

PAYMENT FOR ENVIRONMENTAL SERVICES: ELEMENTS FOR A LASTING TRANSFORMATION

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ABSTRACT

Payment for Environmental Services – PES projects are being spread fast in Brazil and over the world. Some of those are based on the conception that the market and the economy have more capacity of transformation of human behavior than policies and laws, considering the history of results acquired by them on the conservation of nature. Despite of the existence of other forms of compensation for environmental services that do not occur through direct transferences of money, it is possible to observe that the majority of them are inserted in the economic and market logics dominant in the contemporary society, which has not been provoking social and environmental dynamics that satisfy the conservation efforts. Many PES projects reserve a budget for the properties executive projects elaboration, monitoring and other important phases, but it does not happen the same to environmental education of the landowners and of the involved communities, objecting to establish a subjective valuation of nature which emancipates the PES initiatives from an exclusively financial dynamic. Some important questions related to this standard of conduct remain without answer: how the landowners and their behavior will be affected if the initiatives and, consequently, the payments are interrupted? How to guarantee that the PES initiatives will transform the perception of these landowners, enough to disconnect, in the short-term, the conservationist practices from an economic logic? We intend, in this work, to discuss the improvement of this instrument through tools that potentiate the non economical valorization of those services, such as environmental education and community participation and engagement in the building process of PES. We assume that it is possible to trigger a deeper transformation on the environmental perception of the participants of these projects, extending the value of nature for a longer time and over the necessity of concession of the economic benefit. A more refined environmental perception which would promote a valuation beyond the economic logics would be itself the condition to a new manner to use natural resources economically. This implicates in an economic model in which the aggregate value of the products or services would need the conservation efforts to exist.

Keywords: PES, environmental perception, environmental education, participation.

1. INTRODUCTION

Payment for Environmental Services – PES initiatives' as environmental policies, especially public policies, are being spread around the world and Brazil is not an exception for this phenomenon. Only in the Brazilian Atlantic Forest area, there are almost 80 PES initiatives being articulated, developed or implemented, about environmental services – ES related to climate changes, water and biodiversity (Guedes & Seehusen, 2011). Some of those are based on the conception that the market and the economy have more capacity of transformation of human behavior than policies and command-and-control instruments and hence use market mechanisms in the formulation of environmental policies (Born & Talocchi, 2002).

Contradictorily, it was inside the current economic paradigm where it was generated an unsatisfactory social and environmental dynamic to the conservation aspect. Therefore, a deeper transformation in the relationship between the people and the contemporary society with the environment seems compulsory. In this context, emerges a question: how to guarantee that the PES initiatives will transform the perception of these landowners, enough to disconnect, in the short time, the conservationist practices from a predatory economic logic? These initiatives shall be connected to the construction of a new economic logic, which generates value conserving the environment.

Some of those initiatives were established by specific laws, although, the funds reserved to pay the landowners (the potential environmental services providers) are limited and ensured only in a short time. How the landowners and their behavior will be affected if the initiatives and, consequently, the payments are interrupted?

From this perspective, emerges the debate about how the PES programs are inserted on the pursuing of new development models, economic distribution and new initiatives to guarantee environmental resources preservation and conservation.

According to Foladori & Taks (2004), the natural sciences focused in environmental degradation usually considers the human as an homogeneous unity, what results in ecologically sustainable initiatives that can trigger social unsustainability. Ecological economics, as a transdisciplinary topic that integrates several scientific perspectives, suits to the purpose of discussing PES schemes and its social and cultural aspects because it pursues the understanding and predicting of human behavior inside and to the natural ecosystems (Constanza, 1997) combining the neoclassic economics paradigms and the ecological paradigms.

Thus, we believe the PES initiatives come to improve the conservation condition of the regions where they are implemented, although they can be more successful if elements that address a deep and lasting transformation in the landscape and in the environmental services provider's behavior.

We suppose that strengthening the social and cultural dimension of PES projects they would be more effective environmentally. The environmental issue itself is an eminently social issue (Leff, 2001) and we cannot expect that environmental changes will occur and remain if it does not exist, besides, or before, a social change that leads to a valuation (not financial only) of the environmental resources and services. The instruments selected for that are the elements which could contribute for a nature revaluation, such as environmental education and participation.

Although the PES projects often destine a budget for executive projects elaboration, diagnostics and monitoring, it seems that it does not happen the same to environmental education of landowners and involved communities, to create a subjective valuation of nature that release the PES projects from a exclusively financial dynamic. In the same way, few PES initiatives attempt to built and implement the schemes in a participative way, making the ES provider the actor of the entire process (Kosoy et al., 2008).

The scholarly literature has not focussed its attention in the resource allocation in PES projects to these aspects either. Despite of the abundance and diversity of publications about PES schemes over the world and the

growing number of papers and works that treat about social and politic context involved, very few of them talk about participative methodologies and environmental education within them. In addition, understanding the people's willingness to participate of these projects has not been either a key concern of the literature (Kosoy et al., 2008). Generally, those works attempt to the environmental, economic and poverty reduction results, and the role of the government and other organizations in those initiatives (Pagiola et al., 2005, 2007; Sierra & Russman, 2006; Kemkes et al., 2010; García-Amado, L.R. et al., 2011; Zanella, 2011). When using the concept "participation", most of those studies emphasize an understanding of how the PES rules determine the involvement of ES providers and how the PES is affecting social and economic development of the communities (Kosoy et al., 2008).

So, this paper aims to discuss the insertion and intensification of elements like environmental education and participation into the design and implementation of PES schemes, as a manner to guarantee that the transformation in the landowners' behavior is not bound only to the financial transference and that, consequently, the providing of environmental services is secured in the long-term. We suggest the insertion of those elements as social mechanisms to change the rationality of use of the nature.

We intend to introduce this discussion and make some considerations about the importance of education and participative processes in conservation policies, specially the PES policies related to water.

1.1. ECOSYSTEM AND ENVIRONMENTAL SERVICES

Ecosystem services were defined by Daily (1997) as the services provided by the natural ecosystems and by its component species that sustain the conditions to the permanence of human life on Earth, for example, the fresh water availability, the climate balance and the food supply (Born & Talocchi, 2002). Those services were classified into 4 categories by the Millennium

Ecosystem Assessment (2005): provisioning, regulating, supporting and cultural services.

The conditions to the existence of those services may be strengthened and protected (or degraded) by the human actions, through the provision of environmental services, which are individual or collective initiatives to favor the maintaining, recuperation or improvement of the ecosystem services (Kfourri & Favero, 2011).

Seehusen & Prem (2011) considered that the concept of “environmental services” encompass both the services afforded to human by the natural ecosystems (ecosystem services) and those provided by the ecosystems managed by human. In this manner, because many times the concepts of ecosystem and environmental services are adopted with equivalent meaning, we decided to adopt the expression “environmental services” in this embracing meaning (Veiga & May, 2010), defined by Seehusen & Prem (2011). According to these authors, the PES initiatives related to carbon, water resources, biodiversity and scenic beauty are the most common and intense nowadays.

Regarding to water-related environmental services, despite of the existence of some scientific uncertainties about the forest-water relationships, it is a consensus that some hydrological environmental services are in fact provided by the forests: improving and maintaining the water quality, regulating the river's flow, the water supply and the aquatic productivity (Veiga & May, 2010). In this manner, the land management and the agricultural practices executed on a water basin influence (positively or negatively) the water quality and availability downstream. Those who execute practices that collaborate to the water conservation and improvement of its quality and availability are called environmental services providers.

1.2. PAYMENT FOR ENVIRONMENTAL SERVICES

The willingness and disposition of environmental services providers to protect it through the adoption and retaining of conservative practices and behaviors may be encouraged by rewarding for the providing of the services.

The Payment for Environmental Services – PES is one of the manners to reward or compensate those environmental services providers, through a financial incentive.

The Payments for Environmental Services are financial transference policies to people or organization in exchange to the adoption or retaining of practices that improve or guarantee the providing of some environmental services (ZANELLA, 2011). Therefore, the concept of Payments for Environmental Services is based in the premise that the environmental services effectively have value and are exhausted because they are given by the nature and do not have an owner, and so are not part of the market. Thus, a way to pay for them is demanded, recognizing their economic value and offering a reward for those who help in their conservation (WHATELY & HERCOWITZ, 2008). The goal of these mechanisms is to ease the pressures to the ecosystem's capacity to keep providing us those services.

Therefore, the PES initiatives use market mechanisms to transform some people practices to benefit the environmental quality. To ensure that the environmental services will keep being provided, its beneficiaries or other actors of society (governmental institutions, non-governmental organizations – NGOs) pay for those who execute favorable practices to its restoration or maintenance, since there are economic costs involved in these activities, abreast the trade-off between the several possibilities of land uses. For this reason, many PES schemes uses the cost of opportunity of the prevalent economic activity in the region as a basis to calculate the payment amounts (Veiga & May, 2010).

Wunder (2005) defined five criteria to characterize a pure PES market: voluntarism, well-definition of the environmental service, the existence of buyers, the existence of providers and conditionality (ES provider secures ES provision). To other authors (Bracer et al., 2008), every PES scheme depends on the existence of an environmental service with a quantifiable economic value. Those conditions and criteria, however, are not always found in the existent PES schemes, as discussed ahead.

2. DISCUSSION

2.1. BEYOND THE LANDSCAPE TRANSFORMATION

In addition to PES, there are other compensation for environmental services tools which do not use direct financial resources transferences, such as the fostering of credit; taxes and duties exemption; the investment of taxes revenues in special policies; preferential providing of public services; technology availability and technical enabling; products subsidizing and guarantee of access to market or special policies; and transferences of duty revenues to municipalities where there are preservation areas (Born & Talocchi, 2002), as the ecological Duty for Commercialization of Goods and Services ("ICMS ecológico"), in Brazil. However, most of those tools are inserted in the economic and market logics prevalent in the contemporary society. This market logics is based in the infinite reproducibility of capital in a dynamic where the market is recognized as a purpose itself. Though, according to the ecological economics theories, it is a inaccuracy to consider the economy as an insulated system, that works by itself, because it exists inside the biosphere and it is limited by a wider and more complex system (May, 2010). Nevertheless, most times the decisions address the maximization of individual profit and the conservationist options that value intangible characteristics are not even considerate.

Fearnside (1997) argues, about PES projects in brazilian Amazon, that those projects may bring to the short-term rationality usually adopted in human actions, a long-term rationality, more appropriated to environmental questions. Could we reach this new rationality building projects that are based primarily in the plutocratic logics of the current society, the one that led to the environmental unsustainability we live today? Will it be possible to build efficient environmental conservation or restoration projects that do not reproduce this logics?

We query if those initiatives will be capable of sustaining a true transformation of landowners' perception, behavior and practices related to the rural environment, or if based in market logics they will have outcomes only while the financial investment (and consequent increasing of revenue) last.

Some other elements have to be added in PES projects to reach a long-term rationality, to ensure that the landscape transformation is not motivated only by the short-term rationality, expressed in the receiving of a financial transference.

If the PES projects main goal is to improve or guarantee the ES providing and environmental quality in the long-term, through landscape transformation, this goal might be achieved more effectively if there is a deep transformation of the involved people environmental perception, to hold the nature's value beyond the period of or the need for the economic benefit concession. The financial resources transference will not be singly capable to induce this transformation, and the uncertainties about the existence of future and continuous resources to the maintenance of PES projects (Veiga & Gavaldão, 2011) bring up doubts related also to the continuity of the behavior adopted in the moment by the ES providers if the PES projects are interrupted. So, it is necessary to find manners to ensure that the behavior changes are ultimate and not only bound to the financial transfereces.

In this context, we argue that this instrument could be more efficient when complemented with other tools that aim for a potentiation of the non-economic valorization of those services, as environmental education and the promotion of a wider engagement and participation of communities in the building processes of PES schemes. For example, regarding to the difficulties found to the adoption of trees in farms, Morimoto (2002) concluded that best way to execute forest restoration projects (part of many PES schemes) is through approaches that gather not just economic, but also educational, informative and affective aspects and the collective building of those projects. In this context, some elements could contribute to reveal to the ES providers the economic value of nature (that in fact exist and shall be recognized), but mainly to trigger an emotional and subjective valorization of environment, leading the economic logic to insert and recognize elements beyond itself. Hereafter the elements proposed within these approaches will be detailed: participation and environmental education.

2.2. PARTICIPATION AND ENVIRONMENTAL EDUCATION WITHIN PES SCHEMES

Considering the culture as a process under construction, the result of contradictory interests and unequal involvement, the active participation of involved groups in public policies execution is essential to guarantee the correspondence between plans and activities and the well succeeded application of those policies (Foladori & Taks, 2004).

The enlargement of participation spaces is pointed world wide as one of the root baselines to the implementation of sustainable development and conservation projects (Rodrigues et al., 2008) and the different levels and kinds of participation have different impacts to the success of the project. According to Cavalcanti (1999), the environmental education, the participative management and the dialogue between stakeholders are the three fundamental pillars to environmental regulation.

Rodrigues et al. (2008) defined the concept of participation as a real exercise of citizenship, emancipator, part of decision-making processes which characterizes a democratic control. To Sorrentino (2001, apud Rodrigues et al., 2008), participation is a wide and dynamic process that involves five dimensions: basic structure for participation, information availability, existence of dialogue spaces, decision-taking and subjectivity). The absence or precariousness of any of them is an obstacle to reach the real participation. So, it is necessary to consider those dimensions, during the elaboration and implementation of PES initiatives to guarantee effective participation of all involved actors.

The building of a participative process implicates in mutual learning, involving the conceptual or practical contribution of every actor, besides the respect to the whole group ideas and the valorization of every contribution (Brose; Cordioli, 2001, apud Hahn et al., 2008).

According to Toro (1997), the participation process integrates the social mobilization process, which develops the desirability of change and

transformation and the practice of that. As mentioned, the lack of disposition of the involved communities to join forest restoration projects is one of its major obstacles, turning the transformation of this attitude compulsory to the success of PES projects.

As Rodrigues et al. (2008) highlighted, many authors believe that participative approaches are capable of inducing social transformations, even if in very different degrees. Thus, the adoption of participative methodologies since its elaboration may contribute to the better effectiveness of these projects, as they can provoke, besides a landscape transformation, also a social transition.

The participative methodologies and techniques may and must be used in every phase of the elaboration and implementation of PES projects and include diagnose, planning, implementation and evaluation techniques. To Kosoy et al. (2008), the active involvement of various stakeholders should be fostered in the design and implementation of PES projects. We also highlight the importance of environmental education when using these techniques to sensitize people about the environment, especially in a rural sustainable development context (Rodrigues et al., 2008).

The distribution of financial resources to the landowners, such as PES, can engender power and trust conflicts among the community actors and can also cause unbalance in richness and power concentration inside the communities (Born & Talocchi, 2002). The risk of conflicts, suspiciousness and other entry barriers are much smaller when landowners are involved in the PES scheme development process, according to Zanella (2011). Guedes & Seehusen (2011) also recognize that using participative methodologies help to enhance the trust and cooperation among participants, the ownership in the project, their commitment to environmental protection and also decrease the transaction costs. The increasing of cooperation among the ES providers and their empowerment and emancipation is essential to these projects to succeed (Guedes & Seehusen, 2011) and once again, the utilization of participative tools contributes to these aspects (Rodrigues et al., 2008).

The report of a PES project executed in San Martín, Peru, concluded that a voluntary mechanism of compensation for environmental services can only succeed when there is consensus among the area managers, the ES providers' and users' delegates and organized civil society. It is necessary to use communication tools and environmental education to achieve the consensus and promote the process sustainability. So, for these project's managers, some of the success factors in the design and implementation of a PES system are: the creation and incorporation of inter-institutional participation spaces for civil society, sensitization, communication and environmental education and fostering capacities in related topics (Peru, MINAM, 2010).

The involvement of local non-governmental organizations – NGO's, co-operatives and producer's associations is also very important during the building of PES schemes and the negotiations with ES providers. As mentioned by Zanella (2011) in his research about three PES cases in Brazil, the previous contact of project managers with landowner's associations and co-operatives abreast collective meetings and capacitations was a key factor to reduce tensions and incomprehension about the projects.

Besides the application of participative methodologies, the environmental education is another necessary element to PES projects, as a manner to potentiate its results. In concordance to the famous citation of Paulo Freire "If the education alone does not transform the society, without it the society do not change either" (Freire, 2000), we assume that to make possible not only an environmental transformation induced by PES projects, but also a social transformation (which will guarantee the environmental conservation in the long-term), education is an important and indispensable tool to this process. The environmental education is the catalyst to the creation of a new valuation of nature, making possible that it can be shared and used economically basing in its own value and conservation.

The Brazilian Environmental Education National Policy (Law 9795/1999) defined environmental education as "the process by which the person and the collectivity build social values, knowledge, abilities, attitudes and expertise to environmental conservation". According to Sorrentino et al. (2005), the

environmental education aims to trigger a social transformation to overcome the environmental injustices, the capitalist and functionalist appropriation of nature and of humanity itself. Based on the dialogue between State and society and the citizenship exercise it can contribute to public policies designs (Sorrentino et al., 2005; Loureiro, 2006). Thus, the environmental education objectives the building of an ecologic culture that understand the nature and society as dimensions intrinsically related and that must be thought together (Carvalho, 2004).

The Treaty on Environmental Education for Sustainable Societies and Global Responsibility, written in 1992, considered that the environmental education affirm values and actions that contribute to individual and social transformation to the ecologic preservation (Loureiro, 2006). In this manner, the environmental education assists PES projects as a tool to ecologic transformation. The Brazilian Environmental Education National Program (MMA, 2005) itself defines among its goals the insertion of environmental education in conservation, recuperation and environmental improvement programs.

Despite of the recognition of activities of environmental education and actors capacitation within these processes, few times PES schemes destine specific resources to those activities, neither include them since the beginning of the projects.

From the analysis of a FAO inventory about PES schemes for urban supplies (FAO, 2011), one will note that sometimes the environmental education is seen as consequence or result of the projects rather than an instrument to be more successful on it.

The “Water Producer Program” of National Water Agency of Brasil, considers that the PES schemes contribute to rise the environmental awareness because they bring a new relationship between the services providers and its beneficiaries and between them and the nature (ANA, 2009). Despite of highlighting the need for awareness, environmental education and landowners’ engagement during the phases of implementation of PES projects,

the Operative Manual of this program, though, do not prescribe a lot about concrete strategies to promote environmental education and participative methodologies in PES schemes implementation.

Other times, the PES projects' executors also perform environmental education projects, but those activities are not joint and articulated, seeking the transformation of the perception of the involved through environmental education (FAO, 2011). In this context, our proposal involves more than the articulated execution of PES and environmental education projects, but also the integration of both and the incorporation of environmental education activities during the planning and implementation of PES projects.

According to Fernandes et al. (2001), one of the obstacles to the environmental protection is the existence of different perception of values and its importance among the individuals from different cultures or social/economic groups that perform distinct social roles. Positive perceptions about the environmental conservation and non-consumptive environmental values also encourage the involvement of more landowners in PES projects and their disposition to protect the forests and manage it sustainably (Kosoy et al., 2008). In other words, the inclination to join a PES project is higher in communities where there is already a environmental valorization and consequently a conservationist behavior than in those whose culture do not stimulate the environmental conservation (Kosoy et al., 2008).

Thus, we emphasize that if the ES providers understand from the beginning the importance of protecting the ES and this understanding, together with the financial stimulus, turn into a strong stimulus to the adoption of conservationist practices, this change will not be so dependent of payment, in face of the possibility of its interruption.

In fact, the financial aspects influence strongly the choice of landowners about the land use and occupation and this is one of the arguments to the implementation of PES projects to help the environmental conservation. The high cost to forest restoration and other conservation practices and the demand for financial return from the land uses block many landowners to invest in forest

restoration and lose cultivation areas. In Brazil, this happens even with the requirements of the Forest Code (Law 4.771/1965), which define the obligation to conserve the Permanent Preservation Areas and the Legal Reserve in the rural properties.

Although, at the same time, cultural obstacles, as the landowner's environmental perception or the perception about the forest in their land hind the adoption of certain practices such as forest restoration (Rodrigues et al., 2008) and soil conservation. In this manner, PES projects shall focus not only to remove or ease the economic obstacles that hind landowners to adopt water and soil conservation practices, but also to remove the social and cultural obstacles to its adoption.

The access to information about PES schemes' rules and an effective communication from PES managers are other important factors in the ability and willingness to participate of PES projects (Kosoy et al., 2008), even more than the payment amount (Zanella, 2011). Thus, it is essential that communication strategies are developed and applied to provide basic information about the projects, its concepts, principles, rules, goals and procedures and the ecologic relationships in which the PES schemes are based.

In the case of the "Water Conservator" Project, placed in Extrema, Minas Gerais, Brazil, a great number of participants and non-participants farmers have doubts about the relationship between the improvement of forest cover and water quality (Gavaldão, 2009; Zanella, 2011). That affects both the decision to join the projects and their satisfaction levels about it.

It is also indispensable that PES projects respect the values given to ES by the landowners on their properties and the cultural aspects of the regions where those projects are implemented. To Guedes & Seehusen (2011), the PES policies should have a final focus on the improvement of life quality of the ES providers' communities.

The human societies are capable of adapting in their living environment, transform it positively or negatively, and the comprehension about their answers and their behavior is important to understand how the human action interfere in it (Costa, 2003). Thus, we have to know and understand a reality and understand how the people who live this reality comprehend it to intervene on it (Rodrigues et al., 2008). Therefore, it is important to identify the factors that influence the decision-making of actors or social groups to join environmental conservation and recuperation projects, as PES projects and understand the ES providers' needs and expectations about the PES to improve the robustness of the incentive system, adjusting compensations accordingly.

Poltroniéri (1999) highlights that by recognizing the community or population perception, it is possible to evaluate their necessities, interests and wishes, including those related to the environment. So, environmental perception studies are really important to the comprehension of the inter-relations between human and environment, their expectations, judgments and mainly their conduct and actions related to the environmental maintenance and then elaborate and refine environmental conservation and recuperation projects.

In this context, it is noteworthy that previously the implementation of PES projects a social and environmental diagnostic is done, recognizing the different perceptions, knowledge and comprehension levels, and importance given by the landowners to the environmental services generated inside their lands and in their region, and the potential, issues and possibilities related to it. If this diagnostic is executed in a participative way, the coming actions will be legitimated by the community and the project's acceptance will be wider. In addition, considering the sensitization and comprehension degree about these aspects, it will be possible to apply a differential approach to each landowner and to formulate more effective strategies socially and environmentally, that unite sensitization, information and capacitation of ES providers.

Regardless some authors consider the landowners involvement and of the communities a key-element during the implementation of recuperation and PES projects (Rodrigues et al., 2008; Kosoy et al., 2008; Zanella, 2011), it does

not happens always voluntarily, integrated and since the design and planning of these projects (Zanella, 2011). The ownership of the decision to join PES projects obviously affects satisfaction and disposition of participating in other conservation projects. For this reason, the approach to the landowner should be exhaustively thought considering the local reality and the people involved and planned to ensure that their accession is volunteer, consensual and participative.

Finally, we shall add that many PES schemes depend on the environmental service beneficiaries/users' disposition to pay for its quality improvement or maintenance. Regarding to water-related ES, to ensure the continuous growing and strength of its demand and disposition of payment of potential buyers, it is necessary that also these beneficiaries and users are aware and convinced of the importance of the ES providers activities to improve the availability and quality of water supply in the long-term (Guedes & Seehusen, 2011). The market demand for environmental services is still low from the final users, especially the industrial users and this may be caused by the lack of knowledge or importance given to the relation forest-water.

In this manner, it is important that PES schemes involve not just ES providers in environmental education programs, but also sensitize ES users, urban supply, industrial policy managers and the whole society through project publicizing, information spreading about them and about the role of ES schemes in the environmental conservation (Guedes & Seehusen, 2011).

3. CONCLUSIONS

The PES projects dissemination over the world and the success they have achieved in the landscape transformation is a very discussed theme in the scholarly literature nowadays and the fact that the economic instruments sometimes carry out a significant appeal in the decision-making processes is unquestionable, especially when related to land uses.

Although, it has not been discussed a lot about the projects' ability to sustain a real transformation of landowners' perception, behavior and practices related to rural environment, which would trigger results not only while the financial investment and consequent increment in landowners' income last.

The use of participative methodologies during the elaboration and execution of environmental conservation and recuperation projects, as well as the insertion of environmental education activities on them, are recognized as key-factors for a lasting social and environmental transformation, which triggers, in the long-term, toward the construction of a more sustainable society.

We do recognize the achieved success of many PES initiatives done until now to change the landscape and the practices of landowners. Although, we believe those transformations only will be definitive if PES projects also consider elements which are not based exclusively on the plutocratic logics, that does not recognize the environmental services providing dynamics. Becoming unfastened of this logic, the PES would be used just as another instrument to strength and foster conservative motivations, behaviors and practices, but not as a condition for them to exist. Kosoy et al. (2008) succeeded discussing this topic:

“It's important to look beyond the idea of 'incentives' to move towards that of 'motivations'. Involvement in PES may not be then a matter of compensating for opportunity costs (...), but rather a question of how non-monetary individual and collective motivations, such as the need for technical capacity training, biodiversity conservation for intergenerational equity and reaffirmation of property rights among others, can be further strengthened and supported trough PES programmes.” (Kosoy et al., 2008, p. 2082)

Furthermore, these elements could trigger the construction of a new an economic dynamic based on a revaluation of nature which would make feasible, in the long-term, its own financial maintenance. In other words, lead the society to give real value to the nature to create an economic model that conserves nature itself.

Finally, we believe that PES projects, as well as environmental management, recuperation and conservation projects, shall consider also cultural and social aspects existent where they are executed, to achieve wider success in the ecologic aspect in the long-term, becoming an extensive and lasting social and environmental process, because it is in the cultural and social aspects that will be possible to find values of nature forgotten by our society during the past centuries.

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