

Persistent Neoliberalisation in PES: Taxes, Tariffs, and the World Bank in Costa Rica

Brett Sylvester Matulis

Department of Geography, University of Leicester, Leicester LE1 7RH, United Kingdom

E-mail: bsm10@le.ac.uk

Abstract

Recent critiques of ‘payments for ecosystem services’ (PES) and other market-based instruments for environmental conservation have noted that such mechanisms rarely (if ever) operate according to idealised market rules. The characterisation of PES as a form of ‘neoliberal conservation’, therefore, has been questioned and even deemed to be misguided. While close examination of local context and micropolitics often reveals a nuanced view of contested and hybrid implementation, similar analysis can also reveal the way that officials continue to steer programs towards market ideals. In this paper, I consider the case of Costa Rica’s national *Pagos por Servicios Ambientales* (PSA) program, to suggest that—in spite of its imperfect correspondence to an idealised neoliberal model—it is undergoing a continual process of neoliberalisation. I explore, in particular, the evolution of PSA financing, which has shifted (under the influence of two World Bank projects) towards direct financialised transactions between ‘users’ and ‘providers’ of ecosystem services. The paper provides a historical account of the complex (and sometimes contradictory) processes that have produced the program’s current hybrid neoliberal form. It explores World Bank / Costa Rica relations and market-oriented interventions to the financing of ecosystem service payments, and it explains that (despite inherent contradictions inhibiting market formation) neoliberal actors within the state can still implement mechanisms designed to approximate markets.

Keywords: Neoliberalism, neoliberalisation, PES, markets, taxes, Costa Rica

INTRODUCTION

By now it is well established that neoliberalism or, more precisely, *neoliberalisation* is an incomplete and ever-adapting process, rather than a coherent ideology or set of policies (Heynen and Robbins 2005; Castree 2008). And it is well established that neoliberalisation cannot be identified simply by how well it corresponds to any sort of preconceived or idealised model. We know, for example, that the process is not (as dogma suggests) characterised by ‘light touch’ governance

and state withdrawal, but rather that it is differently statist and characterised by active market development (Jessop 2002). “Actually existing” neoliberalisations differ greatly from ideological neoliberalism (Brenner and Theodore 2002), and the practice of neoliberal governance may only ever loosely correspond to the idealised concept.

While we may conceive of a clear neoliberal ideology—entailing, for example, privatisation, marketisation, de- and re-regulation, devolution of governance to non-state actors, and establishment of market proxies within the residual public sector—neoliberal policies do not ever exist in such pure form (Castree 2008). As Castree (2010) explains, this apparent disjuncture emerges because neoliberalism can be variously interpreted as a worldview, a policy discourse, or a set of practical policy measures – what he terms the “three p’s”: philosophy, programme, and practice (2010, 8-9; see also Mudge 2008). An idealised conception of neoliberalism may be compatible with the first two, but not the latter. ‘Philosophical’ and ‘programmatically’ neoliberalism may exist entirely in

Access this article online

Quick Response Code:



Website:

www.conservationandsociety.org

DOI:

10.4103/0972-4923.204073

thought or design, where they are relatively unburdened and unconstrained by history or the politics of practical implementation. It is only in the translation of philosophy and program to practice that the ideals of neoliberalism are constrained by existing institutional context and ‘corrupted’ through actual implementation.

Recent critical engagements with *the practice* of making ‘payments for ecosystem services’ (PES) have demonstrated the contested nature of neoliberalism and illustrated the agency of local actors in shaping such (ostensibly market-based) instruments (Dempsey and Robertson 2012; Fletcher and Breitling 2012; McElwee 2012; Shapiro-Garza 2013; McElwee et al. 2014; Van Hecken et al. 2015). As McElwee et al. argue, most PES programs in the Global South “cannot be described as true markets or clearly neoliberal policies” (2014: 424). Hybrid and contingent outcomes stem from local agency in reshaping PES initiatives (Van Hecken et al. 2015) and competing political objectives on multiple scales (Shapiro-Garza 2013).

Careful analyses of PES have illuminated the ways that “practices around the ecosystem services concept deviate considerably from neoliberal doctrine” (Dempsey and Robertson 2012: 758). As I will argue below, however, the same careful analysis can also reveal the ways that officials continue to steer programs towards market ideals. PES programs certainly should *not* be considered purely neoliberal in an idealised way (McElwee et al. 2014), but we should remain vigilant to the possibility of encroaching neoliberalisation, as it may still carry important social and ecological consequences. Indeed, as Shapiro-Garza contends, market-oriented organisations “continually attempt to re-impose [the] market fundamental ideal type onto PES programs that stray” from the idealised neoliberal model (2013: 6).

Regardless of how imperfectly the principles of neoliberalism may be implemented, programmes with neoliberal design still guide practice toward the models laid down in their foundations. Perhaps what is most interesting, therefore, is not the extent to which a particular policy corresponds at any given moment to the neoliberal model at its core, but rather the specific and ongoing politics of implementation as actors work to bring practice into alignment with ideology. How do ideals compete and factions maneuver to advance neoliberal (or undermine anti-neoliberal) aspects of a programme? And how does the struggle to align practice with the original philosophy or programme payout as actors struggle for position?

In this paper, I provide a historical account of neoliberalisation in Costa Rican conservation that has arisen from World Bank influence and market-oriented interventions to the financing of payments for ecosystem services (PES). I explain how the Costa Rican state has been central to bringing this conservation financing into alignment with market ideology, and I suggest why this might be the case.

In the pages that follow, I present an analysis of Costa Rica’s *Pagos por Servicios Ambientales* (PSA)¹ and explain how changes to it constitute an ongoing process of neoliberalisation. To begin, I provide an overview of how the programme was

initially funded through a tax on fossil fuels and explain the government’s vision for future programme financing. I then detail how the World Bank re-entered Costa Rican affairs and gained influence over the PSA to encourage market development. This is followed by an assessment of the water tariff as a new revenue stream designed to approximate market transactions. Finally, I conclude the paper by reflecting on the way that neoliberal ideology confronts the contradictions within PES and manifests in hybrid market-like mechanisms such as the tariff.

FINANCING THE PSA: A TAX ON FOSSIL FUELS

Costa Rica’s PSA is intended to transfer financial resources from ‘users’ of ecosystem services to ‘providers’ who institute prescribed land management practices. It was among the first national-scale PES initiatives and continues to be one of the most advanced in terms of experimentation in governance. In the simplest terms, the programme seeks to make conservation the ‘economically rational’ management option by increasing opportunities for direct financial benefit. It does so by establishing economic relationships between various actors within the country and beyond. The process is facilitated by FONAFIFO (*Fondo Nacional de Financiamiento Forestal*), the quasi-governmental agency tasked with implementation. FONAFIFO acts as an intermediary between the ‘users’ and ‘providers’ of ecosystem services, ensuring that payments are transferred and management agreements are honoured. The programme has been described in equal measure as a “pioneering initiative to achieve environmental goals by creating markets” (Chomitz et al. 1999: 157) and a “subsidy in disguise” (Fletcher and Breitling 2012: 408). As I will show, there is some truth to each, in that the programme can be understood as a form of *state-led* neoliberalisation, necessitated by an inability of PES to self-sustain in the face of its own internal contradictions.

When the PSA began, it was financed through a tax on fossil fuels. This tax was established under the same law that created the programme (*Ley Forestal 7575*), originally earmarking one-third of a 15% tax on fossil fuels (in other words, 5% of fuel sales) for use in making payments to forest owners through the PSA. The idea was that these funds would be used to compensate landowners “for the environmental services to mitigate emissions of greenhouse gases and for the protection and development of biodiversity” (Article 69).²

The intent of the fuel tax was to establish a level of correspondence between the source of conservation revenues and the conservation activity being undertaken – in essence, it was to realise a financial relationship between ‘users’ and ‘providers’ of ecosystem services. In this case, the users are carbon emitters and the providers are landowners whose management practices provide carbon sequestration. It is possible, therefore, to interpret the tax as a ‘payment’ by users of carbon sequestration, since they are being charged to counterbalance their emissions with forest expansion. While some analysts (e.g. Pagiola 2008) reject this interpretation, others hold that “there is indeed more to it than a simple

change of name” for a tax-and-spend government programme (von Platen 1999: 23). Heindrichs (1997), for example, casts the tax-based PSA as an innovative mechanism for application of the ‘consumer pays’ principle, not an anti-market subsidy. From his point of view, the PSA represents:

a very important step forward in the management of forest resources – away from deficit-plagued, subsidised operations that are only able to survive with the aid of state ‘alms’ and toward a form of profitable, competitive land use based on sound business principles (Heindrichs 1997: 2).

Revenues from the tax, however, were not initially forthcoming. In fact, in the early years of implementation, the Ministry of Finance transferred only a fraction of these funds to FONAFIFO for use in the PSA because of competing fiscal obligations and a limited national budget (Heindrichs 1997). Despite the language earmarking fossil fuel revenues in the forestry law, Finance is beholden only to the annual budget passed by the Legislative Assembly, and without specification there (or in other budgetary legislation), the Minister retains great power over the allocation of funds. As Franz Tattenbach, an individual who was closely involved in FONAFIFO’s early budgetary concerns, explained, if the Assembly does not explicitly set the money aside “the Finance Minister will steamroll you” (Tattenbach, interview, Jan 2012). The language in the original forestry law was merely “an enabling condition”, not a binding earmark (Tattenbach, interview, 2012).

In 1997, the programme’s first year of operation, JUNAFORCA (an organisation representing small timber producers) and the Costa Rican Chamber of Forestry filed suit against the Ministry of Finance challenging the agency’s decision to disregard the original provision. The suit ultimately resulted in an agreement to transfer USD 7 million to FONAFIFO for use within the PSA (Watson et al. 1998). Concerns remained, however, that Finance was not bound by the court injunction for future years as the allocation was not an act of Congress – Tattenbach explained that even if Finance continued to provide the funds in the short term, without legislative action the PSA “would not survive a fiscal crisis” (2012). Indeed, the actual transfer of funds remained haphazard for several years, coming at unpredictable times and in unpredictable amounts. It was not until 2001, when the Legislative Assembly enacted the Law of Tax Simplification and Efficiency (No. 8114), that a binding mandate was issued. That law ultimately designated 3.5% of fuel sales to the PSA annually (Sánchez-Azofeifa et al. 2007). Though this was technically a reduction from the 5% initially identified, it was more than had ever actually been received to that point.

Prior to resolution of this issue, however, key actors within the networks of the PSA programme, such as Franz Tattenbach and John Kellenberg, eagerly sought a replacement to tax revenue since the Ministry of Finance was seen to be unreliable due to its disregard of the original earmark. Thus, in the year 2000, the government of Costa Rica (simultaneously as it pursued legislative action on the tax) began a partnership with

the World Bank that would transform the PSA’s financing mechanism. In interviews with Tattenbach (Jan 2012) and Kellenberg (Nov 2011), they reflected on how the involvement of the World Bank was, in part, motivated by a desire to avoid further tax-based conflicts (explained in more detail below). As articulated in a vision document by agents of FONAFIFO (Sage and Sanchez 2002), the tax was originally intended only to kickstart the programme and then give way to market financing. Indeed, former Minister of Environment, who was central in establishing the PSA, has also indicated that he saw “the government as a temporary supplier of [financial] resources” for the programme (Rodríguez, interview, 2012), and it was FONAFIFO’s mandate to realise alternative private funding sources.

FONAFIFO AND THE FUTURE VISION FOR PSA FINANCING

In addition to carrying out the day-to-day management of the programme, FONAFIFO is tasked with the expansion and diversification of its operating budget. The agency is empowered under the 1996 Forestry Law to pursue a range of other revenue streams for use within the PSA programme (*Ley Forestal 7575*: Article 47). The law grants FONAFIFO broad “powers to obtain financing, enter into all kinds of forest-conservation and related transactions, and develop the forestry sector” (Granados quoted in FONAFIFO 2005: 17). Designed “under the ‘maximum decentralization’ model” (FONAFIFO 2005: 17), FONAFIFO has the authority to pursue financing mechanisms, such as securities, bonds, grants, loans, trust funds, “short-term investments”, and the sale of ecosystem services (Article 47).

While the forestry law explicitly states that FONAFIFO’s fund raising activities must be “non-speculative” (Article 49), the agency is designed in such a way that it remains bound to the profit motive. Since FONAFIFO’s administrative budget is tied to the revenue it generates for the programme through a 5% internalisation of funds (Fletcher and Breitling 2012), it has “a vital interest in identifying and developing new sources of funding” (Heindrichs 1997: 22). In other words, FONAFIFO’s work is “performance-oriented” (Heindrichs 1997: iv), which replicates the imperative of profit maximisation.

Beyond that, FONAFIFO’s fund raising activities are aimed at realising the radical market vision articulated by key actors within the institution’s hierarchy. As explained elsewhere (Matulis 2013), two agents of FONAFIFO laid out a vision for the PSA in which it evolves from a tax-supported, government-mediated conservation programme into one that is based on private financial relationships carried out in open markets (Sage and Sanchez 2002). As the former Environment Minister explains; the “ultimate goal is to create institutional, policy, economic, and social conditions for direct transactions between a provider and a user” of ecosystem services (Rodríguez, interview, 2012).

FONAFIFO’s role in realising this imagined future is in facilitating the establishment of market transactions, thereby

enabling state withdrawal. It has pursued this objective in a number of ways. From its first year of existence, the agency began to develop private contracts with buyers of ecosystem services (FONAFIFO 2005). These entailed, for example, the sale of hydrological services (e.g. filtration, flow control, sediment retention) to hydropower producers, municipal water suppliers, bottlers, and agribusiness (FONAFIFO 2005; Pagiola 2008). Revenue generated from these purchases was then directed through the PSA to finance forest conservation. Negotiation of buyer-contracts, however, had to be done on an individual basis, thus proving costly. In response, FONAFIFO developed the *Certificado de Servicios Ambientales* (CSA), an instrument to simplify private buyer involvement.³ Each CSA represents one hectare of PSA-protected forest, so instead of negotiating a separate contract with each new buyer, FONAFIFO could simply sell the appropriate number of certificates. Significantly, these CSAs may also be traded, which creates the mechanism by which abstracted “service commodities” may be circulated in markets, just as originally envisioned by Sage and Sanchez (2002).

Notably, however, these market-based sources of revenue remain insignificant to the overall PSA budget, amounting to 0.5% of operations since the start of payments (FONAFIFO 2011). These abstracted ecosystem service commodities have failed to circulate to any significant degree. In other words, the CSAs have failed to increase the exchange value of ecosystem services as such a market-based mechanism is intended to do. The result is that FONAFIFO has been forced to continue its reliance on tax revenues as well as develop other (non-market) funds.

Substantial supplements to the ordinary tax budget have come in the form of grants and loans from international development banks and “donor” organisations. The German development bank, *Kreditanstalt für Wiederaufbau* (KfW), for example, granted €10.25 million to support PSA payments in the Huetar Norte region of Costa Rica as an extension of a previous conservation project supported by the German government (FONAFIFO 2005). FONAFIFO has also negotiated further initiatives with the United Nations Food and Agriculture Organisation, the World Bank, and the Government of Japan, specifically for ‘reforestation’ (i.e. plantation forestry) activities, though these have involved considerably less substantial funds (e.g. USD 300,000 from Japan for support of the *Reforesta* project) (FONAFIFO 2005).

Most significantly, FONAFIFO has negotiated two large-scale projects with the World Bank and Global Environment Facility (GEF): ‘Ecomarkets’ and the successor ‘Mainstreaming Market-Based Instruments for Environmental Management’ (commonly referred to as simply ‘Ecomarkets II’). This is notable for several reasons. For one, the projects have concerned over USD 80 million. For another, these projects were the first time that the Bank had been able to lend money to Costa Rica in a decade (World Bank 2007), since the controversial and intensely unpopular Structural Adjustment Plans deeply tarnished the institution’s reputation throughout much of Latin America. But most of all, the partnership has

allowed the World Bank to apply pressure for more-permanent financing mechanisms that behave (as much as possible) like a market.

THE WORLD BANK NEGOTIATES RE-ENTRY TO COSTA RICA

At the time that the first Ecomarkets project was being negotiated, the World Bank had no permanent presence in Costa Rica as the San Jose field office had closed in the 1990s due to an unwelcoming political climate. With Structural Adjustment still ongoing, the government of Costa Rica was reluctant to get involved in anything that would “significantly increase an already heavy loan portfolio” (de Camino et al. 2000: 74). Not long before the Ecomarkets proposal, the government had declined to approve a separate project (the Conservation Area Management or ‘CAM’ project) in an effort to “curtail external loans” (de Camino et al. 2000: 74).⁴ Bank involvement in the country had only recently been re-established through a grant – unveiled to much fanfare during a high profile visit to Costa Rica by the World Bank President himself (Chavez 1998).⁵ As such, preparation of Ecomarkets relied heavily on personal relationships between key actors (such as John Kellenberg, Luis Constantino, Franz Tattenbach, and Edgar Ortiz) at the Bank and within the Costa Rican forestry sector (Kellenberg, PSA interview, 2011). The initial small-grant opened doors and lines of communication for further collaboration and World Bank integration. It was from these personal connections that FONAFIFO’s partnership with the World Bank emerged.

Faced with budgetary constraints from the uncertain tax situation, FONAFIFO approached the World Bank for assistance in preparing a proposal to the Global Environment Facility (GEF). The initial objective was to secure a USD750,000 “medium-sized project” grant (Kellenberg, PSA, interview, Nov 2011). “Seeing the potential for greater impact”, however, “the Bank recommended the [proposal] be scaled up and blended with an IBRD loan” (World Bank 2007: 1).⁶ By the end of negotiations, the deal topped USD 40 million, 80% of which took the form of loans. Later, Ecomarkets II brought an additional USD 40 million to FONAFIFO’s budget, again predominately as loans. These agreements, however, were unusual because, as John Kellenberg reflects, Costa Rica did not actually need to borrow the money (Kellenberg, interview, 2011). As he recalled, “they were in relatively good shape financially” (Kellenberg, interview, 2011).

The massive 53-fold expansion of the project can be understood as similar to the case of the failed CAM proposal, in which “the Bank [had] pressed the government to support a large project that would be interesting to the Bank” (De Camino et al. 2000: 74). This time, however, the loans were integrated into the proposals, and the projects were ultimately approved.

Given its relative financial stability, a history of institutional mistrust, and no real need for a World Bank loan, how is it that Costa Rica found itself entering into such an agreement? And for what reasons did this relationship begin?

WHAT'S IN IT FOR COSTA RICA?

In the eyes of Kellenberg, who was 'task team leader' for the Bank in the early days of the first project, Costa Rica borrowed the money "because they wanted something else – they wanted stability, they wanted oversight, ... they wanted to bring in ... ideas from our side" (Kellenberg, interview, 2011). More precisely, it was FONAFIFO and key actors within Ministry of Environment and the forestry sector that wanted these things, not necessarily all elements of the Costa Rican government and certainly not all Costa Rican people. To the operatives at FONAFIFO (whose mandate was to expand the PSA budget and whose tensions with the Ministry of Finance meant financial uncertainty) this relationship certainly would provide 'stability', 'oversight', and 'ideas'. To the average citizen (who had borne the brunt of austerity under Structural Adjustment) or to the segments of government hesitant to relinquish sovereignty to foreign debt, on the other hand, this relationship would provide quite the opposite: instability, loss of oversight, and ideas that were in direct conflict with their own.

As Edgar Ortiz recalled, however, the general public "wasn't very aware" of the Ecomarkets proposal, and its architects were "able to sell the project like a pretty good deal for the country" (Ortiz, interview, 2 Feb 2012). By drawing on influential connections, such as Vice President Elizabeth Odio, they were able to place the loan agreement on the Executive agenda in the Legislative Assembly, which obliged the *Diputados* to consider the project. Reflecting on the process, Ortiz recalled "we had very strong power" (Ortiz, interview, 2 Feb 2012). In other words, negotiation of the loan provided a means for FONAFIFO to increase its political influence and advance its institutional objectives by way of leveraging external World Bank money.

WHAT'S IN IT FOR THE WORLD BANK?

For the Bank, on the other hand, the benefits of being involved in Costa Rica are far more straightforward. First, there is the obvious return on investment – by lending to Costa Rica the Bank will profit from interest paid. Despite its 'development' mission, the Bank is managed according to profit maximisation orthodoxies. Being shut out from the country meant that lending and profit generation were decreased (albeit by a rather insignificant amount given the size of Costa Rica and the scale of World Bank operations). As Tattenbach explained, "they had not been able to lend to Costa Rica in 10 years, [and] it was not speaking well for the World Bank, so it was their interest to get back in Costa Rica" (Tattenbach, interview, 2012). As the high profile 1998 visit by the Bank president suggests, re-establishing a presence in the country was an important priority.

Second, attaching itself to Costa Rican affairs affords the Bank certain green credentials through 'progressive' support of conservation.⁷ As John Kellenberg notes, "the GEF benefitted because they were able to hook into" Costa Rican initiatives (Kellenberg, interview, 2011). Indeed, World Bank documents

celebrate Ecomarkets as "one of the first fully blended IBRD/GEF operations to support an ongoing conservation programme" (2007, 1).

The initial USD 750,000 proposal, however, would not have measured-up against the scale on which the World Bank normally operates. The Bank-driven expansion of the project reflects the ambition of certain operatives to see grand outcomes. John Kellenberg, who worked on Ecomarkets, reflected on how the negotiations unfolded. He recalled that "in our conversations we gradually got around to the point that we could do something *much* much bigger" than the agents of FONAFIFO had in mind (Kellenberg, interview, 2011). As he explained,

I had worked on Global Environment Facility projects in the past, and I said you guys could get *a lot* more money than you're asking for. And so what we did then was we figured out roughly how much they could get from the GEF – we came up with the \$8 million figure – and then we had to work out a co-financing arrangement to meet the requirements of the GEF (Kellenberg, interview, 2011).

Essentially, the project was designed around the availability of financial resources, rather than specific needs for financial assistance. Despite assurances that Bank projects are "not supply driven" (Aryal, interview, 2011), the Bank (or at least Bank agents) certainly have objectives of their own.

THE LOAN

FONAFIFO was, of course, very interested in what was being proposed, as the USD 8 million grant would provide windfall resources and constitute a huge success in terms of the agency's budgetary expansion directive. The availability of GEF funds, however, came with strings attached, as the institution has many strict requirements regarding government partnership, especially concerning the security of counterpart funding. Given that the "Tax Simplification Law" (No. 8114) had not yet passed, the financial stability of FONAFIFO remained in question.⁸ If FONAFIFO could not guarantee their contribution to the project, the GEF would not be willing to make the grant. And so, Kellenberg explains, "that's how ... we started talking about the loan" (Kellenberg, interview, 2011).⁹

A loan from the World Bank could provide the budgetary assurance that the GEF required because such an agreement would need to be ratified by the Legislative Assembly. Such legislative action would then compel the Ministry of Finance to make its allocations to FONAFIFO and guarantee its contribution to the project. For this reason, FONAFIFO was also very amenable to the idea of the loan, since it would provide (at least temporarily) a level of fiscal security that it had not yet enjoyed. During the 5-year term of the loan, the ratified agreement would provide a mandate for budgetary allocations from the Ministry of Finance with or without a resolution to the tax question. Essentially, FONAFIFO was acting on two fronts to sure-up its operating budget – resolving its dispute with the Ministry of Finance over tax revenue

allocations through legislative action (i.e. Law 8114) and seeking temporary budget security through the World Bank loan. Both actions would provide a binding commitment to the original ‘enabling conditions’ outlined in Forest Law 7575.

Before the loan agreement could be brought before the Legislative Assembly, however, FONAFIFO still had to convince the Ministry of Finance that it was in the national interest, as it was the Finance Minister, not the Environment Minister, who would sign the agreement. The Finance Minister, however, had to weigh many competing interests, concerns over the national debt load, and issues of conditionality (Tattenbach, interview, 2012), which have historically accompanied such lending (as had been the case with Structural Adjustment). Therefore, the Ministry of Finance did not initially support the Ecomarkets project.

NEGOTIATIONS

In an effort to persuade the Finance Minister that the Ecomarkets project should be approved, the Environment Minister deployed the economic valuation of nature concept. As he explained,

I knew that [the Finance Minister] perceived me ... as something [of] a nice guy who has a very noble responsibility, but he tended to believe that I [did not] generate progress because I [did not] generate jobs or incomes (Rodriguez, interview, 2012).

So the Environment Minister started to ‘speak the language’ of Finance, putting conservation in terms of the benefits it provided to the economy and to society:

At that time, still, [from the perspective of Finance] forests didn’t contribute to those political targets, which [were] economic growth and poverty alleviation. So we were forced to ... frame our initiative in terms of the economics. ... And when we started talking the same language [as] the Minister of Finance, he understood that [the Ecomarkets project] made a lot of sense (Rodriguez, interview, 2012).¹⁰

While it was a persuasive strategy, this argument was only one of (and not even the most important) reason the loan was ultimately approved (Ortiz, interview, 2012).

The Finance Minister was primarily concerned with immediate budgetary issues and that the loan should not constitute additional revenue for FONAFIFO and the PSA. The Ministry of Finance (as the fiduciary representative of the government of Costa Rica) would be responsible for repaying the loan to the World Bank. In other words, the loan would need to be repaid from the national budget, *not* the FONAFIFO budget or future collections of the fuel tax. If the loan did not replace FONAFIFO’s tax earmark, it would effectively be increasing the government’s liabilities and doubling the PSA budget. Thus it was agreed that the loan allocation would be a replacement of the tax earmark during the 5-year term of the project (Ortiz, interview, Dec 2011). It was a concession acceptable to FONAFIFO since the agreement would still

provide assured budgetary allocations for those 5 years and the additional \$8 million GEF grant.

The primary reason the Minister of Finance approved the loan, however, was “because it made financial sense to him” (Rodriguez, interview, 2012). The government of Costa Rica was already borrowing money to finance its operations, but it was doing so internally at a high rate of interest. By taking the loan from the World Bank, the Ministry of Finance could substitute internal debt with external debt and decrease the borrowing rate from 10% to 1.5% (Ortiz, interview, 2012). As long as Finance did not also have to pay FONAFIFO its share of the fuel tax during the term of the loan, taking the money would actually result in savings for the government. This was ultimately the reason the Minister relented and agreed to support the project (Kellenberg, interview, 2011).

POLITICAL MANEUVERING

In addition to the backing from Finance, however, the project still required support from key individuals in the government for its ratification. Several ‘sweeteners’ were therefore integrated into the deal. Vice President Elizabeth Odio (the person who would ultimately place the loan agreement on the legislative agenda), for example, was an important proponent of women’s empowerment, and so a measure to increase the involvement of women was integrated into the Ecomarkets proposal (Ortiz, interview, 2012). In fact, one of the primary activities of the project became increasing the enrollment of women in the PSA.¹¹

Further support for the project was built on the prospect of receiving the USD 8 million grant from the GEF. Considered as a whole, the Ecomarkets package (i.e. loans plus grant) could be interpreted as an interest-free or net-positive transaction for Costa Rica.¹² Both FONAFIFO and the Ministry of Environment viewed the Ecomarkets package as “a pretty good deal” (Ortiz, interview, 2013). Considering the grant alongside the loan, Franz Tattenbach asserts that “the truth of the matter was that the loan was [not a] loan” (Tattenbach, interview, 2012), since the grant more than made up for the cost of interest. In fact, he explained that some have even interpreted it as a “purchase” of biodiversity by global “service users” (Tattenbach, interview, 2012).

In spite of this, some reluctance to approve the loan remained at the Legislative Assembly hearings. As Edgar Ortiz explains, however, FONAFIFO “did a very good job in the National Assembly”. He continues:

We did the analysis of comparing what it would cost having internal debt versus external debt, and also the whole interest rate that you are going to pay for having the loan and the grant (Ortiz, interview, 2012).

In the end, the loan agreement “was passed almost unanimously”, even receiving tacit support from the Libertarian Party, which “promised not to oppose it” (Tattenbach, interview, Jan 2012). Reflecting on this, Tattenbach explained “that is the extent to which there is a consensus on this in Costa Rica” (Tattenbach, interview, 2012).

By the time the second Ecomarkets loan was being considered, even the libertarians voted in favor (Tattenbach, interview, 2012). Their support in this instance was even more significant, given that the second loan differed from the first in one major way: it did not replace FONAFIFO's portion of the fuel tax (Ortiz, interview, 2011). In other words, the second loan is not simply swapping internal debt for external debt – rather, it is additional debt for the nation and additional revenue for the PSA. The second loan approved by the legislature will be added to the Costa Rican government's total debt load. This shows the political commitment that Costa Rica has to the PSA and environmental projects, but it also represents a major victory for the World Bank, in that it has not only achieved re-entry to Costa Rica but also *re-normalised* a dependency on foreign lending to advance domestic programmes.

INFLUENCE GAINED

The re-normalised relationship with the World Bank, of course, is about much more than simply a financial relationship. Certainly, the Bank will generate revenue by lending to Costa Rica, but the real significance is in how this relationship affords the Bank influence over Costa Rican affairs. Because the Bank is providing 'assistance', it can expect to have some say over how resources are used and how initiatives evolve. In fact, such a guarantee is explicitly written into the forestry law: Article 46 says that FONAFIFO will be the "instrumental legal entity, *unless the cooperating agency or the donor establishes different conditions for the beneficiaries*" (Ley Forestal 7575: my emphasis).¹³

This has played out, for example, in the case of the GEF grant. As Tattenbach explained, the GEF was allowed to set the standards for prioritisation and select the areas that would be targeted for biodiversity conservation because of the view that it was acting as the "buyer" of "biodiversity services" (Tattenbach, interview, Jan 2012). It did so through use of the GRUAS reports, prioritising areas within the Meso-American Biological Corridor. While prioritisation based on ecological criteria is rather sensible, the transferral of sovereignty over domestic conservation decisions to foreign technocrats is rather disconcerting. The GEF is many degrees separated from, and not directly accountable to, the people who will actually be affected by their decisions.

This sort of one-off purchase of influence is certainly significant, but it is less important than some of the more fundamental alterations to the PSA that the Bank has been able to encourage. Specifically, formulation of a new permanent revenue stream for the PSA bears the marks of the neoliberal ideology that is integral to World Bank influence. The *Canon de Aprovechamiento de Agua*, or "Water Use Tariff", is imbued with the ideals of direct financial transactions between 'users' and 'providers' of ecosystem services.

FINANCING THE PSA: CREATION OF THE WATER TARIFF

The water tariff, as it exists today, was established by Executive Decree (32868-MINAE) in 2006 after a long period of

scientific assessment and political maneuvering (Rodríguez, interview, 2011). The authority to do so was derived from the 1942 Water Law (No. 276), which stipulated that all water users must hold a concession and pay a fee to use the state-owned commodity. Until the 2006 decree, those fees were nominal, representing little more than administrative costs (Rodríguez, interview, 2011).

Beginning in 2002, the Ministry of Environment sought to expand conservation under the PSA by internalising the 'true cost' of nature's hydrological functions. When the idea of generating new revenue from water was first proposed, however, it was not well received, as there were concerns over the effect it would have on the economy. The Environment Minister recalled, "I wanted to put a tax on water pollution, and everybody said 'No, are you crazy, we are going to lose competitiveness!'" (Rodríguez, interview, 2012). Undeterred, the Minister prepared reports on the cost of degraded ecosystems to the various sectors of the economy (e.g. tourism, agriculture, fisheries, healthcare, energy). One of the studies undertaken was an assessment of the 'ecological price of water', which was determined to be USD 2 per cubic meter (Rodríguez, interview, 2012). "So," the Minister explained, "that was the political baseline [where] I began negotiating" (Rodríguez, interview, 2012). Enacting actual policy from this information, however, proved a formidable task, as significant questions – regarding who was going to pay and how new resources would be allocated – still remained.

The tariff ultimately placed a fee on water *usage* rather than water *pollution*, being designed upon the existing private-buyer contracts described above. It is a significant distinction that not only carries important conceptual and material implications, but also framed the field of support and resistance to the initiative. Using the information he was generating about 'ecosystem services', the Minister promoted the tariff to industry as an investment in "water factories" (Rodríguez, interview, 2012). Such a framing was readily accepted by industries that had relatively low water consumption in the production of high value goods. The national brewing company, which has annual sales of USD 250 million (Rodríguez, interview, 2012), for example, embraced the concept as a way of ensuring a clean supply of water for its operations, since the tariff would increase their concession fees by a mere USD 24,000 (Rodríguez, interview, 2012).

On the other hand, industries such as agriculture, which has relatively high water consumption in the production of low value goods, found the idea objectionable. Indeed, it was the agricultural sector that led resistance to institution of the tariff. As the Environment Minister explained, they are "very inefficient in using water" so they were "not at all willing to pay" (Rodríguez, interview, 2011). The campaign to resist the tariff centered on the argument that the Ministry of Environment was attempting to increase charges by an unacceptable 10000% (Rodríguez, interview, 2011). In the end, a differentiated fee schedule was agreed upon (FONAFIFO n.d.) and the overall increase in water fees was 2500%, considerably lower than anticipated though still substantial.

Conceptually, the decision to design the tariff as a usage fee represents an important shift from the ‘polluter pays’ principle to the ‘beneficiary pays’ principle – whereas the fuel tax collects revenues from carbon emitters (i.e. polluters of functioning ecosystems), the tariff collects revenues from water users (i.e. beneficiaries of functioning ecosystems).¹⁴ The distinction between the two has important distributive implications. If the polluter pays, there is not necessarily a correlation between the contribution made and the benefits received (the burden may be concentrated, but the benefits are distributed). On the other hand, if the beneficiary pays, the link between the user and the provider is direct and immediate.

By charging users of water, rather than polluters, the tariff is being brought into greater alignment with the ideals of neoliberal environmental economics. The ideological basis of this transition to usage fees and direct financial relationships is articulated in a range of publications by Bank analysts (e.g. Chomitz et al. 1999; Pagiola et al. 2002; Pagiola, Arcenas, and Platais 2005; Pagiola and Platais 2007; Pagiola 2008; Zhang and Pagiola 2011). While these perspectives are anything but monolithic, they generally subscribe to a characterisation of PES as:

A market-based approach to conservation financing based on the twin principles that those who benefit from environmental services ... should pay for them, and that those who contribute to generating these services ... should be compensated for providing them (Zhang and Pagiola 2011: 406).

Achievement of this particular framing of PES has been central to the World Bank’s activities in Costa Rica. As Nadim Khouri (“task team leader” for the Bank during the proposal phase of the second project) explains, Costa Rica had succeeded in instituting half of Zhang and Pagiola’s equation – the PSA realises the objective that “you do something good, you get payment” (Khouri, interview, Dec 2011). But it had not yet achieved the other – that is, “the beneficiary of the good deed is the one paying you” (Khouri, interview, Dec 2011). In his words, the PSA had not yet reached “nirvana” (Khouri, interview, Dec 2011). Indeed, this was the justification used in the preparation of the second Ecomarkets project.

While the initial idea to expand PSA financing through water may have originated on the Costa Rican side, the influence of the Bank on its development is particularly significant. Indeed, FONAFIFO has been very amenable to World Bank ideas. From the perspective of Dinesh Aryal, FONAFIFO’s relationship with the Bank had actually been established (in part) to gain access to “some of the respected names” in PES development worldwide (Aryal, interview, 2011). And, as Tattenbach indicated, “the water legislation had a lot to do with their push” (Tattenbach, interview, 2012). Khouri, as well, hesitated in attributing the final policy entirely to Costa Rican initiative. Once an idea is on the table, he explained, “you get your specialists on both sides to just work together and it’s really a joint idea very quickly” (Khouri, interview, 2011).

In more specific terms, Gunars Platais, a member of the Bank team, explained that they had “many many conversations”

with the Environment Minister, telling him “you need to be able to channel money back” into the places from which it was collected (Platais, interview, 2012). By doing so, the system would function much more like a user-fee, since there would be more direct correspondence between the “users” and “providers” of ecosystem services. Eventually, the Minister “took [this idea] and really went with it” (Platais, interview, Feb 2012). Indeed, the final tariff mandate contains language stipulating that the fees collected must be used within the watershed in which the revenues were generated (Decree 32868-MINAE, Chapter IV: Article 14).¹⁵

Furthermore, the tariff contains a provision that allows water users to opt-out of paying the tariff directly by, instead, entering into a voluntary agreement for service provision (Decree 32868-MINAE) – the idea being that this will encourage reluctant buyers (or “free riders”) to enter the market. As Khouri described it, “you get all these little gimmicks ... that show you’re getting a bit closer to the ideal payment for environmental service” (Khouri, interview, 2011). The tariff, he explained, is “a bit better than a general tax on one thing or the other” because “if eventually this thing can be privatised, it makes a lot of sense” to have such frameworks in place (Khouri, interview, 6 2011). Even if it does not achieve the ideal model, “you’re getting a bit closer” (Khouri, interview, 2011).

While a compulsory water tariff hardly realises the pure market transactions envisioned by the programme’s architects (Sage and Sanchez 2002), the World Bank appears to consider it progress towards that ultimate objective. Documents from the second Ecomarkets project, for example, cast the tariff in a favorable light, praising its ability to generate finances “which directly correspond to users of the services” (World Bank 2006 12). Stefano Pagiola, a senior economist at the Bank, explained that even though a “real market” may be out of reach, “we try to get as close as we can”; certainly, the tariff is “a much closer approximation ... than the carbon tax” (Pagiola, interview, Feb 2012). Short of the ability to create *actual* markets for the sale of ecosystem services, public financing is being re-designed to behave according to market logic. With the tariff, the PSA is being re-oriented under the logics of neoliberal economics; payments are being made to realise (or at least approximate) idealised financial transactions.

CONCLUSION

Payments for ecosystem services – and other financialised approaches to conservation – have, for some time now, been commonplace in the policy landscape; pilot programmes, frameworks, and full-scale systems abound (Wunder et al. 2008). In spite of an inclination toward market strategies (Engel et al. 2008), however, there has been much difficulty in establishing these regimes and implementing systems of exchange. Very few, if any, ‘true’ markets for ecosystem services actually exist. As Milne and Adams (2012) explain, most attempts to implement PES have resulted in programmes that simply “masquerade” as markets. Looking beneath the market veneer, PES has been described as subsidies (Fletcher

and Breitling 2012) that are poorly aligned to the neoliberal ideals underpinning their design (McAfee and Shapiro 2010).

McAfee and Shapiro explain that these “inconsistencies in the theory and practice of PES ... arise from a contradiction at the heart of the project of neoliberalisation of nature” – a contradiction that is rooted in the “conceptual separation of nature and society” (McAfee and Shapiro 2010: 580). The “desocialisation” of nature required for establishing markets in PES is not possible (given the inextricable link between society and nature) and, thus, implementations of PES must engage local norms and contexts that frequently contravene the ideals of neoliberalism (McAfee and Shapiro 2010). This is precisely the disconnect identified by Castree (2010) in his conceptualisation of the “three p’s”.

Because of this, PES programmes have struggled to actually implement the neoliberal market form at their core – a situation that has, no doubt, been a point of frustration for neoliberal actors within government and institutions such as the World Bank. As evidenced by the PSA vision document (Sage and Sanchez 2002), key players within the Costa Rican government certainly do espouse a neoliberal ideology and wish to see the PSA operate as a pure market. Confronted by the contradiction identified by McAfee and Shapiro (2010), however, these markets have not materialised. Nevertheless, key actors remain committed to the idealised neoliberal form, and their efforts continue to direct the programme towards mechanisms that, at the very least, *approximate* market transactions.

The resulting pseudo-markets for ecosystem services have been explained – in the case of Costa Rica – as an effort to kickstart exchange before giving way to ‘real’ markets. And, in the words of the former Environment Minister, they are a “socially-accept[able]” and “politically-viable” compromise to complete marketisation (Rodríguez, interview, 2011). The recent Water Use Tariff – a market-like approximation of the user-fee model – is simply the next stage in the progression towards neoliberal financing mechanisms.

By stipulating that revenues must be used within the watershed in which they were generated, the tariff establishes more direct correspondence between ‘users’ and ‘providers’ of services, concentrates funds in areas where those ‘users’ pay in, and aligns ‘service provision’ with business activity. In other words, the tariff emulates a market relationship by ensuring that money is exchanged as compensation for the provision of hydrological services. Even though the PSA has failed to self-sustain, the market-like system that has resulted is a clear expression of neoliberal ideology.

Rather than trying to break the patterns of uneven development associated with capitalist production, the government has reproduced the conditions that drive it by fostering anti-redistributive policies that concentrate financial resources for conservation around wealthier communities and the ‘users’ that are able to pay. The programme may not align that well with the principles of idealised neoliberalism (or even add up when measured against the principles laid down in its own design), but when actors within the state intervene, they may still do so according to the underlying ideology

guiding the project. The contradictions inherent to PES may keep programmes from operating as pure markets (McAfee and Shapiro 2010), but neoliberal actors can still create mechanisms that orient programmes towards the underlying ideology, and those mechanisms can still have undesirable social and ecological consequences.

NOTES

1. I use PSA, which translates as ‘Payments for Environmental Services’, to refer specifically to Costa Rica’s national program for making ‘payments for ecosystem services’, and PES to refer to the concept more generally.
2. The text of Article 69 reads: “De los montos recaudados por el impuesto selectivo de consumo de los combustibles y otros hidrocarburos, anualmente se destinará un tercio a los programas de compensación a los propietarios de bosques y plantaciones forestales, por los servicios ambientales de mitigación de las emisiones de gases con efecto invernadero y por la protección y el desarrollo de la biodiversidad, que generan las actividades de protección, conservación y manejo de bosques naturales y plantaciones forestales. Estos programas serán promovidos por el Ministerio del Ambiente y Energía.”
3. These certificates should not be confused with Costa Rica’s earlier system of forestry certificates (CAF, CAFA, CAFMA, and CPB), as the CSAs represent an abstracted “service commodity”, not (as previously) a bond issued as direct government payment.
4. As de Camino et al. (2000) indicate, an exception had been made to allow the CAM proposal, but it ultimately failed when the proposed project grew beyond an acceptable size.
5. The grant was \$500,000 (small by Bank standards) to support the *Oficina Costarricense de Implementación Conjunta* (OCIC), which oversaw Joint Implementation projects initiated under the Kyoto Protocol (World Bank 2007).
6. IBRD stands for the International Bank for Reconstruction and Development, the official name of the World Bank.
7. Tattenbach explained, “there was a lot of interest in this kind of climate change forestry”, and the World Bank President, “a good friend of President Figueres”, “was quite interested in these things” (Tattenbach, interview, 30 Jan 2012).
8. Despite the initial dispute with Finance, the fuel tax should not be viewed as an unreliable source of financing. Indeed, when the Legislative Assembly considered removing the tax at a time of high fuel prices, public outcry prevented it (Rodríguez, interview, 2 Feb 2012). The fuel tax revenues for the PSA are quite secure given that the legislature is being held accountable for continuing the budget appropriation.
9. This demonstrates how the GEF, ostensibly a donor organisation, actually facilitates World Bank lending and the integration of reluctant borrowers into the global capitalist system.
10. This approach is exemplary of the wider processes of how conservationists end up articulating goals in financial language and how the hegemonic logic of neoliberal economics becomes embedded in practices that, at first glance, have rather little to do with traditional development.
11. Project Development Objective Indicator #2 of the Ecomarkets project is a “30% increase in the participation of women land owners and women’s organizations” (World Bank 2000, 2).

12. The World Bank's willingness to offer such a disadvantageous loan in this instance needs to be understood in the context of its wider objectives, which include gaining re-entry to the country and a broader shift towards involvement in conservation.
13. The text of the law reads: "El Fondo Nacional de Financiamiento Forestal contará con personería jurídica instrumental; salvo que el cooperante o el donante establezca condiciones diferentes para los beneficiarios" (Article 46).
14. It is possible to interpret payers of the fuel tax as beneficiaries of climate mitigation from carbon sequestration, but since the Forest Law casts it as an *impuesto de consumo*, or consumption tax, this is a dubious understanding (*Ley Forestal 7575*, Article 69). Moreover, given that revenues are re-purposed for provision of other services, most analysts conclude that the fuel tax "can only tenuously be regarded as a payment by service users" (Pagiola 2008: 716).
15. The decree states that tariff revenues are to be used to finance payments on "terrenos privados dentro de la cuenca donde se genere el servicio ambiental de protección del agua y se ubiquen en zonas de importancia para la sostenibilidad comprobada del régimen hídrico", or "private lands within the watershed that generates the environmental service of water protection and that are located in zones of proven importance for the sustainability of the water regime".

REFERENCES

- Brenner, N. and N. Theodore. 2002. Cities and the geographies of 'actually existing neoliberalism'. *Antipode* 34: 349-379.
- Castree, N. 2008. Neoliberalising nature: the logics of deregulation and reregulation. *Environment and Planning A* 40: 131-152.
- Castree, N. 2010. Neoliberalism and the biophysical environment: a synthesis and evaluation of the research. *Environment and Society* (1): 5-45.
- Chavez, G. 1998. World Bank president to sign ecological agreement. *La Nacion*. 3 March 1998 <http://www.nacion.com/ln_ee/1998/marzo/03/english3.html>. Accessed on July 17, 2013).
- Chomitz, K. M., E. Brenes, and L. Constantino. 1999. Financing environmental services: the Costa Rican experience and its implications. *The Science of The Total Environment* 240: 157-169.
- De Camino, R., O. Segura, L. Guillermo Arias, and I. Perez. 2000. *Costa Rica Forest Strategy and the Evolution of Land Use*, Washington D.C., World Bank.
- Dempsey, J. and M. M. Robertson. 2012. Ecosystem services: tensions, impurities, and points of engagement within neoliberalism. *Progress in Human Geography* 36:758-779.
- Engel, S., S. Pagiola, and S. Wunder. 2008. Designing payments for environmental services in theory and practice: an overview of the issues. *Ecological Economics* 65: 663-674.
- Fletcher, R. and J. Breitling. 2012. Market mechanism or subsidy in disguise? Governing payment for environmental services in Costa Rica. *Geoforum* 43: 402-411.
- FONAFIFO, 2005. Over a decade of action. San Jose, CR: Ministry of Environment and Energy, Costa Rica.
- FONAFIFO, 2011. Asignación presupuestaria para CAF y PSA por fuente de financiamiento período 1995-2011. San Jose, CR: Ministry of Environment and Energy, Costa Rica. <http://www.fonafifo.go.cr/text_files/servicios_ambientales/Dist_Presu_Montos.pdf> (accessed 21.09.11).
- FONAFIFO. n.d. Canon de aprovechamiento de aguas: que es? Cual es su objetivo? Como se aplica?. San Jose, CR: Ministry of Environment and Energy, Costa Rica.
- Heindrichs, T. 1997. Innovative financing instruments in the forestry and nature conservation sector of Costa Rica. Eschborn, Germany: Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) GmbH.
- Heynen, N. and P. Robbins. 2005. The neoliberalization of nature: governance, privatization, enclosure and valuation. *Capitalism Nature Socialism* 16: 5-8.
- Jessop, B. 2002. Liberalism, neoliberalism, and urban governance: a state-theoretical perspective. *Antipode* 34: 452-472.
- Matulis, B. S. 2013. The narrowing gap between vision and execution: neoliberalization of PES in Costa Rica. *Geoforum* 44: 253-260.
- McAfee, K. and E. Shapiro. 2010. Payments for ecosystem services in Mexico: nature, neoliberalism, social movements, and the state. *Annals of the Association of American Geographers* 100.3: 579-599.
- McElwee, P., T. Nghiem, H. Le, H. Vu, and N. Tran. 2014. Payments for environmental services and contested neoliberalisation in developing countries: a case study from Vietnam. *Journal of Rural Studies* 36: 423-440.
- McElwee, P. D. 2012. Payments for environmental services as neoliberal market-based forest conservation in Vietnam: panacea or problem? *Geoforum* 43: 412-426.
- Milne, S. and B. Adams. 2012. Market masquerades: uncovering the politics of community-level payments for environmental services in Cambodia. *Development and Change* 43: 133-158.
- Mudge, S. 2008. What is neoliberalism? *Socio-Economic Review* 6.4: 703-731.
- Pagiola, S. 2008. Payments for environmental services in Costa Rica. *Ecological Economics* 65: 712-724.
- Pagiola, S., A. Arcenas, and G. Platais. 2005. Can payments for environmental services help reduce poverty? An exploration of the issues and the evidence to date from Latin America. *World Development* 33: 237-253.
- Pagiola, S., J. Bishop, and N. Landell-Mills. 2002. *Selling Forest Environmental Services: Market-Based Mechanisms for Conservation and Development*. London: Earthscan.
- Pagiola, S. and G. Platais. 2007. Payments for environmental services: from theory to practice. Washington: World Bank.
- Sage, L. and O. Sanchez. 2002. Evolucion esperada para el mercado de pago de servicios ambientales en Costa Rica. *Revista Forestal Centroamericana* 37: 72-73.
- Sánchez-Azofeifa, G. A., A. Pfaff, J. A. Robalino, and J. P. Boomhower. 2007. Costa Rica's payment for environmental services program: intention, implementation, and impact. *Conservation Biology* 21: 1165-1173.
- Shapiro-Garza, E. 2013. Contesting the market-based nature of Mexico's national payments for ecosystem services programs: four sites of articulation and hybridization. *Geoforum* 46: 5-15.
- Van Hecken, G., J. Bastiaensen, and F. Huybrechs. 2015. What's in a name? Epistemic perspectives and payments for ecosystem services policies in Nicaragua. *Geoforum* 63: 55-66.
- Von Platen, H. 1999. Payments for environmental services: a new slogan for old incentives or a new economic concept? *Gesellschaft für Agrarprojekte* 4: 21-30.
- Watson, V., S. Cervantes, C. Castro, L. Mora, M. Solis, Porras, I. and B. Cornej. 1998. Making space for better forestry. London: International Institute for Environment and Development.
- World Bank, 2006. Mainstreaming market-based instruments for environmental management – project appraisal document. #36084-CR. Washington DC: The World Bank Group.
- World Bank, 2007. Ecomarkets – implementation, completion, and results report #ICR433. Washington DC: The World Bank Group.
- Wunder, S., S. Engel, and S. Pagiola. 2008. Taking stock: a comparative analysis of payments for environmental services programs in developed and developing countries. *Ecological Economics* 65: 834-852.
- Zhang, W. E. I., and S. Pagiola. 2011. Assessing the potential for synergies in the implementation of payments for environmental services programs: an empirical analysis of Costa Rica. *Environmental Conservation* 38: 406-416.