Valuing protected areas: the case for international payments for ecosystem services

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Introduction

Until recently in human history, we could take biodiversity and ecosystem services for granted. This is no longer true today, due to the accelerating scale and impact of human activity. Almost everywhere, living natural resources are in retreat from over-exploitation of wild species, pollution and climate change, habitat loss and degradation, and the spread of invasive alien species (SCBD, 2010).

Current global funding for biodiversity conservation has been estimated at around US$50 billion per year (Parker et al., 2012). Most of this expenditure represents allocations of public moneys, raised through taxes and spent domestically. It includes public spending on protected areas, as well as government subsidies to land users (mainly farmers) in an effort to encourage the adoption of environmentally friendly production practices. The private sector also devotes resources to conservation and/or the mitigation of environmental impacts, but this spending is not well documented.

Current funding may be adequate to secure the most highly valued natural sites and to mitigate the worst environmental damages. Unfortunately, indicators showing a continued widespread decline of biodiversity condition suggests that existing resources are not sufficient to halt biodiversity loss. Moreover, existing investments in conservation are insufficient to ensure continued supply of many valuable ‘ecosystem services’, upon which our economies, livelihoods and long-term welfare ultimately depend (Millennium Ecosystem Assessment, 2005).

The economic invisibility of nature

There are many reasons why conservation efforts are not able to secure the resources needed. One explanation is that the real economic values of natural assets and ecosystem services are not well reflected, or not visible, in conventional economic transactions and accounting systems. Although some of the benefits derived from nature – such as food, water, fuel and fibre – are at least partially priced and their production is rewarded in markets, many other ecological values are hidden and ignored by economic policy and business decision-making (TEEB, 2010).

The economic invisibility of nature is partly due to a lack of information about the role of biodiversity in supplying ecosystem services, and the value of those services to business and people. More fundamentally, economic invisibility stems from the weakness or absence of property rights over many ecosystems and their services. This means that people who are adversely affected by ecosystem decline (e.g. freshwater users) often cannot claim compensation for damages resulting from the activities of other parties (e.g. water polluters), while at the same time those who conserve or enhance ecosystem services (either deliberately or incidentally) may be unable to exact payments from the people who benefit. As a result, markets fail to conserve biodiversity and ecosystems or to supply efficient quantities of ecosystem services. For the same reasons, governments may neglect the values of ecosystem services in their decision-making.
Payments for ecosystem services

In response, many governments have begun to use payments for ecosystem services (PES) and related market-based instruments to encourage the private sector to do more to protect the environment. The most widely accepted definition of PES is “a voluntary payment from at least one buyer to at least one supplier of a well-defined ecosystem service or a resource use thought to deliver that service, on condition that the service or use is actually delivered” (Wunder, 2005).

PES applies the logic of the market economy: those who benefit from ecosystem services (i.e. consumers) pay to receive them. Funds collected from these beneficiaries are used to pay farmers, foresters and other managers of the land and oceans (i.e. suppliers) to produce not just food, fibre and other tangible commodities, but also less tangible ecosystem services.

With the exception of carbon markets, which span the globe, most PES initiatives operate at a national or subnational level. Their geographic focus means that funding is limited to what local buyers – typically governments – are willing and able to pay, while ecosystem services of global value may be undersupplied. The international community is thus free-riding on the efforts of a few buyers and suppliers in existing PES schemes, not to mention other people who look after ecosystems of value to the entire world but who receive little reward for their trouble.

The result is that environmental protection remains seriously underfunded, both by domestic and international beneficiaries. Ecosystems are polluted, fragmented or converted to other uses, and biodiversity is lost, due to the failure to mobilize sufficient support for conservation action. The funding shortfall – estimated at over US$70 billion per year for the conservation of terrestrial sites alone (McCarthy et al., 2012) – is especially wide in developing countries, where biodiversity is most concentrated, economic pressures are most acute, and capacity for conservation is most limited.

Future directions

What is needed is to scale up PES to the international level, to generate new and additional funding for conserving biodiversity and securing ecosystem services, especially in developing countries and emerging economies (Bishop and Hill, 2014).

Applying PES at an international level implies a focus on those ecosystem services that are enjoyed at a global scale or which straddle national boundaries. Climate regulation and certain biodiversity benefits stand out as prominent environmental values enjoyed by the entire global community. However, PES may also apply at regional or bilateral scales, for example as a tool for maintaining trans-boundary watersheds or conserving the habitat of migratory species that regularly cross international boundaries.

Experience with PES at national and sub-national levels provides many useful lessons on what is required for market-based schemes to be environmentally effective, economically efficient and socially acceptable. Many of these lessons are equally relevant to the development of international PES, including the need to:

- Implement PES in a socially sensitive manner, especially where there are large social and cultural disparities between buyers and sellers. While PES is not the most direct way to reduce poverty, with appropriate safeguards it can be a useful complement to other development policies and initiatives;
- Adapt to a range of institutional and regulatory settings and be able to operate in areas characterised by weak government capacity and/or poorly defined property rights. International PES schemes that are rooted in local contexts and responsive to local needs are more likely to be accepted by resource managers and, therefore, more likely to offer reliable supplies to international buyers (Bracer et al., 2007);
- Target payments to improve effectiveness and reduce costs, using transparent indicators of environmental priority to focus payments, as well as competitive tenders or reverse auctions to allocate funds, where technically feasible and culturally appropriate; and
- Find practical, cost-effective ways to enforce contracts, ensure accurate financial reporting and collect taxes across international boundaries, while also managing sovereign (political) risk and currency risk. These kinds of transaction costs are often a major hindrance to PES and are likely to impose an even greater burden on international payment schemes.

There is no doubt that governments should be encouraged to increase public funding for biodiversity conservation and the supply of critical ecosystem services. Past experience, however, suggests that increases in government funding can be difficult to secure and sustain, particularly for international conservation efforts. Indeed, it may be naïve to continue to rely on public funding, environmental regulations, and the modest influence of charities, in order to halt the on-going erosion of biodiversity.

Ultimately, there is a need for fundamental change in the way that societies produce and consume goods and services, both to reduce environmental impacts and to encourage conservation of increasingly scarce living resources. Arguably, the greatest opportunity today lies in harnessing market forces to conserve rather than destroy nature, using the power of the profit motive and the tools of international trade and finance to generate new and additional investment in activities that will deliver significant environmental values, both locally and globally.
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