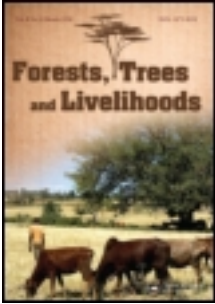


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PROTECTING FORESTS AND BIODIVERSITY: ARE INVESTMENTS IN ECO-FRIENDLY PRODUCTION ACTIVITIES THE BEST WAY TO PROTECT ENDANGERED ECOSYSTEMS AND ENHANCE RURAL LIVELIHOODS?

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ABSTRACT

A debate has been raging in recent years among conservation practitioners and advocates. What are the most effective mechanisms for preserving the imperiled forest habitats that shelter most of the world's terrestrial biodiversity? In the past few decades most money has been going into "indirect" interventions such as "Integrated Conservation and Development Programs". While no one could object to efforts to achieve such worthy goals, several authors suggest that more "direct" approaches – payments in exchange for conservation performance – would better achieve conservation objectives. We argue here that direct incentives might better achieve *both* conservation and development objectives. While the problems facing both conservation practitioners and development specialists are indeed daunting, we feel that the arguments for direct approaches are compelling both as conceptual propositions and as practical policy advice.

Key words: conservation, direct payment, indirect interventions

INTRODUCTION

Governments and citizens throughout the world are concerned with saving biodiversity. However, many biologically diverse ecosystems, including the majority of tropical rainforests, are located in low-income countries. With limited resources and myriad pressing social needs, these nations are not in a position to provide global ecosystem services *gratis*.

International conservation and development donors have made substantial investments over the last two decades to help low-income nations conserve their endangered ecosystems. These donors include bilateral aid agencies (e.g., USAID, GTZ), multilateral institutions (e.g., World Bank, GEF), and private organizations

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(e.g., MacArthur Foundation, Moore Foundation). While aggregate figures do not exist, we estimate, to an order of magnitude, that international sources of conservation funds have invested some \$10 billion to induce conservation in low-income nations.

International donors, host-country governments and conservation practitioners have experimented with various mechanisms to invest these funds. The most popular vehicle for conservation investment over the last two decades has been the Integrated Conservation and Development Project (ICDP).¹ These initiatives typically provide assistance to ventures that yield commercial outputs and ecosystem protection as joint products. Examples of such eco-friendly ventures include ecotourism, biodiversity prospecting, non-timber forest product extraction, and selective logging. These ventures typically employ relatively undisturbed ecosystems as inputs. The ecosystems are combined with purchased inputs such as capital and labour to produce a valuable output, such as tourist excursions, novel chemical compounds, fruits, or timber.

All of the major international development and conservation agencies have made investments to support eco-friendly ventures near endangered ecosystems. Funds are often directed towards increasing the eco-output price or facilitating the acquisition of complementary inputs, such as tourism infrastructure, product marketing, and processing facilities. The assumption underlying such interventions is simple: local agents, faced with cheaper inputs or higher output prices for an eco-friendly activity, will demand a greater area of intact ecosystem, thereby *indirectly* protecting ecosystems and their constituent services.

The introduction of new technologies and employment opportunities in rural environments can be a challenge, however (World Bank 1988). Not surprisingly, many reviews of conservation interventions report that investments in eco-friendly activities have had limited success in achieving their conservation and development objectives (Wells and Brandon 1992, Ferraro *et al.* 1997, World Bank 1997, Oates 1999, Ferraro 2001, Terborgh *et al.* 2002). Such investments have been assailed for a number of reasons: erroneous assumptions about the desires of local people to protect nature, ambiguous effects on conservation incentives, complex implementation needs, and lack of conformity with the temporal and spatial dimensions of ecosystem conservation objectives (Ferraro *et al.* 1997, Brandon 1998, Southgate 1998, Chomitz and Kumari 1998, Simpson 1999, Ferraro 2001, Terborgh and van Schaik 2002).

An alternative approach to encouraging the conservation of endangered natural ecosystems is to pay for conservation performance *directly*. In this approach, domestic and international actors make payments to individuals or groups that protect ecosystems (Barbier and Rauscher 1995, Barrett 1995, Simpson and Sedjo 1996, Ferraro 2001, Ferraro and Simpson 2002, Ferraro and Kiss 2002). We believe that there is considerable wisdom in the colloquial economic aphorism that "You get what you pay for." The corollary advice we would offer conservation donors and practitioners is "You should pay for what you want to get." That is, if donors and practitioners want to achieve conservation, they should pay for conservation, not for activities they believe are related to conservation.

We also emphasize a corollary that refers directly to the link between conservation and livelihoods. Much of the impetus for indirect funding approaches has come from the desire simultaneously to achieve conservation *and development* goals. We demonstrate in the next section that, for a given conservation budget, there is generally no trade-off between development and conservation goals when choosing a direct approach instead of an indirect approach. Direct payments should prove more effective in achieving both goals.

In the next section, we describe the economics of direct and indirect approaches to protecting ecosystems and biodiversity. Then we address common criticisms of direct payment approaches and attempt to answer the question, “If direct approaches are more desirable, why have indirect approaches been more commonly employed in recent years?” In the final section we give a brief review of how direct payments are working in practice around the world.

THE ECONOMICS OF CONSERVATION

Private landowners will devote their holdings to whatever activity provides them with the greatest benefits. Such benefits might be purely financial, purely esthetic, purely ethical, or, as is true to some degree for almost all of us, some combination of pecuniary and intangible rewards. The important point is that landowners must be compensated for their “opportunity cost” – whatever other benefits they forego – if they are to devote their land to conservation. Compensation need not be in the form of cash. Payments in kind, or, in some instances, simply in recognition, may suffice. People cannot be expected to conserve unless they are compensated.

A direct approach to conservation is straightforward; it is a reciprocal exchange. If the landowners take actions that demonstrably result in the conservation of the resources under their control, they will receive something they value. Compensation is paid in exchange for a specific performance.

Under an indirect approach, such as an ICDP, a conservation donor offers landowners something that may make them more likely to pursue eco-friendly activities. Their investment in a hotel to house eco-tourists might be subsidized. They could be given equipment with which to evaluate bioprospecting samples. They might be offered free seedlings for reforestation, or access to marketing networks for distributing non-timber forest products.

The argument for the superiority of the direct approach can be captured in two simple rhetorical questions:

- Why is any subsidy required to induce a private landowner to undertake an eco-friendly commercial activity?
- If a subsidy *is* required to make an eco-friendly activity viable, would it not make more sense to use the amount of the subsidy to pay for conservation directly?

Before undertaking an indirect approach to conservation, all practitioners should answer the first question. Conservation advocates often accuse profit-seeking businesses of despoiling tropical forests. Many of these same advocates also claim that eco-friendly enterprises can be financially viable and self-sustaining if they are provided with initial funding. If, however, businesses are so eager to turn a profit, why have they failed to recognize the profit-making opportunities that conservation advocates claim lie waiting to be exploited?

We do not dispute that there are *some* “win-win” opportunities in which eco-entrepreneurs both “do good and do well” by establishing profitable, ecologically benign, ventures. Ranchers in the nations of southern Africa, for example, have realized greater earnings from allowing indigenous wildlife to graze their land and attract tourists than from raising cattle (Bond 1993, Heal 2000, Muir-Leresche and Nelson 2000). Private landowners in Costa Rica prefer to maintain their holdings as natural reserves than to deforest them (Langholz *et al.* 2000). There are doubtless other such examples.

We do, however, dispute the notion that private decision-makers are missing large numbers of such “win-win” opportunities. It strains credulity to suppose that a conservation advocate can better identify profitable opportunities than can investors who make their living doing so. It may reflect an even greater arrogance to suppose that ICDP designers will be able to solve the intractable problems of economic development while addressing the specific issue of conservation.

Conservation advocates who claim that eco-friendly enterprises are commercially viable with just a modicum of external funding face at least four challenges to their credibility:

- They are not experts in investment;
- They have a powerful ulterior motive that interferes with their ability to identify the profit-maximizing use of an ecosystem: they want to conserve biodiversity, rather than to make money;
- Given the magnitude of the problem they face, they may be unusually susceptible to wishful thinking (see section V); and
- Indirect approaches to conservation investment present more opportunities for interested parties to enrich themselves at the expense of the project’s stated objectives.

Given the extent of the experimentation with indirect approaches to conservation investment, surprisingly little empirical evidence of their success or failure is available. However, the results of one reasonably careful empirical study are damning. Nicholas Salafsky and his coauthors investigated three years of financial data from 37 eco-enterprises subsidized by the USAID-funded Biodiversity Support Program. They found that that the vast majority failed to cover their startup costs (Salafsky *et al.* 1999). This is despite applying extremely generous criteria: “To give our enterprises the ‘benefit of the doubt,’ we generally ranked them on their best year” (Salafsky *et al.* 1999: p. 20).

We dispute the view of Salafsky and his coauthors who argue that enterprises that cover their *variable* costs represent reasonable conservation investments. If subsidies are required to launch eco-friendly enterprises that would otherwise not prove profitable, one must answer our second question. Would it not make more sense to take the money being applied to subsidies and use it instead to pay for conservation performance directly?

Let us begin to answer that question by offering an analogy. Imagine that you need to drive from point A to point B and there are two possible routes: a circuitous one and a direct one. Taking either route will bring you to point B, but taking the circuitous route will require more fuel. If you only have a single tank of fuel, taking the direct route will improve the likelihood that you will arrive at your destination. An indirect approach to conservation is, by definition, a circuitous route to a conservation objective and thus will require greater resources to achieve the objective. To ensure that scarce conservation funds go as far as possible towards achieving conservation objectives, practitioners and donors should consider taking the most direct route available: paying for conservation performance.

Now let us make a simple argument. One can present it with considerable mathematical or diagrammatic complexity (see, e.g., Ferraro and Simpson 2002), but its essence is very straightforward. Suppose that a subsidy cannot be justified on the basis of the financial return it generates. In purely financial terms, paying such subsidies means that the payer ends up with less than she started with; for example, if a \$100 subsidy were required to underwrite a business whose value after the subsidy was less than \$100, the subsidy would result in a net loss.

Conservation and development donors are not driven by the financial bottom line, of course. They want to achieve important public policy objectives. Simply losing the hypothetical \$100 we just referred to would not be a problem if it would motivate conservation and economic development. Conservation and development donors do, however, want their money to go as far as possible. The \$100 "loss" from our hypothetical subsidy would only be acceptable if there were no better way in which to spend money to motivate conservation and development.

But there is! To say that the value of the business established with the subsidy is less than \$100 is to say that the total amount of money it generates is less than \$100.² These earnings will be net of payments to its workers and suppliers of materials, but we are assuming that they do not include payments for land. So, an eco-friendly enterprise that earns less than this \$100 subsidy necessarily provides less than \$100 worth of incentives for land conservation. To the extent that operating an eco-friendly enterprise requires that the landowner have some other skills and advantages,³ the incentives for land conservation *per se* may be lower still. By contrast, a donor should be able to get \$100 worth of land conservation by simply paying a landowner \$100 not to convert his land to other uses.

This simple argument generalizes. Whether we are considering one-time or continuing subsidies, lump sums for the establishment of an enterprise or per-unit subsidies for the acquisition of key inputs, indirect incentives are generically less effective relative to direct payments. In fact, they can be *spectacularly* ineffective, increasing the costs of conserving a given area of an ecosystem many times over.

For example, an analysis of a conservation intervention in southeastern Madagascar (Ferraro, Uchida and Conrad, forthcoming) indicated that, were the nearly \$4 million of available conservation funds invested in annual payments conditional on the protection of forest, about 80% of the original forest could have been protected into perpetuity,⁴ whereas only 12–22% could have been protected through support of indirect incentives (see also Ferraro and Simpson 2002).

The foregoing presumes that subsidizing eco-friendly economic activities is, in fact, a conservation strategy. A number of authors have documented instances in which ecotourism, harvesting of non-timber forest products, and related initiatives have done more harm than good to the environment; tourists can “love an area to death” by overrunning it, harvesters can remove too much, etc. (Peters 1994, Roe *et al.* 1997, Brandon 1998, Honey 1999). In a “best-case scenario” the indirect approach to conservation may prove a spectacularly ineffective way to achieve conservation ends. In a worst-case scenario, indirect subsidies can be spectacularly expensive *and* exacerbate biodiversity loss.

Many donors invest in ICDPs because, as the abbreviation suggests, they are interested in conservation *and* development. This is entirely appropriate. It would be inexcusable to ask some of the world’s poorest nations to bear the burden of conservation without, at the very least, compensating them fully for the benefits they forego as a result. So, do investments in integrated conservation *and* development programmes make up in benefits to the poor what they lack in conservation cost-effectiveness?

The answer is another resounding “No!” The incentive for conservation is, implicitly, the amount the landowner can “pay himself” not to convert land under his control to other purposes. We have just argued that the conservation donor can achieve more conservation for the same amount of money with direct payments than by subsidizing eco-friendly ventures. The other side of the same coin is that a development donor could provide local people with more money while still achieving their conservation objectives by providing direct incentives.

In short, the donor can meet *both* conservation and development objectives more efficiently with direct payments. The intuition underlying this claim is simple. The conservation donor wants to achieve a conservation objective and the landowner wants to achieve a higher income. The indirect approach, however, uses up much of the scarce conservation funds in achieving two outcomes that neither the conservation donor nor the landowner cares about – increasing the use of inputs in eco-friendly activities and generating additional output from eco-friendly activities. In contrast, the direct approach focuses investment on the outcomes about which the two parties care most.

OWNERSHIP

The discussion may seem surreal to anyone with a passing familiarity with the institutions of developing countries. Land ownership is well defined in most

wealthy countries, but “ownership” of land in low-income nations is often ill-defined and complicated.

A number of facts should be considered. First, while *formal* ownership rights are often not recorded in developing countries, there generally are *de facto* owners of property. It is surprising, given how often the claim is encountered that property rights are not well defined in the imperiled habitats of the developing world, how much evidence there is to the contrary. Groups in Latin America, Africa, Asia, and elsewhere assert rights to ownership over a variety of lands and resources (Borrini-Feyerabend 1997, de Soto 2000). Villagers in Madagascar and Nepal were able to identify their holdings in aerial photographs (Borrini-Feyerabend 1997, Poole 1995). Discussions of how to overcome social and institutional barriers to conservation mention steps such as establishing “a system to monitor land ownership and land values in sensitive areas,” and recommend starting a conservation project by preparing land use maps to provide “a snapshot of the local situation, *including property boundaries*” (Borrini-Feyerabend 1997, emphasis added). It seems, then, that at least some conservation activists implicitly assume that ownership can be defined.

A second fact is that the need to identify owners is not obviated by indirect approaches. An effective conservation approach is one in which people who have control over the resources that outside donors and practitioners want to see conserved are provided incentives sufficient to conserve such resources. This means that some agent is going to be afforded incentives sufficient to induce him to both not despoil resources himself and prevent others from doing so. This agent will be the *de facto* “owner.”

In short, property rights are a precondition to any effective conservation strategy, and values sufficient to justify their establishment and enforcement are a precondition for property rights. Conservation donors must pay enough to make conservation worthwhile. The first element of success is offering up enough money to make property rights worth establishing and enforcing.

Economists have sometimes argued that property rights represent an efficient solution to a social problem. Property rights come to be defined when the benefits of their enforcement exceed the costs of their establishment (see, e.g., Barzel 1997). Moreover, property rights are defined in various ways and with differing degrees of protection (Alston *et al.* 2000). In many parts of the world local people enjoy informal rights of use. There are often understandings within communities that land belongs to one person or group, and that others within the community are forbidden from exploiting such land. These rights are often not formalized, however; owners do not record deeds with which they can appeal to national authorities for help in defending their holdings. In fact, national authorities are, in some places, the main threat to the properties of informal landowners.

The certainty with which property rights are established and enforced is a function of the benefits that accrue to ownership, however. While conflicts may arise when new benefits to ownership are discovered (think, for example, of the violence that plagued colonial mining regions), claims tend to be sorted out relatively quickly. If foreign donors contribute enough to make the establishment

of property rights remunerative, the property rights will soon appear and be clarified. However, without attention to the rights of the poor, "clarification" could come at the expense of marginalized groups within a society. The poor often have access to endangered ecosystems precisely because the ecosystems are not valuable commercially. Any conservation initiative that raises the value of intact ecosystems may increase the demand of outsiders to secure rights to these ecosystems. Without advocates, the poor who depended on the ecosystems for their livelihoods may find themselves substantially worse off after a conservation success story has unfolded.

MAKING DIRECT PAYMENTS WORK

Our discussion of the simple economics of payment programmes may also have seemed unrealistic in its references to simply "paying for" conservation. The previous section addressed the question "Pay whom?" Let us now discuss for a moment the question "Pay how?"

We kept our earlier discussion simple in order to present one idea at a time, but we should now make two things clear. The first is that we did not mean to imply that payments must necessarily be made in cash. There may be good reasons for doing so, but there may also be good reasons for making payments in kind. Second, we also did not mean to imply that a conservation donor would simply pay once for the preservation of a certain area of habitat and assume that, as a result of such a payment, the area would be protected in perpetuity.

Taking each point in turn, the first thing that might be said about cash payments is that "man does not live by bread alone." Economists often assume an abstract *homo economicus* whose rationality extends so far as indifference to the form in which he receives compensation. Yet real people do hold some transactions out of the economic realm (consider, for example, the social taboos against trading sex or votes for money). Moreover, the sudden infusion of large amounts of cash into unprepared poor communities can have devastating consequences. While it smacks of paternalism to suppose that local peoples simply cannot handle new-found wealth, it would make sense to work with community leaders to assure that such wealth is administered responsibly.

An advantage of cash payments is that they provide the advantage of flexibility when recipients can use the proceeds to purchase a wide variety of goods or to make productive investments. One of the endemic problems of developing countries is that their markets are often not large, varied, and efficient. One concern in particular is that credit markets are inefficient, and hence people in developing countries find it difficult to make investments larger than can be financed with cash-on-hand (see, e.g., Lucas 1988).

This last observation might be cited as an argument for the indirect approach. If foreign donors can afford investments that domestic entrepreneurs cannot, might subsidizing eco-friendly activities constitute an efficiency-enhancing intervention in imperfect credit markets? We would raise two concerns here. First, this

argument raises again the question of whether conservation donors and practitioners feel themselves to be more expert in making investment choices than are professionals in the field. Moreover, it flies in the face of evidence that education, health care, and other such essentials may prove to be far better investments. Is it wiser for a developing country, or a community therein, to devote precious investment resources to such specialized – and consequently risky – areas as ecotourism or bioprospecting? Would it not make more sense to train young people to be better prepared to seize a wider range of opportunities?

We would repeat again our observation that there is ample evidence around the world that there, are, in fact, “win-win” opportunities: instances in which local people can prosper by undertaking ventures that preserve their environments. Our objection is only to efforts to substitute conservationists’ wishful thinking for the judgment of local people and professional investors who may better understand the real prospects.

Our second concern is that, from a conservation angle, the question is not the *form* in which payments are made so much as that they be made in exchange for an explicit assurance of conservation performance. It may well be that certain communities will demand compensation in the form of assistance in launching eco-friendly ventures. If this is the case, conservation donors ought to have no greater objections than they would if the local people had asked for an equivalent cash outlay, a dental clinic, or another form of compensation. The critical issue is that conservation donors should make it clear “You have asked for this assistance in exchange for your promise to maintain a specified area of habitat in a specified biological condition. Our assistance to you is conditional on your fulfilling that promise.”

This last notion leads us into the second major theme of this section. One would have to have a very rosy view of human nature to offer a one-time payment in exchange for a promise of perpetual performance!⁵ For this reason, an ongoing series of payments will be required in order to maintain ongoing incentives for conservation. Donors thus correctly perceive direct payments as cumbersome. In contrast, indirect approaches seem to hold out the promise of short-term investments leading to long-term conservation benefits. As we have argued throughout this paper, however, there is little if any evidence that such “self-financing” conservation activities exist. Indirect approaches are also likely to require a sustained flow of funds over time to maintain conservation outcomes over the long-term. As a recent World Bank analysis of ICDPs (Wells *et al.* 1999) concluded, conservation initiatives “based on simplistic ideas of making limited short-term investments in local development and then hoping this will somehow translate into sustainable resource use and less pressure on parks need to be abandoned.”

THE POLITICAL ECONOMY OF CONSERVATION

The economic arguments for “paying for what you want to get” as opposed to

subsidizing eco-friendly economic activities in the hopes that they will have the desired conservation incentives are powerful. Yet most commentators agree that the indirect approach has been most common over the past twenty years. Why? A number of factors must be considered.

One is historical. For much of history setting aside natural areas was a prerogative of royalty, who maintained hunting and leisure parks for their own use and severely punished commoners who intruded on them (Davenport and Rao 2002). When Europeans colonized Africa, Asia, and the Americas, they often followed the same heavy-handed practices in establishing parks and protected areas with little or no regard for native peoples. The practice of paying for conservation, by explicitly valuing “natural” ecosystems and biodiversity, may bear an unfortunate superficial resemblance to the colonialism of an earlier era.

The resemblance is only superficial, however, because the direct approach also explicitly values local peoples’ rights and efforts. While overheated debates engender charges of economic imperialism and bullying, what is wrong with paying people for the preservation of the biological diversity whose fate they control? It may be, as we have suggested above, more honest and fair than pretending that they stand to benefit more than they will from economically dubious ICDPs.

Perhaps more importantly, conservation donors and practitioners must be realistic. Biodiversity is now imperiled in the developing world because the material benefits local people will realize from its destruction exceed those they stand to gain from their preservation. Tropical forests are, in John Terborgh’s words, “worth more dead than alive” (Terborgh 1999). Some might long for a return to the days in which local people lived out their days in noble, but ecologically benign, poverty. Those days are gone, and cannot be wished back.

Wishful thinking is, in fact, a large part of the problem. Many conservation advocates despair of the magnitude of the task of saving the world’s biodiversity, and have seized on ICDPs a “magic bullets” to solve the problem cheaply. What could be better than a “win-win” solution that doesn’t really cost anything? Furthermore, biodiversity conservation and economic development are vexing problems. Strategies that promise progress on both fronts are especially appealing. The arguments we have offered above suggest that this is a very dangerous gamble for conservation planners to make.

The conservation community is made up of intelligent, dedicated individuals. They have honest disagreements and differences of opinion. Having said this, though, there is a natural human tendency to favor policies that both address issues of public concern and provide opportunities for one’s own participation. Indirect approaches to conservation ICDPs create a demand for a cadre of consultants (as do direct approaches, but the cadre is smaller in that only the institution-building consultants are required). Indirect approaches also open up a new source of funds: conservation programmes have become development programmes and have thereby gained access to the coffers of development agencies. Donors, however, must ask themselves if they would be spending their money more efficiently if they were to target it more carefully. Conservation advocates must ask themselves if

they would achieve their ends more effectively if they were to define their objectives more narrowly.

DIRECT PAYMENTS IN PRACTICE

Contrary to the assertions one sometimes hears, direct payment programmes have been in existence for quite some while, and have often proved very successful. Wealthy nations rely heavily on them. The best known conservation payment initiatives are the agricultural land diversion programmes of high-income nations. In Europe, fourteen nations spent an estimated \$11 billion (1993–97) to divert well over 20 million hectares into long-term set-asides and forestry contracts (OECD 1997). In the United States, the Conservation Reserve Program (CRP) spends about \$1.5 billion annually to contract for 12–15 million hectares, an area twice the size of all national and state wildlife refuges in the lower 48 states (Clark and Downes 1999). In recent years, more direct environmental payment systems have been developed and are now being implemented (Claassen *et al.* 2001).

These conservation contracting programmes account for only a few percent of agricultural support budgets, but they are among the fastest growing payments to farmers in high-income nations (OECD:14). Their dramatic growth is partly due to their popularity among various stakeholders (OECD:20) and the opportunities they afford for flexible targeting and adjustment to local conditions (OECD:48).

Nongovernmental organizations (NGOs) have also developed innovative direct payment approaches. The Delta Waterfowl Foundation, for example, has an “adopt-a-pothole” programme that pays prairie farmers who protect nesting areas for ducks (Delta Waterfowl Foundation 2000). The Defenders of Wildlife have a programme that rewards landowners for occupied wolf dens on their property (Cecil 1997). While some such programmes have run into problems,⁶ experimentation continues and experience with them grows.

Direct payment initiatives are less common in low-income nations, but conservation pioneers are planning or experimenting with them in more than one dozen nations. Payments are being made to protect entire ecosystems and specific species, with diverse institutional arrangements existing among governments, firms, multilateral donors, communities, and individuals. A recent symposium⁷ highlighted the use of forest protection payments in Costa Rica, conservation leases for wildlife migration corridors in Kenya, conservation concessions on forest tracts in Guyana, and performance payments for endangered predators and their prey in Mongolia. South Africa and American Samoa have over a decade of experience with “contractual national parks,” which are leased from communities. Other payment initiatives are being designed or are under way in Mexico, El Salvador, Colombia, Honduras, Guatemala, Panama, Russia, and Madagascar.⁸

The mere existence of direct payment initiatives, however, does not imply that practitioners who use them have been successful in achieving conservation and development objectives. For example, Costa Rica’s 5-year old PSA programme (*El Programa de Pago de Servicios Ambientales*) is the longest-lived and best-

known payment initiative for ecosystem services among low-income nations. No one knows, however, if the programme has led to the protection of forest that otherwise would have been cleared. All that practitioners have documented to date is that contracts have been signed and payments have been made. Even in high-income nations, where direct payment programmes are more established, empirical analyses are rare.

Thus, although we have put forth many arguments for the superiority of direct payment approaches to ecosystem and biodiversity protection, we acknowledge that no one has conducted a rigorous and systematic empirical evaluation to assess if an existing payment initiative is achieving the conservation and development objectives it purports to achieve. Carefully designed, empirical research on the use of conservation payments to achieve conservation and development goals in low-income nations is a critical next step.

CONCLUSION

Billions of dollars have been spent to stem the decline of native ecosystems in low-income nations. A large proportion of these funds has been invested in indirect approaches that seek to support eco-friendly economic activities in and around endangered ecosystems. We argue that conservation donor and practitioners are likely to find direct payment approaches far more effective and efficient than these indirect approaches by virtue of the close link between the payments and the desired conservation outcomes.

After making our case for the superiority of direct payment approaches, we addressed the question, "If direct approaches are more desirable, why have indirect approaches been more commonly employed in recent years?" First, we acknowledged that instituting a direct payment approach amid the weak institutions of low-income nations is difficult. However, instituting *any* effective policy in such circumstances is difficult. Direct payments seem daunting precisely because the mechanism through which they achieve conservation and development objectives is explicit; cause and effect are easily identifiable. In contrast, the mechanisms through which indirect approaches will achieve conservation and development goals are typically vague. Indirect approaches thus facilitate wishful thinking among donors and practitioners who believe that large conservation payoffs can be achieved through small investments.

Moreover, a review of ICDP budgets suggests that indirect approaches to conservation investment steer much of the available funds into administration.⁹ In contrast, a direct payment approach does not require the same throng of conservation and development consultants and thus may be less popular among the practitioners and consulting organizations that design conservation interventions.

While the obstacles to implementing a payment approach deserve careful consideration, we believe that both conservation and development objectives could be more effectively achieved if more reliance were placed on direct payments. We acknowledge that direct payment approaches are not "magic bullets" that can be

applied immediately and easily in all situations. Furthermore, broader policy interventions, such as removing perverse direct and indirect subsidies that encourage the loss of habitats and their biodiversity are also needed. If, however, the conservation community wants to get what it pays for, it must start tying its investments directly to its goals. Direct payment approaches to achieving conservation objectives offer the best hope for doing just that.

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NOTES

- 1 In the words of one report, ICDPs have “become the predominant approach to most large-scale internationally financed conservation efforts in developing countries.” (CIFOR 1999). Others characterize ICDPs as “the now predominant” approach (Van Schaik and Rijksen 2002), and report that billions of dollars have been invested in ICDPs (Terborgh and Boza 2002). Popular terms for describing similar projects include “gestion de terroirs” and “community-based natural resource management.” Our sense is that, while different titles are coined over time, similar types of field interventions are instituted under each.
- 2 In the interest of keeping the analysis simple, we abstract from issues such as the timing of earnings. The results generalize, however.
- 3 Technically speaking, economic profits arise as payments (“rents”) accruing to fixed factors of production. If land is not the only fixed fact, it will not be the only claimant on economic profits.
- 4 That is, if \$ 4 million could be invested in an account paying, say 5 percent interest per annum, the resulting annual earnings of \$200,000 per year could have been used to support conservation in perpetuity.
- 5 We assume that political considerations preclude the possibility of making a payment *and taking physical possession*.
- 6 In another program, Defenders of Wildlife compensated farmers for livestock killed by wolves. This leads to an interesting dilemma: if payments are too low, farmers will continue to kill wolves. On the other hand, however, if payments are too high, sheep ranchers may be tempted to turn into “wolf ranchers” by feeding the wolves sheep and collecting the compensation.
- 7 “Direct Payments as an Alternative Conservation Investment,” a symposium at the 16th Annual Meetings of the Society for Conservation Biology, Canterbury, England, 15 July 2002. For more detail, see <http://epp.gsu.edu/pferraro/special/special.htm>.
- 8 For more details and examples, see (Kiss, in press) and <http://epp.gsu.edu/pferraro/special/special.htm>.
- 9 For example, Peters (1998), a former consultant to an African ICDP, estimated that 55% of his ICDP's budget went to U.S.-based administrative overhead and expatriate technical consultants. Only 2% of the budget went to rural residents living around the endangered rain forest ecosystem. In contrast, existing direct payment initiatives have estimated administrative costs from 5% to 25% of the operating budget (Ferraro and Kiss 2002).