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ANALYSIS

Decision criteria of European and Latin American market actors for tropical forestry projects providing environmental services

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Abstract

Converting the environmental services of tropical forests from public goods to tradable services is a promising approach to sustaining tropical forests' ecosystem functions and services. We hypothesize that the development of markets for these environmental services will substantially depend on compliance with requirements of key market actors representing supply and demand sides. This paper analyzes market actors' decision criteria related to engagement in tropical forestry projects that provide environmental services. In a questionnaire survey, 45 experts from Latin America and Europe representing key market actor groups, i.e., certifiers, consulting companies, financial institutions, governmental organizations, industrial companies and non-governmental organizations (NGOs), were asked to name and weight criteria that tropical forestry projects should meet in order to attract their institution's engagement. Many of these 45 institutions are already involved in several market activities related to tropical forestry projects and environmental services, including asset management, certification, consultancy, credit business, investments, project ownership and trade/brokerage. The collected criteria cover a variety of topics that clearly go beyond frequently applied sustainability dimensions in forestry related multi-criteria based decision making, i.e., social, environmental and economic dimensions. For example, relatively many criteria involve topics such as project management, risk management or marketing. While differences in criteria weighting among market actor groups are not significant, we found a significant interaction between criteria weights and the provenance of participants, indicating that Latin American and European market actors nominate and weight single decision criteria differently. The five criteria with highest mean weights in the European sample are social benefits, legal compliance, sustainability, environmental benefits and stakeholder participation. The Latin American market actors weighted highest expertise and capacity building, financial resources, political aspects, information management and markets. Generally, Latin American market actors emphasize criteria related to markets and information/knowledge management, whereas European participants tend to assign importance to social and environmental benefits and sustainability. The survey provides preliminary insights into bottom-up defined decision criteria relevant for key-actors in the market of tropical forestry-based environmental

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services, and compiles information for further multi-criteria based assessments of tropical forestry projects providing environmental services.

Keywords: Decision criteria; Environmental services; Market actors; Tropical forestry; Multi-criteria decision making

1. Introduction

Tropical forests provide a great variety of environmental services, including carbon sequestration, conservation of biodiversity, watershed protection and scenic beauty (for an overview and typology of environmental services, see Pearce and Moran (1997) and de Groot et al. (2002)). By definition, these services contribute to human welfare (Daily, 1997). Market mechanisms for environmental services derived from tropical forestry projects can be seen to substantially foster the conservation and sustainable management of tropical forests (Fearnside, 1997; Landell-Mills and Porras, 2002; Murtough et al., 2002; Pearce et al., 2003). Some authors have even argued that the economic value of non-timber goods and services, the provision of which partially requires sustainable management, can in certain cases be greater than the economic value of timber (Costanza et al., 1997; Pearce et al., 1999; Pearce and Pearce, 2001). Nevertheless, most environmental services are still treated as public goods with no market value. In the few cases where private forest owners are compensated for maintenance and provision of environmental services, this usually occurs in the form of public subsidies while compensation mechanisms involving payments by private consumers of environmental services are still an exception (Chomitz et al., 1999; Daily et al., 2000; MINAE, 2002). Recently, however, the involvement of the private sector in sustainable forest management and forest conservation aimed at providing environmental services has been reported to be growing (Castro et al., 2000; Borges, 2002; Keipi, 2002; Landell-Mills and Porras, 2002).

Recent investigations of emerging markets for environmental services have focused on mechanisms of market development and market transactions at international (Landell-Mills and Porras, 2002; Murtough et al., 2002; Rosenzweig et al., 2002; Brand, 2003) and national level (Chomitz et al., 1999; Black, 2000; Castro et al., 2000; MINAE, 2002). One common finding of these studies is that transformation of environmental services from public goods to private goods usually requires governmental interventions, such as regulations or the introduction of market based instruments, to overcome non-excludability and non-rivalry of the services (see also Glück (2000), Mantau et al. (2001), Farber et al. (2002), Murtough et al. (2002)). For successful implementation of carbon trading, Brand (2003) for instance names several governmental actions, e.g., establishment of property rights, measuring, verifying and registering standards, as precursor for carbon credit trading involving the private sector. Once an adequate governmental framework is established, market actors[1] may gain increasing importance on market development of environmental services.

Taking into account the great variety of tropical forestry projects that (potentially) supply environmental services, market actors face a decision situation with respect to the choice of project engagement, which depends on their goals, strategies, criteria and preferences of engagement (Keeney, 1992; Saaty, 1994). Given the complexity of environmental systems in general and tropical forestry projects in particular, multi-criteria approaches to decision making are most appropriate for integrating the different dimensions (e.g., social, environmental, economic) and multifaceted values embedded in projects and their services (Kangas, 1993; Gregory and Slovic, 1997; Mendoza and Prabhu, 2003; Brown and Corbera, 2003a). If market actors apply such an approach, tropical forestry projects will be able to

[1] The term "market actor" refers here to institutions directly involved in supply, demand, or transaction management of tropical forestry projects or their environmental services. This includes a variety of private institutions but also governmental organizations involved in market activities (e.g., by forging market conditions or providing funds and loans), while politicians, scientists and the general public were not considered in this study.