DRAFT FOR COMMENTS

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MEA-based Markets for Ecosystem Services[1]

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Introduction

The mobilisation and channelling of private sector contributions towards the goals and objectives of multilateral environmental agreements (MEAs) is a challenge common to the three Rio Conventions.[3] Work undertaken by several organisations, including the Convention Secretariats, have shown the multiple synergies that exist between MEAs in terms of their objectives, instruments, financing and delivery mechanisms. The synergies with private investment and the role of the business sector, however, have not been studied in any comprehensive way.[4]

The development of markets for ecosystem services (MES) is an innovative and promising approach to attract private contributions, introduce sustainable resource management practices compatible with the Rio Conventions' objectives and principles, and contribute to the development of economic opportunities in poor, rural areas of the world. While these markets have been growing steadily in recent years, this development has taken place largely outside the framework of the MEAs, with the notable exception of the UNFCCC through its Clean Development Mechanism (CDM).

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[1] This is the first draft of a concept paper looking at MEA-based markets for ecosystem services. Comments are welcome and can be sent to marc.paquin@unisfera.org.

[2] www.unisfera.org

[3] *United Nations Framework Convention on Climate Change* (UNFCCC); *Convention on Biological Diversity* (CBD); *United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa* (UNCCD).

[4] "[…] synergy exploration efforts have not yet explicitly focused on the role of the business sector in the implementation process of MEAs, or on ways to improve attraction and allocation of private investments by cooperative approaches", OECD, Working Party on Global and Structural Policies (2005). Multilateral Environmental Agreements and Private Investment. Business Contribution to Addressing Global Environmental Problems." p. 61. 19 April. ENV/EPOC/GSP(2004)4/Final. http://www.oecd.org/dataoecd/46/45/34860486.pdf.

There appears to be great potential for the development of MES within the framework of the Rio Conventions and their respective financial mechanisms. The development of a joint initiative to that effect would allow these MEAs to capture a share of this growing market, thereby enhancing their effectiveness in attracting and mobilising private capital, expertise and technology towards their goals. By positioning themselves in these markets, the Rio Conventions could also contribute to, and influence the development of such markets. Moreover, the poverty alleviation dividends created by MES at the community level could also be instrumental in attracting development-oriented funds in the context of the Millennium Development Goals.

This concept paper seeks to explore some of the issues raised by the development of a joint Rio Conventions MES initiative and to present potential financing sources and trading platforms. This paper also explores how MEA-oriented MES could contribute to the mobilization of local resources and generate poverty alleviation dividends. Lastly, the paper outlines areas where the Rio Secretariats, along with their respective financial mechanisms and partners, could cooperate to launch such an initiative.

The Expansion of Markets for Ecosystem Services

The last decade has seen the development of multi-million dollar markets in carbon, wetlands, water pollution and biodiversity. Throughout the world, developed and developing countries, including Costa Rica, Mexico, Brazil, the United States, Australia, Colombia, Ecuador, and South Africa have been setting up pilot payment systems or experimental markets for the services provided by ecosystems at the landscape level.

The global carbon market is emerging as the largest and most structured of these markets, mostly under the impetus of the Kyoto Protocol. This market could represent nearly $40 billion dollars by 2010, and could even reach $200 billion dollars within a generation. Even though other MES are not comparable to the carbon market in size and structure, their recent expansion suggest that they may rapidly become a central aspect of sustainable development financing in the near future, representing tens of billions of dollars annually within 10-15 years.[5]

The development of MES in the last decade has been fostered by a series of drivers. The first driver is a shift in national environmental protection policies from command and control approaches to economic and market-based instruments. Eco-taxes, cap and trade schemes, direct government payments, charges and user fees have generated a new flow of financial resources – both public and private – that can be used to finance conservation and sustainable uses.

A second driver is the improved capacity to value the goods and services provided by ecosystems. The development of research on ecosystems has improved our understanding

[5] See: The Katoomba Group's Ecosystem MarketPlace. http://ecosystemmarketplace.net/pages/static/about.php.

of the complex interactions that lead to the provision of ecosystem goods and services (EG&S). This understanding improves our capacity to manage ecosystems and to generate the specific services needed. Moreover, our capacity to collect and analyse data on ecosystems has also improved, making environmental information more readily available. Lastly, economic valuation techniques have also improved. Together, these developments allow for better information, more accurate pricing and reduced risk: three basic conditions of functioning markets.

A third driver is the rising demand for EG&S from public authorities, private entities and consumers. This demand was partly created by new public regulations establishing environmental obligations to be met through market-based instruments, such as cap-and-trade schemes. This has been the case for the carbon market. Private biodiversity conservation efforts supported by foundations, large private firms and NGOs have also multiplied in number and value, creating a demand for biodiversity protection. Last but not least, consumer demand for derivatives of healthy ecosystems has also grown exponentially in recent years. This is the case for organic foods, fair trade products and eco-tourism.

Markets have been established for four categories of ecosystem services for which there is an effective demand: carbon sequestration, water quantity and quality, biodiversity protection and landscape beauty. The first two categories of services, carbon and biodiversity, clearly fall within the scope of application of the UNFCCC and CBD frameworks. Markets also exist for bundled services where transactions involve the supply of multiple eco-services. Such markets provide a good model for the development of a joint initiative among the Rio Conventions. It should be noted however that the majority of these markets have thus far focused on forest-based carbon, water or biodiversity services.

Although land quality *per se* has not been the subject of reported transactions, a number of existing markets support more directly the objectives of the UNCCD through their impacts on agricultural practices. For example, some schemes involve the development of silvopastoral practices that contribute at the same time to the sequestration of carbon, protection of biodiversity and restoration of degraded lands. Others involve improved agricultural practices in order to protect watercourses from sedimentation or chemical contamination. Also, the development of markets for organic agricultural products through eco-labelling leads to improved agricultural practices that may reverse land degradation processes. Given the importance of the services provided by productive agricultural lands in terms of food security and poverty alleviation and development, there seems to be potential for the development of land quality related transactions. More research would be needed to assess the demand (local, national, international) for land-related services and the potential impact of the demand for other types of ecosystem services on lands.

Private firms, foundations, NGOs and governments are increasingly involved in markets for ecosystem services. Private sector motivations are diverse and may result from

regulated obligations, bottom-line considerations, marketing strategies, corporate social responsibility policies, or a willingness to seize new market segments. In deciding to invest in MES, private firms seek to minimise risk and transaction cost, and to maximise profits and/or visibility. These attributes are linked to the credibility, effectiveness and efficiency of the trading platform. The three Conventions' expertise, their scientific networks, their legitimacy, their political appeal and their visibility confer them significant comparative advantages that can be used to create a credible and reliable trading platform.

Sources of Financing

More than 300 markets for ecosystem services have been inventoried in the world[6] and a recent survey of MES schemes shows that a multiplicity of models coexists and that no single one has so far emerged as a standard.[7] MES are usually adapted to the very specific conditions under which they are established and to the specific characteristics of markets for different environmental services. Most of them are recent or have been running for a few years only, and several MES schemes remain experimental in scope or are still in their pilot phase.

There are several sources of financing available – both public and private – for MES. These include donations and grants from intergovernmental organizations (IGOs), bilateral donors, NGOs, foundations and private firms. Such funding may be instrumental in covering the start up costs of a new trading platform. In some cases private funding was used to create an endowment that provided continuous funding for ecological goods and services. Private firms that wish to offset their carbon emissions or that have adopted a zero biodiversity loss policy are among those that may be interested in investing in such schemes. In a similar manner, agro-business industries might be enticed into adopting a zero land degradation policy whereby they compensate for degradation of agricultural lands by restoring degraded lands elsewhere.

Government payments and subsidies to land users can also play a role in the provision of ecosystem goods and services. The rationale for such action is that governments may already be paying for the provision of these services through other means, or may already be forced to invest public monies to compensate for degraded ecosystem services environmental. Governments and public agencies can cover the costs of such payments by collecting earmarked taxes, charges or user fees that can be aggregated into the market funding structure, thereby providing a continuous financing flow to the market. In such cases, the government serves as a relay between private firms and consumers and land users.

[6] Pagiola, S. and G. Platais. 2002a. Market-based Mechanisms for Conservation and Development: The Simple Logic of Payments for Environmental Services. In *Environmental Matters–Annual Review*, July 2001–June 2002 (FY 2002). Washington, DC: World Bank's Environment Department. p. 26.
[7] Mayrand, K. & M. Paquin (Unisféra International Centre). *Payments for Environmental Services: A Survey and Assessment of Current Schemes.* Montreal, Commission for Environmental Cooperation, 2005.

Another source of financing comes from direct beneficiaries of environmental services who pay a recurrent amount for the continuous provision of those services. For example, downstream water users may pay upstream land users to protect a watershed to preserve water quality or quantity. This model is used, *inter alia*, by the water authorities of the cities of New York and Quito. In some cases electric utilities have also contributed to such financing schemes to prevent sedimentation of a reservoir.

Rising demand for eco-labelled products and eco-tourism is another potential source of financing. In this case, the beneficiaries are local, national or global consumers who will pay a premium price for the environmental characteristics of the products they are buying. While in practice they are paying for agricultural and forest products or tourism-related services, these goods and services serve as proxies for the ecosystem goods and services that support them.

Also important in the financing structure of MES is the mobilisation of local financing that can result from the creation of these markets. Revenues generated by the selling of EG&S diversify incomes, thereby reducing dependence on single commodities and vulnerability to price or climatic shocks. Moreover, higher incomes can generate local savings and improve access to credit. Although it may involve short term adaptation costs (that can be compensated by higher payments), improved resource management following the conclusion of an MES deal can also lead to improved long term land or forest productivity, thereby improving local development prospects. Moreover, the creation of a MES require some investments in capacity building and the development of local institutions. These by-products can support local development. In short, a poverty alleviation dividend can be obtained through the development of local MES.[8]

Self-sufficient markets for ecosystem services are still rare and the most successful platforms involve a mix of public, private and non-governmental funding with support from multilateral agencies. The Convention secretariats and their financial mechanisms are therefore to be well-positioned to catalyze such type II partnerships for the provision of EG&S.

Trading Platforms

Trading platforms for ecosystem services differ in geographical scope, from the global level – for example, the CDM – to local ones involving watershed-based transactions. Some have been established at the national level such as the *Fondo Nacional de Financiamiento Forestal* (FONAFIFO) in Costa Rica, which finances forest-based services at the country level. The financing, management, and payment structures of these markets also differ considerably according to legal, political, social and economic conditions in which they are established. This diversity shows the flexibility and adaptability of these markets.

[8] See: Landell-Mills, N. and L. Porras. 2002. *How Can Markets for Environmental Services be Pro-poor?* London: Forestry and Land Use Program (FLU), IIED.

The development of an appropriate financing platform is key in the establishment of successful MES. The objective is to generate a continuous flow of financial resources into the system to fund payments over the long term. Such a long term strategy is necessary to ensure the continuous provision of EG&S and avoid land users returning to former unsustainable practices once payments are terminated.

MES involve three types of financing needs.[9] The first is the cost of establishing the system, including scientific research, data collection, the creation of institutions, stakeholder consultations, training etc. These start-up costs are sunk costs that often need to be covered by donors or large NGOs. Secondly, payments to land users need to be financed on an ongoing basis at a sufficient level to ensure the provision of EG&S. Lastly, the ongoing management costs of the systems must be covered either by collecting a percentage on each transaction or through institutional support by partner organisations.

A key objective of trading platforms is to minimize transaction costs to maximise the transfer efficiency of the payments made through the market. This is where a joint initiative under the umbrella of the Rio conventions seems attractive. By pooling resources into a common trading platform, the three conventions could generate economies of scale that would in turn reduce transaction costs. Also, by providing scientific, technical and capacity-building services, Convention Secretariats and their financial mechanisms could absorb part of the start up and ongoing costs of maintaining the markets.

Two different trading platforms can be envisioned for a collaborative effort under the three Rio Conventions' umbrella. The first one would be the creation of a type II fund that would collect funding from businesses, foundations, NGOs, IGOs and other public entities for the provision of ecosystem goods and services. Funders would in practice buy a quantity of specific services (carbon, biodiversity or land-related) or bundled services that would be specified in the transaction. The fund would then use this funding to finance projects that ensure the provision of those EG&S. Alternatively, it could allocate the funds through national focal points. Projects could be submitted by countries, NGOs or implementing agencies and would have to meet a series of specific requirements that would be jointly established by the three Secretariats. The fund governing structure could comprise representatives of the three conventions, the GEF, GM and other IGOs, NGOs and private sector representatives.[10]

A second potential trading platform for a joint MES initiative by the Rio Conventions would be to create a clearinghouse mechanism on the model of the Ecosystem

[9] See: World Bank & Worldwide Fund for Nature Alliance for Forest Conservation. 2003a. *Running pure: the importance of forest protected areas to drinking water*. Washington, DC: World Bank & WWF. p.65.
[10] An analysis of the potential governing structure is beyond the scope of this paper.

Marketplace[11] where demand and supply for EG&S could meet. The clearinghouse would provide accurate and reliable information on projects for the provision of EG&S that private companies, foundations, IGOs and NGOs could finance. Such an information sharing platform would significantly reduce transaction costs for buyers and sellers of EG&S by providing a single portal where biodiversity, carbon and land-related services could be traded. This would considerably reduce the costs associated with collecting information and searching for funders or service providers. Also, the clearinghouse could provide other services to further reduce transaction costs and improve transaction efficiency.

A complementary possibility would be to make best use of the CDM by reforming its criteria to maximise its potential benefits in terms of biodiversity and land-based services. The advantage of such an approach is to build on an existing trading platform. The inconvenient lies in the political sensitivities associated with the CDM and in its current limitations for synergistic financing. Indeed, the non-admissibility of agriculture under the CDM criteria constitutes a considerable obstacle to the development of a synergistic approach to carbon sequestration and land degradation. Without prejudging of the political feasibility of such reform in the post-Kyoto negotiating process, the three Secretariats could work on scenarios under which the CDM's synergistic impact could be enhanced.

Next steps

Although there seems to be great potential in the development of a joint MES initiative under the umbrella of the three Rio conventions, further work is needed to assess the feasibility of such an undertaking, including an assessment of the potential demand for bundled biodiversity/carbon/land-related services. The value-added of such a platform compared to other existing MES mechanisms should also be assessed. This could include an assessment of the respective set-up and ongoing costs of the clearinghouse and fund approaches.

Among the preliminary steps that would need to be undertaken before setting up a joint MES initiative, the three Conventions should first develop a common ecosystem goods and services valuation matrix against which the value of specific ecosystem services would be assessed. Secondly, ecosystems where the objectives of the three conventions converge should be identified and specific multi-services bundles developed to create a commodity that could be sold on the emerging market. These steps would ensure the compatibility of funded activities with the three Conventions.

The advantages and limitations of the two potential trading platforms – a fund or a clearinghouse – and their relationship with the CDM and other trading mechanisms such as the Ecosystem Marketplace should also be assessed. Once a trading platform is

[11] "The ecosystem marketplace seeks to become the world's leading source of information on markets and payment schemes for ecosystem services […] by providing solid and trust-worthy information on prices, regulation, science, and other market-relevant issues […]". See: www.ecosystemmarketplace.com.

chosen, its governing structure should be elaborated. A few pilot transactions could then be initiated to test the system.

Further Readings

Alix, J. et al. 2003. *Payment for environmental services: to whom, where and how much?* Guadalajara, Mexico: INE/CONAFOR/World Bank.

Bayon, R. 2004. *Making environmental markets work: lessons from early experience with sulfur, carbon, wetlands and other related markets.* Washington D.C.: Forest Trends.

Chomitz, M.K., et al. 1998. *Financing environmental services: the Costa Rican experience and its implications.* Washington D.C.: World Bank.

Evans, W. 2003. *Promoting markets for environmental services.* European Investment Bank Forum, 24 October 2003: World Bank, Environmental Department.

Jenkins, M. et al. 2004. Markets for biodiversity services: potential roles and challenges. July–August. *Environment 46 (6): 32-42.*

Landell-Mills, N. and L. Porras. 2002a. *Silver bullet or fools' gold? A global review of markets for forest environmental services and their impact on the poor*. London: International Institute for Environment and Development (IIED).

Landell-Mills, N. and L. Porras. 2002b. *How can markets for environmental services be pro-poor?* London: Forestry and Land Use Program (FLU), IIED.

Landell-Mills, N. 2002c. *Marketing forest environmental services – who benefits?* London: Gatekeeper Series no.104, International Institute for Environmental and Development (IIED).

Mayrand, K. & M. Paquin. *Payments for Environmental Services: A Survey and Assessment of Current Schemes.* Montreal, Commission for Environmental Cooperation, 2005.

Pagiola, S. et al. 2004. Paying for biodiversity conservation services in agricultural landscapes. May. Environment Department Paper (96). *Environmental Economics Series*. Washington, DC: World Bank.

Pagiola, S. et al. 2003a. *Can payment for environmental services help reduce poverty? An exploration of the issues and the evidence to date.* Washington D.C.: World Bank.

Pagiola, S. et al. 2003b. *Paying for the environmental services of protected areas: involving the private sector.* Durban, South Africa, 8–17 September 2003: Fifth World Parks Congress: Sustainable Finance Stream.

Pagiola, S. and G. Platais. 2002a. Market-based mechanisms for conservation and development: the simple logic of payments for environmental services. In *Environmental matters—annual review*, July 2001–June 2002 (FY 2002). Washington, DC: World Bank's Environment Department.

Pagiola, S. et al. 2002b. *Selling forest environmental services. Market-based mechanisms for conservation and development.* London: Earthscan Publications Ltd. 299 pp.

Pagiola, S. 2000. *Payments for environmental services. Annotated references: identifying, quantifying, and valuing watershed services.* Washington, D.C.: World Bank, Environment Department.

REECS. 2003. *Developing pro-poor markets for environmental services in the Philippines.* London: International Institute for Environment and Development (IIED).

Rojas, M. and B. Aylward. 2003. *Initiatives based on payments and markets for environmental services in Costa Rica.* London: International Institute for Environment and Development (IIED), Environmental Economics Program (EEP). <http://www.iied.org/eep/pubs/documents/MES2.pdf, consulted on 21 January 2004>.

Rosa, H. et al. 2002a. *Payment for environmental services and rural communities: lessons from the Americas.* Tagaytay City, The Philippines: International Conference on Natural Assets, Political Economy Research Institute and Centre for Science and the Environment.

Rosa, H., and S. Kandel. 2002b. *Payments for environmental services: Brazil*. Ford Foundation and Fundación PRISMA.

Rosales, R.M.P. 2003. *Developing pro-poor markets for environmental services in the Philippines.* London: International Institute for Environment and Development (IIED).

Scherr, S. et al. 2004. *A new agenda for forest conservation and poverty reduction. Making markets work for low-income producers.* Washington D.C. : Forest Trends.

Tsen, W. et al. 2002. *Payments for environmental services in Mexico*. Berkeley: University of California at Berkeley—Goldman School of Public Policy.

World Wildlife Fund and Danida. 2003. *From good-will to payment for environmental services. A survey of financing alternatives for sustainable natural resource management in developing countries.*

World Bank. 2002a. *Market-based mechanisms for conservation and development.* Annual Review: July 2001–June 2002.

World Bank. 2002b. *Colombia, Costa Rica, and Nicaragua regional integrated silvopastoral approaches to ecosystem management project: project appraisal document.* Report No.21869-LAC. Washington, DC: World Bank.

World Bank. 2000. *Ecomarkets project: Project appraisal document. Report No.20434-CR.* Washington, DC: World Bank.