in-depth responsive interviews (Rubin and Rubin, 2005) of thirty-five participant farmers as well as in-depth interviews of Nitlapan project staff. Additionally, five years after project termination, follow-up interviews were conducted of thirty-two RISEMP participants. This provided insight in land-use changes and social-ecological dynamics in the region since project termination (Moens, 2013). Finally, the main findings of these studies were validated with former Nitlapan project staff during workshops in 2013 and 2014.

A first element to cast doubt on Pagiola et al.'s (2007) conclusions regarding the impact of payments was the observation that the control group –having received no project payments– reported similar land-use changes as the treatment groups (Van Hecken and Bastiaensen, 2010b)<sup>13</sup>. Furthermore, interviews of participants revealed that, although payments did help overcome investment and opportunity costs in the first years of implementation, their impact was by no means the only incentive for land-use change.

<sup>12</sup> Silvopastoral practices 'combine fodder plants [...] with trees and shrubs for animal nutrition and complementary uses', and include e.g. living fences and 'cut and carry systems' (Pagiola et al., 2007:375).

<sup>13</sup> The non-random selection of the control group, consisting of relatively larger/richer farmers than the treatment group, ruled out any rerun of the initial RCT experiment. Pagiola et al. (2007) abandoned any comparison with the control group, which abides by the strictly technical logic of the RCT experiment, but fails to acknowledge the relevant information these cases provide.

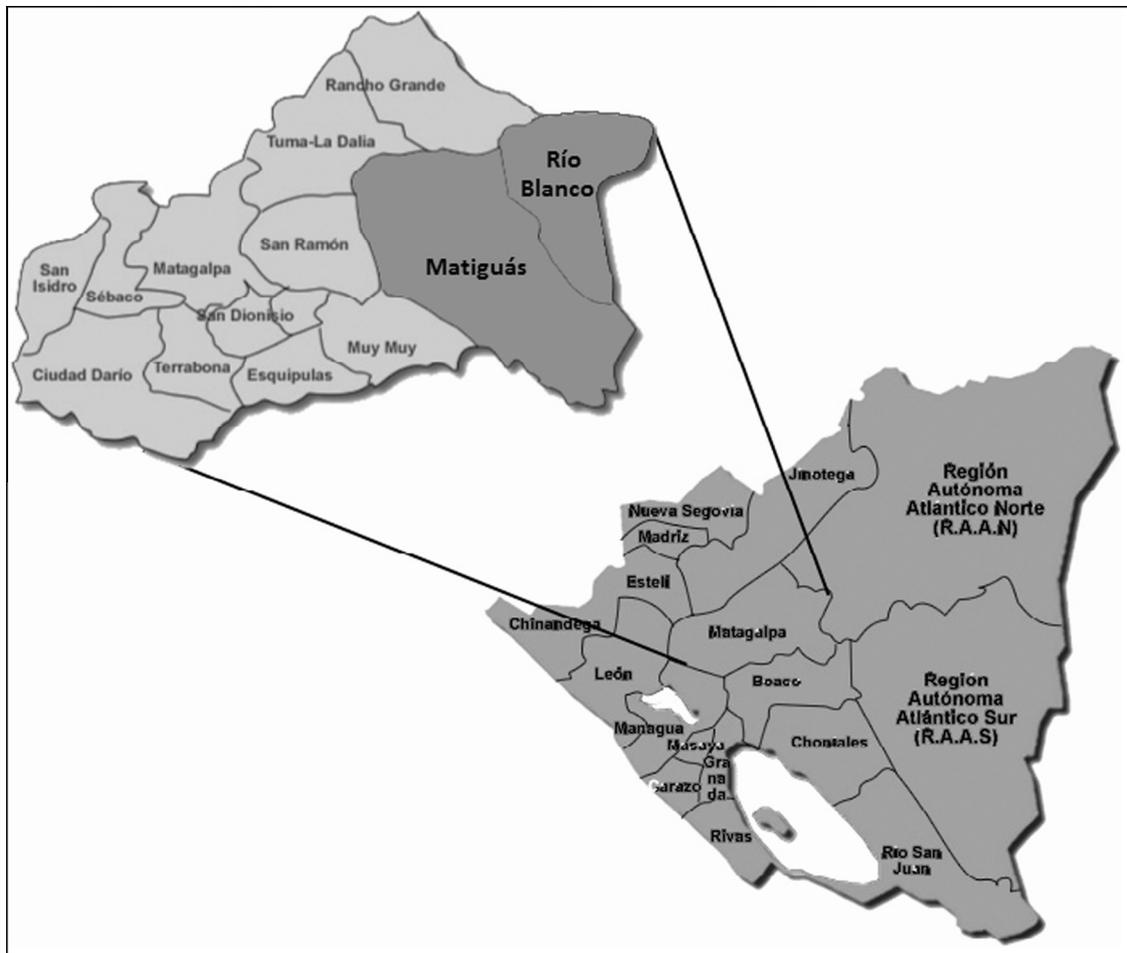


Fig. 2. Matiguás and Río Blanco in the department of Matagalpa, Nicaragua. Source: Van Hecken (2011).

Growing opportunities in the dairy sector also constituted a key motivation for implementing silvopastoral practices. Significant regional milk price rises, following the opening of milk collection centres affiliated with the dairy industry in the capital, encouraged investment in intensified cattle production. This in turn induced better silvopastoral practices, as farmers now tended to rear their cattle in closer proximity of the collection centres<sup>14</sup>. Asked if the aforementioned payments had been an important incentive for changing land-use practices, farmers typically stated:

*'I would have changed everything in the same way without the payments, but maybe more slowly. Improved pastures are a necessity, regardless of any project.'* (Project participant, interview 17 April 2008).

Moreover, most project participants did not fully assimilate the market-based conditional payment philosophy promoted by the project designers. The fact that farmers with more land generally received higher payments obscured the principle that amounts paid essentially depended on the types of land-use change effected. According to other participants, the payments were *'very much based on luck'*, irrespective of any change in farming practice (Project participant, interview 4 April 2008). Some had actually not realised the project was aimed at inducing land-use changes. Asked about differential annual payments, one farmer stated:

*'I don't know why they paid me differently than in previous years. They simply gave me money and I didn't ask questions. If they hand me money, why ask about it being more or less than the year before? Just be grateful for what you receive.'* (Project participant, interview 4 April 2008).

Such findings point to divergent interpretations, as project payments and their rationale were not necessarily perceived by participants as intended in the project design. This calls into question the *'cause-and-effect'* assumptions underlying market-based PES projects, as the agency of project participants blends the motivations and project rationale with other interpretative frameworks and perceptions (Van Hecken et al., 2012).

A second caveat relates to the technical assistance provided. In a quantitative comparison of the treatment groups, TA was found not to have had a significant impact (Pagiola et al., 2007). During our fieldwork, however, farmers repeatedly cited it as an important incentive. Or, in the words of one project participant:

*'(...) The project payments didn't help me much, but I'm still grateful. The technical assistance was much more important: what one learns is retained, not easily forgotten.'* (Project participant, interview 19 April 2008).

A likely reason for the non-significance of TA in the statistical comparison between treatment groups is that its impact appears to have spread beyond selected participants, as it was disseminated to other farmers via existing social ties. In other words, TA *'leaked'* knowledge and incentives for silvopastoral practices into

<sup>14</sup> Detailed analysis of the differential constraints of distinctive types of farmers reveals additional variations in investment strategies. See Van Hecken and Bastiaensen (2010b) for details.

the local community. This finding suggests that the ‘noise’ generated by RISEMP created a strong impetus for silvopastoral intensification. As [de Haan and Zoomers \(2005\)](#) have previously argued, this suggests that processes of rural change such as those engendered by the RISEMP initiative are not a matter of isolated individual economic incentives but rather the outcome of collective pathways. TA and the social momentum it generated apparently encouraged experimentation with new practices and a broader implementation of recognised land-use improvement. It also lowered the perception of risks, impacting on the farmers’ motivation to engage strongly with silvopastoral production technologies. One project participant stated that:

‘(...) farmers who didn’t receive money or technical assistance from the project copied most of the ideas and practices from us [participant farmers], as they had witnessed the individual and collective benefits.’ (Project participant, interview 4 April 2008).

A third aspect relates to the project’s interaction with the broader institutional reality of the spatial–temporal setting in which it unfolded ([Massey, 1993](#)). In other words, how did the intervention impact on territorial dynamics? It is important in this respect to ascertain how the introduction of monetary payments interacted with other motivations to engage in particular land-use practices ([Muradian et al., 2013](#)). [Van Hecken and Bastiaensen \(2010b\)](#) found worrying indications of ‘environmental blackmailing’, with non-participant and former participant farmers strategically threatening to abandon environmentally responsible practices unless compensatory PES was forthcoming. This finding was confirmed during follow-up research five years after project termination ([Moens, 2013](#)). An excessively one-dimensional focus on monetary incentives and recourse to economic calculus may thus lead to a self-fulfilling prophecy of individual economic rationality, as other types of motivation are ignored and the potential role of moral principles and social markets in the success and failure of environmental governance is downplayed ([Frey, 1997](#); [Muradian et al., 2013](#)).

Arguably even more worrisome is the project’s apparent failure to address and counteract the deeper structural power relations underlying deforestation dynamics in the area and beyond. In this regard our study found that larger cattle farmers captured most of the project’s PES payments (see also [Mairena et al., 2010](#)), as they had the capacity (land, labour, money) to invest in more substantial cattle-related land-use changes. This in turn enhanced their capacity to accumulate land from poorer peasants. Thus, the dominant model of cattle raising, based on land accumulation by larger farmers and the expulsion of poorer peasants and related directly to deforestation ([Polvorosa, 2013](#)), was not challenged by the PES project. The focus on individual farmers and the intervention area, rather than on the dominant cattle development pathway as such, ignored the broader socio-ecological context, assuming as it did that –*ceteris paribus*– price incentives for ES would guarantee more ES provision. Clearly, though, the socio-institutional dynamics involved crucially compromise the *ceteris paribus*. Individual on-farm improvements in the project area may, for example, have induced further migration of poorer farmers to the forest frontier, leading to significant leakage effects in terms of tropical deforestation elsewhere. Indeed, our field research in 2013 found that twenty-nine of the 123 participant farmers had sold their properties since project termination. Most of these emigrants were small or middle-income farmers who –according to the remaining farmers in the former intervention area– had moved eastward to the new agricultural frontier in search of cheaper land ([Moens, 2013](#)).

So although we observe improved silvopastoral approaches in Matiguás–Río Blanco, the underlying motivations and causal relationships turn out to be more complex than a rational individual

response to direct monetary incentives. Although the project payments did impact on farming practices, at least during the project period, our follow-up research revealed that, once the project and its ‘silvopastoral noise’ had dissipated, many farmers relapsed into previous land-use practices. This casts doubt on the sustainability of the induced changes, echoing a key challenge identified by [Hiedanpää and Bromley \(2014:185\)](#):

‘(...) payments can only be sufficient –inter-temporally durable– if those payments are accompanied by, indeed preceded by, new beliefs. If money is merely a cue, then (...) there might emerge new temporary behaviors that some commentators wish to call new ‘habits’. But money is not, and cannot be, the reason for new beliefs –though money may be enough to bring forth new mechanical habits. That is, PES schemes may indeed change some habits, but money on offer cannot possibly change existing beliefs in the absence of good reasons for abandoning those beliefs.’

Their argument reinforces our conclusion that payments were not the *only* factor inducing change, and that any meaningful analysis must also take due account of other motivations. Additionally, individual payments lack the capacity to revert underlying, long-term structural processes such as land acquisition by large landowners and the expulsion of peasants. Paradoxically, in this instance at least, such processes may have reinforced the deforestation that one aimed to counter, in consequence of a socially-biased distribution of PES resources. Indeed, if one remains blind to the existing historical contexts, social relations, organisational structures and multiple cultural values that shape the prevailing development pathway ([Bastiaensen et al., 2015](#)), one is unlikely to successfully challenge the root causes of inequalities in land tenure and resource allocation ([McAfee and Shapiro, 2010](#); [Rodríguez-de-Francisco et al., 2013](#)).

Such an approach follows the problematic ‘panacea’ conceptualisation underlying a market-based PES project design, whereby it is assumed that the behaviour of individual decision-makers can be affected simply by capitalising on their economic calculus. Inevitable interactions with social, cultural and political dimensions are at best seen as contextual factors interfering with PES arrangements. Yet these ‘contextual factors’ are clearly key to understanding what kind of (hybrid) governance models might lead to more equal, legitimate and sustainable social–ecological changes.

## 5. What lessons from the Nicaraguan PES experience?

Our findings are highly relevant to the type of PES projects currently being piloted in Nicaragua and to the academic debate on PES in general, for various reasons. First, our reassessment of the RISEMP case clearly underlines the need for deliberate and critical scrutiny of the cause-and-effect relationships in supposed PES ‘success stories’. From a broader socio-institutional perspective, our divergent reading of the project’s success in terms of engendered land-use changes demonstrates that motivations behind embracing new land-use practices are not straightforward and go beyond individual payment incentives. Other important underlying motivations lie embedded in the socio-ecological dynamics of the intervention area and beyond, and local interpretations of the project are not necessarily in line with the project’s intended design. Rather than to question the underlying causes of the ecologically-destructive and socially-exclusive cattle development pathway in the intervention area, project designers proposed temporary ‘technical’ fixes that avoided more power-related and thus politically-sensitive analyses of the dominant development model. Here, we agree with [Büscher \(2012\)](#) that a lack of

understanding/recognition of the inherently complex and sensitive social–political context in which interventions take place can lead to panacea PES solutions that, in the longer term, ‘might equally strengthen, rather than alleviate, the dynamics that cause the problem in the first place’ (ibid:40, see also McElwee, 2012). This points to a need for a more deliberate, socially-informed and politically-sensitive governance approach to inducing sustainable social–ecological change.

Second, endorsing such a broader and more critical approach poses a practical challenge. Contrasting our reassessment of RISEMP with the mainstream evaluation of the project (Pagiola et al., 2007; Pagiola and Arcenas, 2013; World Bank, 2008) reveals how so-called ‘evidence-based’ success stories, founded on diverging ontological assumptions or specific framings by ‘experts’, can quickly become decontextualised inputs for uncritical ‘epistemic circulation’ of ideas, whereby conservation and development actors sell market solutions (Büscher, 2014; Cleaver, 2012; Leach et al., 2010). Recognising this dynamic helps us to understand how, despite the current Sandinista government’s more critical public stance on market-based conservation approaches, the majority of PES experiences in Nicaragua (including government-financed ones) continue to be driven by market-based discourses. From a theoretical and policy perspective, it is particularly interesting and instructive to analyse the reasons behind this paradox. Nicaragua’s continued dependence on foreign aid budgets and the lack of domestic funding for environmental policies leave the country prone to adopting the dominant PES views and related policies. These mainstream ideas are promoted by influential multilateral agencies, consultants, experts, traders, etc. Contracted as key knowledge brokers (Rocha, 2005), they profit from the technical complexities of constructing and negotiating such PES arrangements (Fairhead et al., 2012). While we do not claim to have clearly identified the actors involved and the process dynamics, we feel our study does underline the necessity of further scrutinising PES success stories, given that they are so easily and uncritically circulated as ‘good practices’ (see also Büscher, 2012).

We should, however, be cautious not to brand all PES initiatives as deliberate neoliberal tools serving green capitalist expansion (Sandbrook et al., 2013). While some local actors, including Nicaraguan municipalities that are currently experimenting with PES initiatives, are to a large extent straitjacketed into accepting projects as proposed by outside funding agencies, it would be erroneous to assume they are merely passive victims of top-down neoliberal policy interventions (Castree, 2007). As argued by Cleaver (2002) and Long (2001), people always possess some agency in devising their own project strategies. Hence, the local adoption of PES discourses and initiatives might also indicate that local actors value at least certain aspects of PES. A growing body of critical literature acknowledges how PES can provide opportunities for revaluing marginalised countryside and may create useful ‘surfaces of engagement’ (McAfee and Shapiro, 2010; Shapiro-Garza, 2013; see also Fletcher and Breitling, 2012; Higgins et al., 2012; McElwee, 2012). In the Nicaraguan rural context, for example, the compensation logic underlying PES might transmit the important message to farmers that environmental protection is highly valued by outsiders; it might signal that the hard conservation-development trade-offs they face are explicitly recognised as a shared societal responsibility (see also Corbera, 2015). This notion could induce change in local perceptions, values and norms regarding ‘accepted’ and ‘desirable’ agricultural practices, and break away from strictly conservationist approaches, which are largely insensitive to the societal dependence of rural farmers on resource-extractive activities (Wells and Brandon, 1992). The increasing local adoption of PES discourses might then be framed within a context of new strategies of peasant resistance

to (neo)colonial legacies of resource alienation in the name of the environment, in which peasants are often discursively constructed as environmental destructors (e.g. Fairhead et al., 2012; McElwee et al., 2014).

While we would stop short of writing off PES as a new form of neoliberal imposition, we do feel there is a need for more critical debate on the discursive struggles surrounding the (local) meanings attributed to such institutional arrangements (see also Corbera, 2015). Indeed, it is important to recognise that each PES mechanism must be socially and culturally created and sustained (Kosoy et al., 2007). Any institutional arrangement is part of a broader historical space–time dynamics. PES must therefore be designed, analysed and monitored in relation to the power geographies that generate institutional logics and organisational forms in the human territory concerned. Hence we argue for a re-politicisation of PES and for debate within deliberative forums (e.g. Farrell, 2014) as key steps in ‘de-fetishising’ PES as an instrument. However, the emphatically managerial approach to PES that prevails today threatens to preclude a more proactive engagement whereby political and institutional interactions are fully acknowledged in policy interpretation and operationalisation.

Further research might focus more explicitly on the interactions of PES with local social practices and associated discourses. Additional study could help clarify how PES systems are locally constructed through processes of ‘institutional bricolage’ (Cleaver, 2002, 2012; see also Fletcher and Breitling, 2012; McAfee and Shapiro, 2010; McElwee, 2012), from within and in relation to the cultural heuristics and existing repertoires. Insights from political ecology, for example, might help explain how environment-related cultural meanings shape conservation efforts, and how environmental conservation is intrinsically interwoven with questions of power and political discourses (Nygren and Rikoon, 2008). Only through a reconceptualisation of PES, based on political-cultural primacy instead of market-fetishism, will it ever achieve its true potential as part of a broader strategy towards improved environmental governance. PES is not a stand-alone governance alternative that can miraculously assume away the inevitable complexity of social and environmental change.

This analysis would seem to be in line with the socialist principle, cherished by the current Sandinista government, of the primacy of politics over market forces. However, given the continued incidence of inherited authoritarian-clientelistic politics in Nicaragua, it also raises the key question of how to organise and guarantee an inclusive, bottom-up and deliberative brand of politics that generates and sustains consensus and consent on the criteria and modalities for selecting priority ES, with or without payments.

## Acknowledgements

This research was funded by a postdoctoral grant of the Flemish Fund for Scientific Research (FWO) and a PhD grant of the Flemish Interuniversity Council (VLIR-UOS). We thank Bram Büscher, Jochen Hack, Pierre Merlet and the anonymous reviewers for very useful comments on earlier drafts of this document. Hans Moens is gratefully acknowledged for his contribution to the field work. The responsibility for the positions expressed and any remaining errors rests with the authors.

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