

Chapter 12

The Governance of Costa Rica's Programme of Payments for Environmental Services: A Stakeholder's Perspective

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12.1 Introduction

Over the past decade, “Payments for Environmental Services” (PES) have received a great deal of attention as a natural resource management approach (Landell-Mills and Porras 2002; Corbera et al. 2007; Engel et al. 2008; Wunder et al. 2008; Pattanayak et al. 2010). Wunder (2005, 2007) defines PES as voluntary transactions where a well-defined Environmental Service (ES) (or a land use likely to secure that service) is “bought by a minimum of one ES buyer from a minimum of one ES provider if and only if the ES provider secures ES provision during a determined time (conditionality).” Pure PES schemes fulfilling all the criteria of Wunder’s definition may not always be possible or even preferable (Wunder 2005; Corbera et al. 2007). More recently, scholars have analysed the institutional nature of PES, underlining the importance of the institutional and social context in which it takes place (Muradian et al. 2010; Sommerville et al. 2009; Vatn 2010). They usually

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consider PES as a social construction, reflecting a certain distribution of power among stakeholders, while often emphasizing the need for legitimacy as an important driver of its design and evolution (Corbera et al. 2007; Pascual et al. 2010).

As a pioneer programme using the PES notion, the Costa Rican Payment for Environmental Services Program (PESP) has been analysed as a very promising and innovating instrument for conservation and has been considered a reference for PES schemes. Since its launch in 1997 to address deforestation, the programme has invested more than 200 million cumulative dollars and contracted over 700,000 ha of forest,¹ representing 13% of the national territory. Many scholars have discussed the PESP efficiency (Daniels et al. 2010; Legrand et al. 2011; Sánchez-Azofeifa et al. 2007; Zbinden and Lee 2005) and described it as an innovative market-based instrument for conservation (Pagiola 2008; Rojas and Aylward 2003; Pagiola et al. 2002). Nevertheless, the analyses of the PESP dynamics of evolution and governance have been poorly documented.

The objective of this chapter is to analyse the genesis and evolution of the PESP evidencing the influence of the different stakeholders on its functioning.

To develop this analysis, we relied on an extensive analysis of existing PESP literature, reviewing internal reports, decrees and procedure manuals issued by the National Fund for Forest Financing (“Fondo Nacional de Financiamiento Forestal” – FONAFIFO), which is in charge of PESP implementation. We also conducted semi-structured interviews of more than 50 stakeholders directly involved in the genesis, evolution and management of the PESP as well as stakeholder representatives involved in the management of forest plots. These stakeholders were invited to present their own trajectory and describe the roles they played in the emergence and evolution of the PESP, as well as their perception of the PESP since its beginning. They were asked to explain why and how decisions affecting the PESP arose: who were the main stakeholders involved and how they thought (visions, motivations, ...) and acted (strategies, argumentations, resources, ...).

In this chapter, after a presentation of theoretical framework, we describe the basic features of PESP and its evolution since 1997 regarding funding, payment and management systems. Then we further analyse the PESP evolution in the light of power balance evolution of stakeholders’ groups involved in forest issues.

12.2 PESP: A Theoretical and Analytical Framework

Following Corbera et al. (2009), PES consists of transferring economic resources from ecosystem services providers to consumers so that the former benefit economically while the latter receive the right to use the resources provided by the service in question.

¹ These references correspond to data available on the FONAFIFO website: http://www.fonafifo.go.cr/paginas_espanol/servicios_ambientales/sa_estadisticas.htm

Wunder et al. (2008) classified the Costa Rican PESP as a government-financed programme subject to side objectives, however, did not analyse the diversity of these objectives. Following Muradian et al. (2010), we considered PES as a complex and multi-goal policy instrument, subject to social embeddedness and power relations.

In this chapter, by analysing the genesis and evolution of PESP from a stakeholder's perspective, we understand why and how multi-objectives are combined in the PES instrument.

Assuming a Northian perspective, PESP can be considered as an institution (North 1990), as such its evolution depends on interactions with organizations. Following Corbera et al. (2009), we adopt an institutional framework and concentrate on the institutional design of PESP,² setting the following specific questions: Which actors shape the rule-design process and how are their interests represented in the final rules? Why and how design rules change over time?

To understand the conditions of institutional changes, we mobilized sociological policy approaches that consider public policies actors and their interactions (Hassenteufel 2008). Considering public policies as a collective action, policy changes are interpreted as the results of interactions of actors in an evolving context. The actors (in opposition to rational approaches) developed strategies according to their policy action resources (juridical, material, knowledge, political, social) and their cognitive characteristics. We considered the belief system of the actors (Sabatier and Jenkins-Smith 1993) as the cognitive characteristics and how the beliefs of the actors of the same coalition impacted public policy orientation.

Thus, we identified the actors³ involved in the PESP decision-making process and analysed the PESP implementation rule. We identified the different changes that occurred during implementation of the PESP since its inception and analysed the context in which the changes took place. Through direct interview, we identified each stakeholder's perception of the forest problem and belief system, PESP rules and orientations, as well as their interests, resources and strategies towards PESP orientation.

12.3 PESP Basic Features and Their Evolution

Aiming at addressing the deforestation problem, the PESP was implemented through the 4th Costa Rican forestry law (#7575) adopted in April 1996. The PESP core principle is to provide payment to private forest landowners for the Environmental

² The analytical framework proposed by Corbera et al. (2009) also analyses institutional performance and institutional interplay that will not be discussed in this chapter (for an analysis of institutional performance of PESP, see Legrand et al. 2011). We also will not discuss the institutional nature of PESP (Pagiola 2008), nor the efficiency of PES compared to other instruments, nor their scope of PES efficiency (Wunder et al. 2008; Kemkes et al. 2010; Farley and Costanza 2010).

³ The actors can be individuals or organizations.

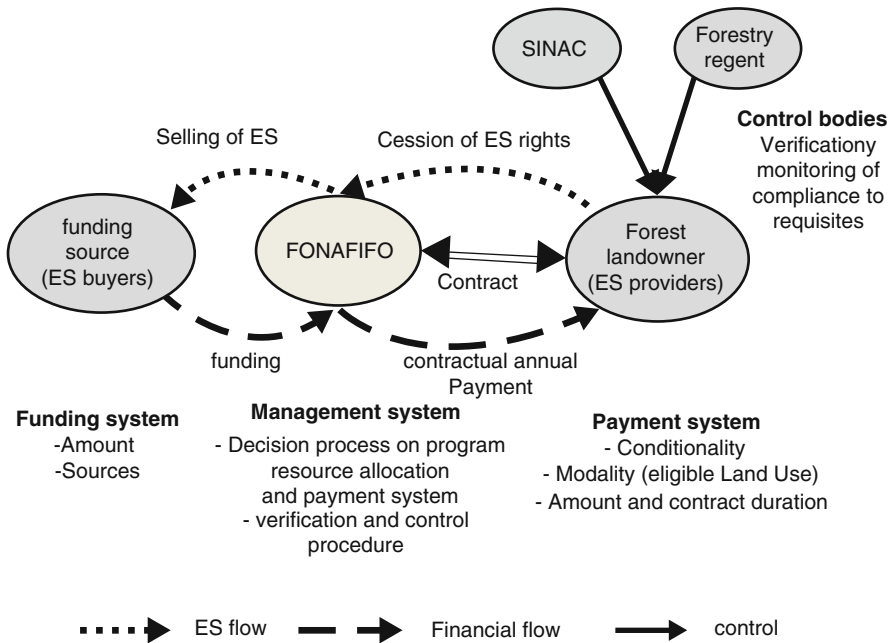


Fig. 12.1 Basic principles of PESP functioning (Source: Authors derived from interviews with FONAFIFO)

Services (ES) generated by their forests (Fig. 12.1). Forest landowners cede their rights to their forests’ ES to a management entity (FONAFIFO) that sells them to ES users. A formal contract is established between the management entity (FONAFIFO) and forest landowner to set the transaction. This contract is contingent on the existence of a forest management plan with which the forest owners are required to comply with. A forestry regent⁴ contracted by the forest owners and who is in charge of monitoring PES contract compliance issues this plan. Forestry regents also act as third party controlling PES contracts between forest landowners and FONAFIFO. The National System of Conservation Areas (SINAC),⁵ a public institution, is in charge of landowner compliance with forestry law.

⁴The forestry regent (“regente forestal”) is a formal body created by Forestry Law 7575. They are licensed forestry engineers who have the legal power (“fe publica”) to authenticate the management plan of private landowners. Forestry regents are accredited by the Board of Agronomy Engineering (“Colegio de Ingenieros Agrónomos”) that are in charge of monitoring and control of forestry regent activities.

⁵According to the Biodiversity Law (1998), SINAC (“Sistema Nacional de Areas de Conservacion”) is an institutional system of decentralized and participative management that integrates the Ministry of the Environment skills in terms of forestry, wildlife and wildlife-protected areas in order to dictate policies, plan and implement processes aimed at sustainability of Costa Rican natural resources management.

Year ^a	Forest protection ^b			Re-forestation ^b	Man-agement ^b	Established plantation ^b	Agroforestry System ^c	Natural regeneration ^b on pasture (kyoto land)		
	in forest protection area	for hydraulic resources	in "conservation gap"					with productive potential	on pasture	pasture (kyoto land)
1997	215			517	346	-	-	-	-	-
1998	234			600	366	234	-	-	-	-
1999	211			541	331	211	-	-	-	-
2000	215			551	-	-	-	-	-	-
2001	224			572	349	-	-	-	-	-
2002	228			584	356	-	-	-	-	-
2003	225			575	-	225	0,82	-	-	-
2004	224			572	-	-	0,75	-	-	-
2005	320			816	-	-	1,3	816	205	-
2006	320			816	-	-	1,3	816	205	-
2007	320			816	-	-	1,3	816	205	-
2008	320			816	-	-	1,3	816	205	-
2009	320	320	400	375	980	-	1,3	205	205	320
2010	320	320	400	375	980	250	1,3	205	205	320

Fig. 12.2 Evolution of PES modalities and level of contractual payment per modalities (NB: ^afrom 1997 to 2004 payment amount defined in Colones, from 2005 to 2010 payment amounts are defined in US\$; ^btotal amount of payment for the contract duration in US\$ Ha⁻¹; ^ctotal amount of payment for the contract duration in US\$ tree⁻¹) (Source: FONAFIFO)

Thus, we can define three main PESP features (Fig. 12.1): (1) its funding system characterized by sources and amounts; (2) its payment system including the type of eligible modalities, the levels of payments and the prioritization of payments; and (3) its management system, which consists of strategic management of the programme (definition of the programme's rules and strategy) and operations (contracting, disbursement, monitoring and control procedures).

12.3.1 The Payment System

The payment system is based on the recognition of law # 7575, the provision of ES by *forest and forest plantations*, and the explicit definition of four ES: greenhouse gas emissions mitigation, water protection, biodiversity protection and scenic beauty.

When the PESP began in 1997, three activities were eligible to receive payments in line with existing forest incentives schemes⁶: conservation of existing forest (PES-Protection), reforestation (PES-Reforestation) and sustainable management of forests (PES-Management) (Fig. 12.2). For each modality, a payment level

⁶ Costa Rica has developed economic incentives for forestry since the 1970s. Before PESP, four main economic incentives were in place the Forest Payment Certificate (CAF) created in 1986, the Advanced Forest Payment Certificate (CAFA) created in 1988 to compensate landowner reforestation investments, the Forest Payment Certificate for Management (CAFMA) created in 1993 to encourage sustainable practices of wood extraction and the Forest Protection Certificate (CPB) created in 1995 to encourage protection of existing forests (Daniels et al. 2010; FONAFIFO 2005).

per hectare of land was defined to correspond to the minimum acceptable by the landowner to compensate the cost of reforestation (PES-Reforestation) or sustainable management practices (PES-Management) or to cover the minimal cost of opportunity of forest conservation (PES-Protection).⁷

Since 1997, the payment system has evolved regarding eligible modalities, payment amounts by modality, payment targeting and payment differentiation (Fig. 12.2).

Eligible modalities evolution: Three main changes in the PESP eligible modalities occurred over the last 15 years: (1) the suppression from 2002 to 2009 of PES modality for forest management; (2) the inclusion in 2003 of the PES modality for agroforestry systems, which consists of payment for trees planted in agroforestry systems; and (3) the inclusion in 2006 of a new PES modality for natural regeneration, which consists of paying landowners as an incentive to allow for regeneration of forest on former pastures.

Evolution of importance between modalities: By far the main PES modality, in terms of contracted area, is PES-Protection which accounts for 89% of the total contracted PES area from 1997 to 2010, whereas PES-Reforestation, PES-Management and PES-Natural Regeneration represented, respectively, 6, 4 and 1% of the total contractual area in the same period. Since its beginning, the distribution of contract areas among modalities has evolved. In the early period of PESP implementation (1997–2001), PES-Protection modality accounted for 84% of the total area, whereas the PES-Management and PES-Reforestation accounted for, respectively, 9 and 7% of the total area. Between 2002 and 2005, PES-Protection held a higher percentage, with 94% of the total contracted area. Since 2006, the situation changed once again with 89, 9 and 2% of total contracted area, respectively, for PES-Protection, PES-Reforestation and PES-Regeneration.

Payment levels evolution: The payment evolution has been marked by a substantial increase in the level of payment and the dollarization of the payments, both occurring in 2005 (Fig. 12.2). The levels of payment between 2004 and 2005, respectively, went from 224 to 320 US\$ ha⁻¹ for the forest protection modality, from 572 to 816 US\$ ha⁻¹ for the reforestation modality and from 0.75 to 1.3 US\$/tree for the regeneration modality. The reforestation modality was made more profitable by raising the level of payment to 980 US\$ ha⁻¹ in 2009. Between 2008 and 2009, the level of payment remained the same; however, the contract duration was reduced from 10 to 5 years.

Access conditions: During the first years of the programme, the access conditions were similar to those defined in the previous existing instruments. Applicants were asked to present a management plan and to have formal land property rights. Contractual obligations and payments were effective for the PESP beneficiary once

⁷The level of payment for PES-Protection in 1997 was more or less the opportunity cost of extensive cattle raising, which was one of the major alternatives to forestry from the 1960s to the 1990s (Legrand et al. 2010); it was also a mode level of the different evaluations of potential annual costs for the four services and the local market cost of renting a hectare of pasture (Castro et al. 2000).

his land tenure status was confirmed as the legal owner and land title bearer with the National Registry Office. In the case that the land is sold or transferred, contractual conditions will apply to future owners. Since the inception of the programme implementation, certain measures have been taken to ease small landholder participation. In order to lower the transaction costs assumed by small landowners to contract a forestry regent and to fulfil the application forms, a collective contract system was created in 1998 that enabled small landholders to apply for the PESP together. This practice was abandoned in 2002 because of the additional delays created by the heterogeneity of farmers' situations.⁸ Nevertheless, in 2010, a quota was attributed to local forestry organizations that facilitated preparation of small landholders' applications. Furthermore, a specific procedure has been put in place in 2002 to enable small landowners without formal land title programme access; however, the specific requirements for landholder without formal land title are often difficult to comply with.

Payment targeting: At the beginning of the programme, the basic principle for application selection was "first in time, first in rights": the PES demand was analysed according to the moment and order of reception at the FONAFIFO office. PESP applications were prioritized to target the most important lands for ES provision (mainly water and biodiversity services). A system of prioritization of demand was put in place in 2002 and progressively strengthened. In 2004, a social criterion was also aggregated. It gave priority to the forest owners located in districts with a low development index. In 2011, a scoring system had been put in practice. It took into account applicant locations, gave priority in case of the PES-Protection, to lands in "conservation blanks," inside national parks and biologic corridors, key water protection areas, low development index districts and indigenous territories. Priority was also given to lands previously under PESP contract or which have already submitted an application and to applications for areas less than 50 ha.

Payment differentiation: At the beginning of the programme, within each modality, the level of payment was equal whatever the location of the land and the ES provision of the land. Since 2009, a differentiation of payment level was initiated for PES-Protection to take into account differences in ES provision (Fig. 12.2). Thus, protection of forests in key areas for hydrological services provision receives an additional payment of 80 US\$ha⁻¹ (over 5 years), whereas land located in critical biodiversity zones, outside parks or in insisting ecological corridors receives 55 US\$ha⁻¹ additional payment (over 5 years). Furthermore, for the natural regeneration PES modality, the lands eligible for funding through the Kyoto protocol can receive an additional payment of 115 US\$ha⁻¹ compared to classic natural regeneration contracts.⁹

⁸ As the application was collective, the payment was done only when all the forests owners of the groups were complying with all the requisites. Because some farmers were not complying with some requisites, the other farmers within the collective application were not receiving payments even if they individually complied.

⁹ In 2011, this trend towards differentiation of the level of payment was strengthened with the creation of a new PES-Reforestation category, PES-Reforestation with wood species in danger of extinction, for which a higher payment was proposed (1,470 US\$ha⁻¹ instead of 980 US\$ha⁻¹ for normal PES-Reforestation modality).

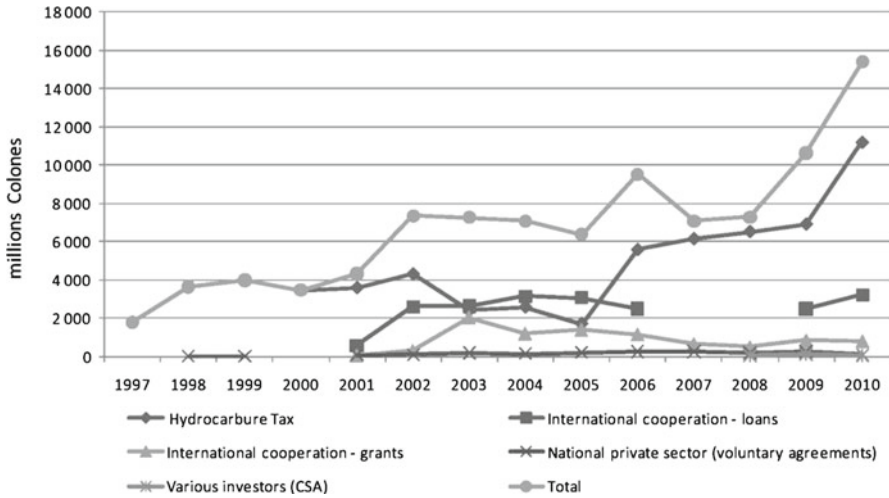


Fig. 12.3 Amount and sources of funding of PESP (in million of colones, 1 euro=684 colones in December 2010) (Source: FONAFIFO)

12.3.2 The Funding System

As a key initial element for PESP, law #7575 defines that a third of the existing hydrocarbon tax will be utilized to pay for private forest owners’ ES. This source of funding was justified by the “polluter-pays” principle, i.e. fuel consumers emitting CO₂ compensate for damage by contributing to the payment of carbon sequestration by forests. Thus, in 1997, PESP began operations with the hydrocarbon tax as its only source of funding, with the expectation of raising additional funds from ES users, especially those from carbon sequestration through emerging carbon markets.

As for many programmes, consolidation of funding resources has been a major issue for PESP sustainability. The evolution of programme budgets and funding sources since 1997 illustrates that programme funding sources have been increasing and diversifying overtime (Fig. 12.3).

The fuel tax was the sole funding source of the programme during the programme’s first implementation years, and therefore, the first issue at hand was to ensure payment of the fuel tax to the programme. In 1997 and 1998, the Ministry of Finance resisted its obligation to pay FONAFIFO one third of the amount raised by the fuel tax (Government of Costa Rica 1998). In 2001, a tax simplification law created a unique hydrocarbon tax of which 3.5% was clearly earmarked for FONAFIFO to fund PESP, which led to a consolidation of PESP funding. Although the negotiated level had been set at a lower level of the amount stated in the 4th Forest Law, the funds raised from the fuel tax increased when the fuel tax scheme changed. With the increase in fuel prices over the last years, the fuel tax represents the main source of programme funding.

The second funding issue was to increase and diversify the funding source, based on the principle that ES users should pay ES providers. Funding source diversification has been developed and includes payments for additional ES outside of carbon and different funding sources other than the national public tax.

Although it was supposed to become one of the main funding sources of the programme, the global carbon market resulted in disappointing funding until now. After the Norway government signed a two-million-US\$ contract pioneer carbon deal in 1997, no other funding was raised through the carbon market because the Kyoto Clean Development Mechanism protocol was quite restrictive and did not include avoided deforestation, a main objective of the PESP. Therefore, national and international fund-raising targeting the private sector has been promoted, which has led to contracts with national hydropower and water companies, and in 1998–1999 contracts with national breweries. Furthermore, in 2001, “ES certificates” were created by FONAFIFO to attract voluntary donations from private investors willing to invest in ES generation (carbon, water or biodiversity). While the number of contracts has increased, funding from private enterprises is still limited (Fig. 12.3).

To maintain and extend PESP funding sources, additional resources were collected from international donors. Since 2001, the international cooperation has contributed significantly to PESP funding. The World Bank and the Global Environment Facility (GEF) contributed a 40-million-US\$ loan and a five-million-US\$ grant, respectively, through the Ecomarkets project. The loan was a substitute to the government's obligation to channel part of the hydrocarbon tax to the PESP and did not bring additional resources to the programme. In 2008, a new project called the “Mainstreaming Market-Based Instruments for Environmental Management” (commonly called Ecomarkets II) was implemented to extend programme funding sources. It consisted of a 40-million-US\$ loan from the World Bank and a ten-million-US\$ grant from GEF. A major part of the grant has been channelled through the “Biodiversity Conservation Trust Fund,” which was created in 2006 to “serve as the repository of other grants, and of income from sales of conservation certificates in the voluntary market” (Pagiola 2008). Furthermore, in 2003 a ten-million-Euro funding agreement was reached with the German corporation KfW.

In 2006, water use legislation was passed which included a transfer of one fourth of the water tax to PESP. Unfortunately, while the additional funding resource was justified by the contribution of forests to water catchment and infiltration, the first funding transfer was delayed until 2010. However, this funding source has the potential to contribute six million US\$ to the project once the water tax collection is fully effective (Madrigal Balestero 2009).

12.3.3 *The Management System*

The third key element of law #7575 was assigning an organization to manage the PESP. FONAFIFO, a public non-governmental trust fund, was placed in charge of fundraising and management of PESP. Law #7575 sets FONAFIFO's

board of directors composition, which is in charge of identifying the main strategic options and validating the financial management. This board is composed of five members: three public sector representatives including one representative of the Ministry of Environment (MINAET), one representative of the Ministry of Agriculture (MAG) and one representative of the national banking system, and two private sector representatives nominated by the National Forestry office (“Oficina Nacional Forestal” – ONF) including one small/medium forestry producers representative and one industrial sector representative.

PESP implementation is regulated by two primary legal instruments that are updated annually: (1) an annual decree signed by the Ministry of Environment, which defines the eligible PES modalities and the total budget allocation for each of them, and (2) a procedure manual that defines the PES access conditions, requisites, priority criteria and administrative rules. These documents are revised annually by FONAFIFO’s executive management and are submitted for comment to three main actors: SINAC (the forestry public administration representative), ONF (the forestry private sector representative) and the Board of Agronomy Engineering that supervises the forestry regents activities. After consultation, the decree and procedure manual are approved by FONAFIFO’s board and signed by the Minister of Environment.

Since the beginning, PESP management has explored several options regarding (1) operational structure (distribution of responsibility and regulation) and (2) application and control procedures. The PESP operational structure experienced two major changes since 1997. In 2003, PESP administrative operational management was changed from a shared responsibility between SINAC and FONAFIFO to the sole responsibility of FONAFIFO. Prior to 2003, SINAC was in charge of receiving, analysing and checking the compliance of applications in accordance to the procedure manual and in some cases prioritizing applications. FONAFIFO was in charge of the final decision and payment execution. In 2002, the management responsibility between SINAC and FONAFIFO was reformed. FONAFIFO took control of all administrative procedures from the reception of application forms to payment execution, while SINAC focused on defining global prioritization rules and controlling PESP beneficiary compliance to the forestry law. This transfer of responsibility led FONAFIFO to develop its own regional office in 2003¹⁰ in order to be able to receive forms locally. FONAFIFO’s operating costs increased with the new responsibilities and included 15 new employees in 1998 and 35 new employees in 2005; however, FONAFIFO did not receive additional financial resources from the state budget to compensate for the increase in costs. In 2008, FONAFIFO was required to change its administrative management from private organization to public organization regulation. Since its creation as a trust fund, FONAFIFO was administrated as a private organization, but in 2008, following a decision issued by the general control

¹⁰In 2003, FONAFIFO created seven regional offices. Two additional offices were created in 2004 and 2005 by splitting existing offices to facilitate management. Today, FONAFIFO has nine regional offices throughout Costa Rica. To reduce costs, offices are generally located in SINAC regional buildings.

body of the republic (“Contraloría General de la República” – CGR), FONAFIFO was mandated to comply with the legal obligations of public sector organizations (especially regarding internal control and employee status). This mandate led to further increases in administrative programme costs and in staff numbers from 52 to 100 employees between 2008 and 2010.

Since its creation, the administrative procedure for application instruction and management and payment control has been simplified and optimized for efficiency. In order to reduce application costs for PES-Protection, the management plan, as well as administrative requisite processes prior to application control, has been simplified. Moreover, contract control has been optimized through a geographic information system in order to facilitate continuous monitoring and to control the effectiveness of the programme on land uses. Finally, the payment delivery procedure to the beneficiary has evolved from a time-consuming certificate (value cheques) system, to a bank cheque system in 2002, to a direct bank transfer to the landowner's bank account in 2005. The bank transfer system has significantly reduced both time and cost to FONAFIFO and landowners.

The analysis of the PESP evolution shows an overall programme consolidation especially regarding funding sources and management practices but also adjustments in eligible modalities, targeting and payment differentiation. In the following section, we will analyse the reasons behind these evolutions from a stakeholder's perspective.

12.4 PESP Governance Under Stakeholders' Influences

12.4.1 The Forest Stakeholders and PESP Decision Process

Numerous actors are involved in PESP governance and can influence the PESP decision process (Fig. 12.4). The first actors are those in charge of PESP management such as FONAFIFO (including civil servants at national and regional offices), SINAC in charge of natural resources (including forest), management and control, the forestry regent represented by the Board of Agronomy Engineering (BAE) and local forestry organizations that promote and facilitate payment access to small forest owners. The second actors are those represented in FONAFIFO's board of directors. Public sector representatives occupy three of the five positions. The Ministry of Environment's representative usually stands as the president of FONAFIFO's board, while the Ministry of Agriculture and the banking sector both maintain a representative on the board. The private forestry sector maintains two representatives on FONAFIFO's board: (1) the large forestry companies (often also a wood seller and manufacturer) representative that is currently represented by the Costa Rican Forestry Chamber (*Camara Costarricense Forestal* – CCF) and (2) the small and medium forest landowners, which are generally members of local forestry organizations and are represented by the National Assembly of Forestry Peasants

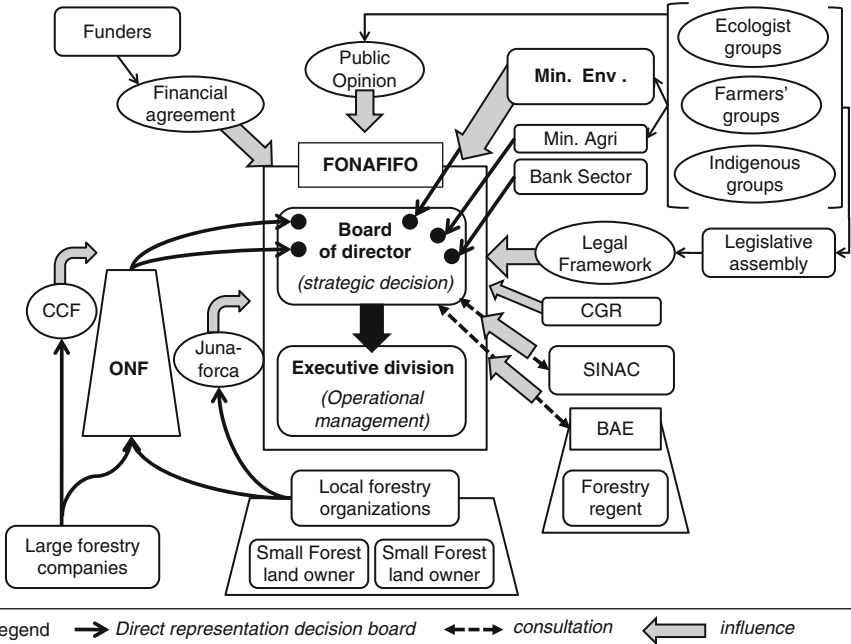


Fig. 12.4 Actors involved in the governance of PESP and decision process (Source: Based on stakeholders’ interviews 2008–2011)

(*Junta Nacional Forestal Campesina – JUNAFORCA*). The third actors are those who are not part of the PESP structure but who may influence the evolution of PESP decisions such as (1) representatives of farmers groups, indigenous groups or ecological groups who may have access to lobbying activity on FONAFIFO’s board directly or through ministries, deputies or public opinion; (2) funders who can make conditions to their funding agreements; and (3) central state administration and its control bodies (*Contraloría General de la República – CGR*) which can evaluate the PESP according to public fund management procedure.

These actors vary in terms of visions, interests and positions regarding forestry problems and policy orientation and thus PESP orientations. Three main stakeholder groups with differences in vision were identified [“as follow”] (Fig. 12.5): (1) agricultural sector representatives, which in the 1980s–1990s considered forests as empty, “unproductive” space; (2) forestry sector representatives that consider forests as “productive” space and a provider of primary material (wood) for the industry; their interests lie in support of wood development production (such as reforestation), and they are prone to be against wood extraction restrictions; and (3) the environmental groups’ representatives that consider forests as habitats to be protected to maintain plant and animal biodiversity; thus, they are in favour of incentives for forest protection, ecosystem restoration with native species and the restriction of wood extraction – especially in natural forests (Le Coq et al. 2010c).

sectors	Agricultural		Forestry		Environmental
Stakeholders' groups	Large (business) farmers	Small farmers (peasant)	Small forestry farmers	Large forest landowner and wood manufacturers	Environmentalists and ecologists
Related Public institutions	Ministry of agriculture and animal husbandry		Ministry of Environment FONAFIFO SINAC		
Leading professional representatives	CNAA	UPA National MNC	ONF		FECON
			JUNAFORCA	CCF	
Forest vision	Forest as an empty space "unproductive space"		Forest as a provider of good (and ES – especially Carbon sequestration)		Forest as provider of multiple ES, (and especially support to biodiversity)
Main interests on forest issue	Maintain land use extension for agricultural purpose	Develop agricultural production and agro forestry	Sustain forestry activity (community management for income generation)	Sustain forestry activity (wood production for industry)	Maintain biodiversity and natural ecosystem

Fig. 12.5 Vision and interests of stakeholders' groups (NB: CNAA Camara Nacional de Agricultura y Agroindustria, MNC Mesa Nacional Campesina, FECON Federacion Conservacionista de Costa Rica) (Source: Based on stakeholders' interviews 2008–2011)

12.4.2 1994–1996: The Genesis of the PESP as a Compromise Led by Forestry Stakeholders

In the mid-1990s, the newly elected government of Jose Maria Figueres scheduled the finalization of the forestry law, in discussion since the early 1990s, on the political agenda. The three identified stakeholders groups were in asymmetric positions in terms of involvement and strength. Until the 1990s, the agricultural sector had been a major political force in the country and had blocked former forestry law reforms; however, by the beginning of the 1990s, the agricultural sector began to face numerous difficulties with the implementation of the country's structural adjustment plan. The agricultural sector was facing institutional problems (reduction of civil servants, rapid minister turnover) and strong divisions between representatives of small farmers' movements and large farmers' syndicates. Indeed, whereas agriculture extension was the primary cause of deforestation, between 1994 and 1996, the agricultural sector was poorly represented in the forestry law formulation process (Morilhat 2011). While national environmental consciousness and the number of environmentalist organizations were on the rise in the early 1990s (Steinberg 2001), the environmental sector's representatives, as the newly created Costa Rican conservationist federation (*Federacion conservacionista de Costa Rica* – FECON), were formally poorly involved in the formulation process (Morilhat 2011). In the mid-1990s, the forestry stakeholders group was the predominant actor in mobilizing and

empowering the discussion around policy formulation. This group was composed of local forestry organizations (developed in the 1980s throughout Costa Rica) as well as national representative organizations (federated on a national platform in the mid-1990s) such as the Costa Rican Forestry Chamber (*Camara Costarricense Forestal – CCF*), which included within its ranks representatives of large private forestry companies and wood industries as well as representatives of small forestry producers regrouped in the JUNAFORCA and who had the support of international cooperation (Le Coq et al. 2010b). Aside from the private forestry sector organization, the public forestry administration has been strengthened with the integration of the General Direction of Forestry within the Ministry of Environment. Whereas some differences of vision existed inside the forestry stakeholders' group, especially between small forestry groups and large companies' representatives, a common vision emerged around the necessity to maintain forestry support instruments and to consider forest areas for both the products (wood) and the services they can provide to society (especially carbon). Representatives understood these services could provide a new form of justifying support to the forest sector through a PES scheme.

The basic principles of PESP in law #7575 reflect the compromises taken by forestry stakeholders groups. The principle recognition of ES provided by the forest and the principles behind PESP were not thoroughly discussed; however, the law represents a tacit consensus between forestry and environmental stakeholders. The productive forestry stakeholders saw the compromise as a way to justify continuity of support to forestry activities, while stakeholders with environmental sensibility saw it as a way to introduce ecosystemic concerns into forestry policies. Land use change prohibition was the main point of contention for some productive forestry sector stakeholders since it was considered an infringement on the rights to private property use. Nevertheless, it became acceptable for them because (1) they were conscious of the wood shortage risk for the wood industry if the forest resources continued to decrease, (2) they were facing increasing pressures from environmental groups to adopt more sustainable practices, and (3) the law included an article that reinforced their property rights against squatters and a clear financial compensation principle for the restriction of their land use rights through the PES mechanism.

Finally, the key PESP principles reflect the productive forestry stakeholders' interests. First, the forest definition includes regenerated forests or plantations, and the initial PESP modalities include reforestation and also forest management (including wood extraction) that was questioned by environmentalist stakeholders. Second, the law assigns PESP management to a forestry institution (FONAFIFO) in which private forests stakeholders are well represented on the governing board.¹¹ Third, as a condition of the PES contract, the control of the management plan execution was given to forestry regents that are private forestry engineers.

¹¹ In 1997, law #7575 created the ONF as a non-state public organization. Conformed by 45 forestry organizations, the ONF is the representative organization for the private forestry sector in regard to the definition of national forestry policies.

12.4.3 1997–2001: The Consolidation of PESP Led by Forestry Stakeholders

From 1997 to 2001, the main focuses of the forestry public administration were to initiate operation of the new programme and to secure programme funding. During this period, the productive forestry sector groups were still considered a strong force and an important resource and were leading the PESP implementation agenda. The CCF was maintaining and strengthening its power, increasing its memberships to 152 affiliates in 1999 and developing services to their members. During this period, the PESP remained within the existing forestry incentive instruments. Taking advantage of its leadership in the governance of the PESP, an additional modality was created in 1998 and 1999 in line with the forest productive groups interests: a PES for established plantations to aid landowners with wood plantation maintenance costs.

Although few stakeholders knew about the ES concept and PES mechanism when law #7575 was formulated and adopted, stakeholders' knowledge increased with the implementation of the PESP. In 1998, a newly elected president, Miguel Angel Rodriguez, following the advice of the vice minister of environment, Carlos Manuel Rodriguez, organized a national consultation on PESP to raise awareness and inform rural stakeholders on the programme. This extensive consultation¹² led to many questions regarding PESP such as the inclusion of all activities that provide ES outside of the forest ecosystem within the scope of the PES. A law project was developed to increase the PESP spectrum to include new ecosystems. The creation of an environmental bank, where all ES provider payments could be concentrated, was proposed. Nevertheless, the law project was too ambitious and difficult to put into practice because, on one hand, all sectors were requesting funding as ES providers (including banana, coffee sector, etc.) and, on the other hand, the ES users (such as the public water distributor and energy producers) were not ready to pay as ES users. Therefore, in this context, the project was abandoned, reaffirming the forestry orientation of the PESP. However, this process led to the broadcast of information and an increase in the appropriation of the meaning of the PES concept among the agricultural and environmental stakeholders. It also brings attention to the necessity to secure a PESP funding source and to diversify outside of the fuel tax. In line with this necessity, new contracts were signed with private enterprises to fund the PESP.

With PESP implementation, environmentalist stakeholders began to pay more attention to the PESP's effects. In 1998, a multidisciplinary group of scholars with an environmental vision analysed the Osa region's forest management plan, a hot

¹² In 1998–1999, a national workshop and three regional workshops were organized. Workshop participation was large and included representatives of various ministries, the private sector, environmentalists' groups, universities and public enterprises for water distribution and energy production.

spot of biodiversity in Costa Rica. This study showed evidence of mismanagement of forestry management plan.¹³ Based on this study, environmental groups developed a mass media campaign against these practices, and in 2000, under the pressure of these groups, the Ministry of Environment declared an administrative ban to stop “forest management” and “established plantation” PES modalities.

In spite of the risk of dilution of the PES concept through inclusion of other sectors and the pressure to ban the “forest management” and “established plantation” modalities by environmentalists, the PESP gained its political legitimacy because (1) the final beneficiary demand was important, especially for the protection modality; (2) the FONAFIFO management was effective; and (3) PESP began to be recognized by international forums and communities and was considered as a flagship programme for Costa Rica. In this context, in spite of the opposition of the Ministry of Economy, a strong mobilization of the forestry sector stakeholders (ONF, JUNAFORCA, CCF and MINAET leaders and administration) managed to secure and better channel the hydrocarbon tax fund to FONAFIFO with the reform of the tax system (*Ley de Simplificación y Eficiencia Tributarias*, N° 8114 of 2001–2000).¹⁴

12.4.4 2002–2005: Strengthening of Ecological and Social Orientations Under Environmentalist Stakeholders and International Influence

The 2002–2003 year marked changes in the PESP towards a greater focus on environmental and social objectives, more in line with the interests of small farmers, forest landholders and environmentalist stakeholders. These changes reflect a shift in the balance of power between the different stakeholder groups.

In the early 2000s, the interests’ groups supportive of a productive forest vision experienced a reduction of their power due to three factors. Firstly, the CCF that had been the primary organized representative force of the private forestry sector began to fade. In 1999, with the change of lead CCF representatives, dialogue between the different groups represented in the CCF (large forestry enterprises, wood industry sector and small and medium forestry producers) began to decline. In early 2000, CCF experienced a rapid disaffiliation and reduction of its means with small and

¹³ The study shows that in Osa, the practice of wood extraction that was supposed to be applied to forests under PES-Management was in fact not well applied. Furthermore, adoption of sustainable management practices was shown to be ineffective in relatively small forest plots to maintain biodiversity.

¹⁴ During the negotiation of this law, the Ministry of Economy proposed a fixed amount, but the forest stakeholders managed to obtain 3.5% of the hydrocarbon tax, which has enable them to raise additional funds since the increase of fuel price during early 2000.

medium forestry representatives (JUNAFORCA) splitting from CCF. This, in effect, left only the representatives of large forestry enterprises and industrial sectors. Secondly, the ONF that was supposed to represent the forestry private sector faced financial difficulties and was not able to counterbalance the CCF reduction in strength. Finally, the local forestry organizations began to suffer from the reduction of the direct support they had in the 1990s (Barrantes 2009).

At the same time, stakeholders oriented towards more environmental/conservation or social visions gained forces and took leadership of the PESP agenda setting. Three factors enabled them to gain forces: (1) the increased influence of the international donors in the programme, (2) the change of the Ministry of Environment and (3) the development of new knowledge on ES measurements and PES results. In the early 2000s, facing difficulties in obtaining the funds dedicated to PESP from the Ministry of Economy and without obtaining the expected funds from the carbon markets, negotiations between FONAFIFO, the World Bank (WB) and the Global Environmental Fund (GEF) began. According to their agenda, the WB and the GEF pushed to include higher concerns towards poverty reduction and environmental efficiency in the PESP. In 2002, a new president, Abel Pacheco, nominated a new Ministry of Environment, Carlos Manuel Rodríguez. This new ministry was more sensitive to environmentalists' positions and favourable to the inclusion of other activities that provide ES to the PES, as well as better payment targeting. During this time, the minister assigned a biologist to the FONAFIFO, as the representative of the Ministry of Environment, to better support ecologists' orientation of PES. Thirdly, the concept of PES in general and the Costa Rican experience in particular began to demand more attention in the international and national academic forum. As a pioneer with successful experience, the PESP became the subject of many studies that analysed the effects of PESP on poverty and debated its efficiency, especially in terms of additionality. Moreover, the evaluations of ES provided by diverse ecosystems (such as agroforestry systems or silvopastoral systems) were developed and began to provide evidences of ES provided by non-forest ecosystems. Moreover, other studies such as Gruas 1 identified areas of higher biodiversity interests, yielding tools to better define targeting according to biodiversity protection objectives.

This new configuration of the balance of power and resources between the different interests' groups stakeholders led to an inflexion of the PESP towards a stronger focus on environmental and social objectives to the detriment of a more productive-oriented forest support vision. The unpopular PES modality for "forest management" and "established plantation" was abolished in 2003, and the "Agroforestry System" modality was introduced in 2003 after a campaign led by small forestry (JUNAFORCA) and some SINAC administration representatives, with the support of the Minister of Environment. Moreover, in line with the environmental vision and supported by SINAC civil servants, GEF and ecologist groups, a prioritization system was put in place to better target ES payment towards important biodiversity areas and areas with a lower development index.

12.4.5 Since 2006: A Multidimensional Evolution Reflecting the Complex Balance of Stakeholders' Influence

The evolution of PESP since 2006 illustrates a multidirectional orientation driven by multiple stakeholders who performed a complex equilibrium of power and learning interactions upon ES and PES mechanisms, within national and international forums.

The forestry stakeholders oriented themselves towards a more productive vision and have experienced a modest recovery in strength in the PESP decision process. Since the mid-2000s, the forest issue has dramatically changed from those of the mid-1990s and currently supports a conservation strategy. This is evidenced by the reduction in the deforestation rate and the increase in forest cover. In the 1990s, the deforestation rate was high and forest cover was low (less than 40%), but by 2005, deforestation rate was low, and the forest cover had risen to more than 50% of the country. However, the restriction on forest exploitation in Costa Rica has resulted in the import of wood for industrial purposes. Moreover, in the framework of carbon neutrality by 2021, implemented by President Oscar Arias in 2007, a more intensive use of wood as material is seen as a way to substitute for higher carbon footprint materials (such as cement or metals) arguing for more wood production. These three justifications contributed to a re-evaluation of the payment level for PES-Reforestation to increase incentives for wood production, and the forest management PES modality was reintroduced in 2010 to support wood sustainable extraction.

On the other hand, environmental influence on PESP seems to be fading as the support from international NGOs is decreasing following the financial crisis of 2007 and as other issues have been gaining more importance in the agenda of environmental organizations (i.e. the campaign towards the interdiction of mining of Cruzitas in 2009–2010). Nevertheless, the national environmental mood is still gaining force in the Costa Rican population following the education campaign of the last decade, resulting in forest conservation as an important PES factor and more than 80% of PESP budget being dedicated to PES-Protection modality.

Although initially the agriculture sector representatives were reluctant to accept environmental issues, the environmental issues awareness of some agricultural sector groups has been increased in the last few years (Le Coq et al. 2010a). Although the agricultural sector has not been proactive in PESP governance since the 1990s, some farmers groups recently integrated the ES concept, PES mechanism and PESP to support their activities. As an example, coffee producers, with the help of researchers from CATIE, developed a lobbying process towards the FONAFIFO board in 2008, arguing for the recognition of a new specific PES modality for coffee agroforestry ecosystems.

The latest PESP evolution of PESP appears to be a result of stakeholders' learning process, academic research and international influences, in the context of a steady effort to increase available funds for the programme to enable to pay to more

beneficiaries.¹⁵ Hence, with the Ecomarkets II project, GEF grants tend to reinforce ecological orientation of PESP, setting as grant conditions the differentiation of PES payment for conservation in areas of high biodiversity interest that are not included in other existing protection schemes. With the new loan from the World Bank, the orientation towards research of higher programme efficiency through targeting and payment differentiation is promoted. With the expectation of raising funds from carbon market, the PES modality for natural regeneration of pastures has been created and appears to be more eligible to carbon market. Finally, differentiated payment for forest protection in areas of hydraulic interests has been made possible with the development of the water tax funds.

12.5 Conclusion

The genesis and evolution of PESP reflect an evolution of balance of power between different stakeholders' groups. The PESP appears initially as a genuine original construction led by well-organized forestry stakeholders groups, including both small and large forestry enterprises. Its evolution has been influenced by a change in the balance of power between stakeholders, characterized by a reduction of power of the forestry stakeholders defending the productive vision, and a strengthening of the influence of stakeholders oriented towards more environmental and social purpose. As the balance of power between stakeholders appears to be an important explicative factor of the evolution of PESP, the search for funding sources to sustain and enlarge the PESP has been one of the driving forces of the latest PESP evolution. The other driving force has been the learning process: (1) the learning process of the management institution (FONAFIFO) that developed the capacity to adapt the instrument to new constraints and opportunities arising from national situations and international opportunities and (2) the learning process of the stakeholders involved in forest issues and rural development and have developed the capacity to manage the PES concept to support their vision and interests.

The PESP acts as market-based instrument responding to complex governance, where orientation and management depends on the dynamic equilibrium of power and influence among the multiple stakeholders involved. The evolution of the balance of power depends on the capacity of these stakeholders to take advantage of the national and international contexts and to mobilize policy action resources. Beyond the consensual central objective to maintain and develop Costa Rican forest cover, the PESP acts as a multi-objective instrument where the respective importance given to environmental, social or economic dimensions depends on the balance of power between the stakeholders. The durability of PESP relies on the capacity of the PESP, and especially the intermediary institution (FONAFIFO) in charge of its implementation, to maintain the technical management legitimacy and social legitimacy in terms of balance of interests between stakeholders.

¹⁵ In spite of the increase of available funds for the programme, according to FONAFIFO executive officers, only 30–50% of the PES demands are currently covered due to lack of funds.

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