Payments for Ecosystem Services
Briefing Paper for CEO Meeting, 23rd and 24th of May 2007

Introduction

Political will among the G8 countries to address climate change has peaked just as new scientific results show that payments for avoided deforestation are a viable and cost-effective method for reducing global carbon emissions. Whether through voluntary markets, or in anticipation of regulatory credits, projects to sell avoided deforestation will quickly absorb the capacity for project design and monitoring. The avoided deforestation "gold rush" puts global conservation organizations at credibility risk for the climate mitigating effects of these projects. By building in-country scientific and management capacity for targeting, auditing, and monitoring avoided deforestation schemes they can address this risk. Another risk is that these projects might "crowd out" efforts to build sustainable payments mechanisms that compensate land uses with multiple ecosystem service benefits, including conservation of highly irreplaceable biodiversity sites. The conservation NGOs have been working independently to get the science right on multiple ecosystem services, but can best leverage their common interests through national level policy coordination.

Identifying and Funding PES Projects that Bundle Multiple Ecosystem Services

A key concern for biodiversity organizations is how to ensure that carbon-based PES projects also benefit biodiversity conservation needs, and where possible, provide important ecosystem service benefits to local people (e.g., clean water, disaster mitigation). "Bundling" multiple services into one PES scheme is often advantageous because it creates additional funding sources and lowers transaction costs. However, in order to guarantee buyers that they are getting what they pay for we need to improve our knowledge about the relationships between biodiversity and ecosystem services and develop better measurements to identify where multiple benefits occur. First, we need more research examining the overlap between biodiversity and ecosystem services and the critical thresholds for service provision, since our conceptual knowledge about many of these relationships is incomplete. For example, independent experts in hydrology are currently conducting long-term experiments on the relationships between forest cover and watershed services (e.g., flood mitigation, water regulation and sedimentation). Linking this type of information to PES projects will be necessary to make sure they are supported locally and that they are sustainable over time. Second, we need to develop rigorous and agreed upon methods for identifying multiple benefit PES projects. The Natural Capital Project is currently mapping and valuing multiple ecosystem services in four locations, with the intention of designing PES projects. Conservation International has done a similar mapping exercise in Madagascar, identifying where biodiversity, carbon and water can be bundled and assessing deforestation rates and land values to target cost-effective PES projects.

With the identification of multiple benefit PES projects also comes the need to find "voluntary market" buyers willing to pay higher price premiums. Often, in the areas where biodiversity protection will be targeted (e.g., Atlantic Forest), land prices are too high for carbon payments alone to finance a PES project. To attract buyers to these types of projects there needs to be concerted support of certification and standards systems that will attract investors interested in ecosystem service protection *plus* biodiversity protection. The Climate Community and Biodiversity (CCB) standards are already being used as a cross institutional benchmark for projects that simultaneously address climate change, support local communities and conserve biodiversity. These standards are supported by several private sector firms and three of the global conservation organizations, CI, TNC, and WCS, lending them credibility among buyers. Building off of the CCB concept, similar initiatives need to be put into place for projects pertaining to other services such as water. When a buyer sees projects that carry these types of standards, they can be confident that these projects generate benefits beyond climate emissions reductions.

Scaling Up PES Schemes from Local to Sub-National/National Level: The Role of Global Conservation NGOs in Supporting Governments

In many countries, although project-based initiatives can be important at earlier stages to address the market failure to capture the value of ecosystem services, they can be otherwise unsustainable over the long term given their limited funding, absence of monitoring mechanisms, high transaction costs, and just as important, lack of nationally credible intermediary institutions. The Costa Rica successful implementation of PES on a national scale has shown that governments can and should take the role of intermediary in developing national or sub-national payment mechanisms capable of capturing and transferring service values to those responsible for ensuring the provision of ecosystem services. This requires political will to establish the legal and institutional framework required to regulate and institutionalize the implementation of PES schemes. Furthermore, it requires coherence in governmental policies in setting up priorities on development of cross-sectoral projects (agriculture, environment, mining, conservation finance) to move forward on an ecosystem service agenda. In addition to political leadership and coherence, there is often a great need for investments in capacity building and technical training to increase knowledge and experience with the legal and financial complexities of PES projects. Such PES schemes, which can integrate multiple services, will have the multiple advantage of creating new alternatives for biodiversity conservation while providing sustainable economic alternatives to local people.

Global conservation NGOs can, through their country offices, play an important role in helping governments scale up projects to state/national levels. This would require first the identification of countries where political will exists to implement PES schemes. Once these countries (or state/district level governments) are identified, the global conservation NGOs could have their in-country policy staff coordinate to speak with one voice to governments, and use technical staff in a complementary way to support the development of policies and institutions towards that goal. The advantage of this approach is that uniform and consensual technical guidance could be provided to governments seeking guidance and support in their needs for external capacity. An example of this collaboration is the partnership between CI and TNC in the Climate, Community & Biodiversity Alliance, a group of companies and NGOs committed to developing tools to combat climate change, while contributing to biodiversity conservation and sustainable development. Through this partnership, CI and TNC have been able to support the Chinese government to curtail deforestation through multiple benefit, multiple scale approach to ES in the Yunnan and Sichuan provinces. TNC, WWF and CI have also effectively coordinated policy work on forest reserve trading regimes with state governments of the Cerrado region of Brazil. Candidate governments for this kind of NGO coordination include Guatemala, China, Madagascar, the state of Amazonas in Brazil, northern Luzon in the Philippines and others.

Appendix I. Natural Capital Project

http://www.naturalcapitalproject.org/tanzania_prim.html

The Natural Capital Project is a joint venture among Stanford University, The Nature Conservancy, and World Wildlife Fund., with collaborators from universities such as the University of Minnesota, Duke University, and the University of British Columbia.

Specifically, the Natural Capital Project plans to:

- Develop new tools to incorporate the values of ecosystem services in decision-making. These will include maps of natural capital and innovative approaches, including private markets, to motivate and finance conservation.
- Launch an international network of projects that bring to life the promise of this way of reframing our vision of nature, applying understanding of natural assets and ecosystem services as a part of land-use and investment decisions.
- Magnify the impact of these on-the-ground projects by engaging decision-makers, from local leaders to government officials to financial professionals.

The Natural Capital Project is focusing its initial work on four main sites:

- Eastern Arc Mountains, Tanzania, Africa
- Upper Yangtze River Basin, China
- Sierra Nevada Region, California, USA
- Hawaiian Islands, USA

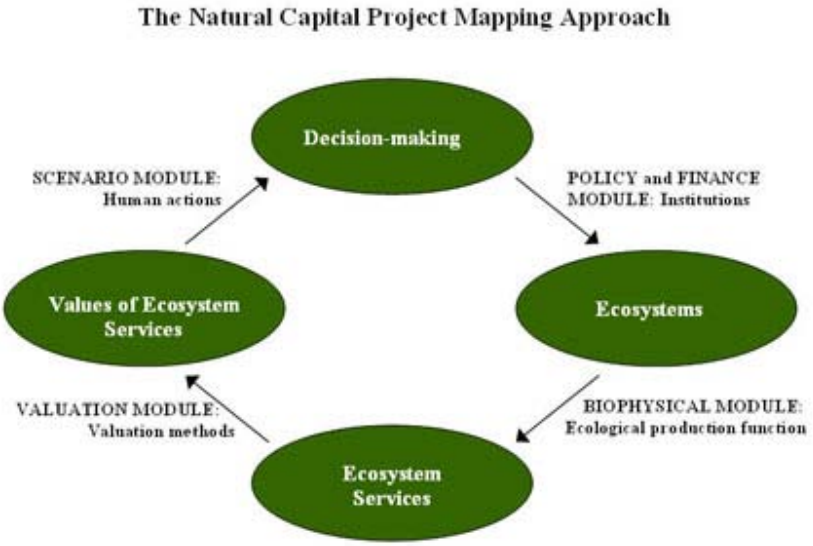
These sites were selected based on the following criteria:

- Significant Biodiversity. Richness, uniqueness, and/or representation.
- Critical Ecosystem Services. Clearly identified ecosystem services that are central to human well-being.
- High Threat level. Potential high rates of change, especially degradation.
- High Leverage Potential. Potential to influence important and imminent policy decisions and expand lessons regionally, nationally, or beyond.
- Stakeholder Will. Decision-makers with ability and interest to implement service protection systems
- Capacity. Scientific and management capacity, leadership and convening power, present in one or more of the partners
- Learning. Opportunities high for rapid advancement across all Natural Capital Project efforts.

The Natural Capital Project is developing a suite of tools that will allow practitioners and decision makers to identify projects or decisions that could benefit from an ecosystem services approach, and then support design of policy instruments or financial mechanisms that contribute to more equitable and profitable decisions that align biodiversity conservation and human well-being.

Modeling and Mapping Ecosystem Services

They are currently developing a practical software system to serve these needs, with a focus on carbon storage, hydrological services (water quantity, quality, timing of flows), and biodiversity. The package consists of several modules that allow the user to develop scenarios to represent possible futures that may arise from a decision (Scenario Module and Policy and Finance Module), visualize and quantify ecosystem processes under different future scenarios (Biophysical Module), consider economic and social conditions to quantify the market and non-market values of ecosystem processes in each scenario (Valuation Module) and analyze social, economic and environmental differences between scenarios to identify trade-offs and synergies among all sectors.



Key Features of the Mapping Approach

- A tool to analyze decisions with a general understanding of the benefits and tradeoffs of a full suite of ecosystem services
- Spatially-explicit output of the value of ecosystem services in both biophysical and economic terms for integrated decision-making
- Ability to focus on individual and multiple stakeholders and their accrued benefits
- Flexible application to a full range of spatial and temporal scales for resource management
- Use and integration of the best available science and data