

Property Rights, Collective Action and Pro-Poor Payment for Environmental Service (PES) Options



Interest in the potential of payments for environmental services (PES) schemes to improve incentives for sustainable land management is increasing in the face of global climate change and environmental degradation. A range of schemes have been set up to reward people and land users that provide environmental services (ES) related to carbon sequestration, biodiversity conservation, and watershed management, all aiming to match the demand for services with the incentives of land users.

SOURCE:

Swallow, B., R. S. Meinzen-Dick, and M.V. Noordwijk. 2005. Localizing demand and supply of environmental services: Interaction with property rights, collective action, and the welfare of the poor. CAPRI Working Paper 42. International Food Policy Research Institute, Washington D.C.

While there has been considerable attention given to formal mechanisms for PES programs, there has been less interest in looking at how PES fits into the broader institutional context in rural communities. In many cases, the interactions between PES schemes and existing property rights and collective action institutions will be important determinants of their impacts on the poor.

Payment for Environmental Services

PES include a range of voluntary transactions in which farmers or other land managers are rewarded — directly or indirectly — for practices that will continue or increase the provision of environmental services. Cash payments to individuals or communities are one form of reward; others include strengthened rights to land or other resources, better prices for products produced on sustainably managed land, income from eco-tourism enterprises, etc.

While the largest PES programs are government-initiated (e.g. the large Sloping Lands Conversion program in

China), there are also a growing number of private transactions, many with startup financing from private foundations (e.g. Shell Foundation, FACE Foundation, Mercedes-Benz, Dow Company Foundation) and support from multilateral or bilateral development agencies such as the UK Department for International Development, the International Fund for Agricultural Development, and the United States Agency for International Development. Some programs are also funded directly by the users of the services, especially for biodiversity conservation or watershed functions that benefit downstream water systems.

Key Linkages Between Property Rights, Collective Action, and PES

Of the 10 main factors that affect, either positively or negatively, the development and functioning of PES markets, nine relate to property rights and collective action. Some examples of key linkages are:

Linkages Between Property Rights and PES

Legal restrictions associated with PES market development. Secure property rights are often a necessary pre-condition for ES markets. In most cases, PES contracts require that ES providers have clear and secure rights to perform agreed upon actions on the land. While secure property rights do not necessarily have to be in the form of individual titles, for simplicity the possession of such a title often becomes a pre-condition for participation in PES. As a consequence, many people and even regions and countries are left out because their land tenure regimes consist of common property, customary tenure, or other alternatives to individual, private tenure. PES mechanisms can even cause the poor to lose their existing access to resources if their rights are not secure and there is a push to formalize rights to be able to enter PES schemes.

ES production and payment timeline. ES demands that are satisfied through one-off purchases of services already rendered or to be rendered in the near future, such as energy projects that replace non-renewable with renewable energy sources, do not require secure property rights as much as ES demands, which must be met through periodic and indefinite payments such as carbon sequestration projects.

Partner resources for ES supply. In situations where the production of environmental services requires long-term commitment of land resources, land tenure security may be a very important determinant of the production of environmental services. In such cases, stronger and more secure rights over land and access to other partner resources such as water can be used, instead of or in addition to other payments, as a reward for environmental service provision.

Functional relation between investment and supply of ES. There is large variation among ES, and the knowledge base on the factors that affect how much ES is actually supplied from a given land use or land management practice is limited and context-specific. This is particularly the case where important threshold effects and non-linear cause-effect relations are present, for example, relating to the amount of land conserved and the species diversity on that land. Among the three environmental services, carbon sequestration has the most certain and linear functional relationships with resource use. Furthermore, the form of property rights can shape opportunities for dif-

ferent types of ES and ES mechanisms. For example, community-based environmental tourism may do better under communal tenure than where land has been privatized.

Spatial specificity in ES supply. Some environmental services, particularly watershed functions and biodiversity conservation, are heavily dependent on key resources such as wetlands, riparian areas, corridors, and buffer zones. One of the dilemmas of ES supply is that this high environmental value also justifies public ownership of those resources. If public resources are well managed and regulations enforced, then this might lead to high levels of ES supply. On the other hand, if such public resources are poorly managed, then the resources may be overused and poor levels of ES produced. In such circumstances, it becomes very important that the public sector concentrates on key resources, where it has comparative advantage, and encourages collective and private management of other resources.

PES and the creation of new property rights to environmental services. The creation of PES institutions itself represents the creation of new forms of property, with all of the tensions and trade-offs associated with the process. For example, watershed protection payments create a new benefit stream related to land use. How should rights over this benefit stream be allocated? This not only has equity implications, but also affects the structure of PES mechanisms. Where does one draw the line, for example, between those who should be rewarded for providing clean water and those who have a duty not to pollute?



Even if laws are passed to define property rights over ES, these rights will not be effective unless they are accompanied by effective enforcement. Experience with forest, water, and rangeland management indicates that neither state nor local bodies are likely to be able to enforce such property rights alone, and that some type of co-management regime will be most effective. Cultural or religious norms can also come into play as enforcement institutions.

Linkages Between Collective Action and PES

Functional relation between investment and supply of ES. The relationship between effort and the supply of ES affects the potential benefits of collective action. Carbon sequestration benefits are approximately proportional to the amount of land involved; the contribution of one farmer growing trees on one hectare is approximately the same, whether or not neighboring farmers grow trees. By contrast, species counts have often been observed to increase as the area targeted in an ecosystem grows larger. When not adopted on a sufficiently large area, the benefits may not be realized at all.

Transaction costs of market function/entry. Even where the provision of ES is not “lumpy” due to critical thresholds in supply, collective action offers an important means of reducing the costs of verification and payment for PES systems. Experience from around the developing world has shown that smallholder land users often are both important and efficient producers of valuable environmental services to larger social groups; however, international and national institutions that govern PES are often designed in ways that entail transaction costs which cannot be feasibly met by individual smallholders. Economies of scale in contracting, monitoring, and making payments favor larger suppliers such as plantation owners over many individual smallholders. When smallholders group together in cooperatives or other forms of user groups, they can achieve some of these

economies of scale. In some cases, the PES may even be channeled through producer cooperatives as a premium price of output for “certified” producers.

Small numbers of ES buyers and sellers. Concentration in the supply or demand for ES could hinder or enhance markets for ES. Collective action could strengthen the bargaining power of smallholders relative to other producers of environmental services and buyers of environmental services. In the Sumber Jaya area of Sumatra, farmers’ groups have been very important for providing a voice for upland farmers previously considered squatters on public land. In negotiations for new social forestry agreements, the farmers’ groups have been effective in convincing local officials that they are concerned about the environment and are willing to adopt land use practices that have been documented to produce high levels of environmental services. Farmers’ groups often need assistance with such negotiations, however, since they normally are formed for other purposes and are unfamiliar with the concept of producing environmental services through their farming activities.

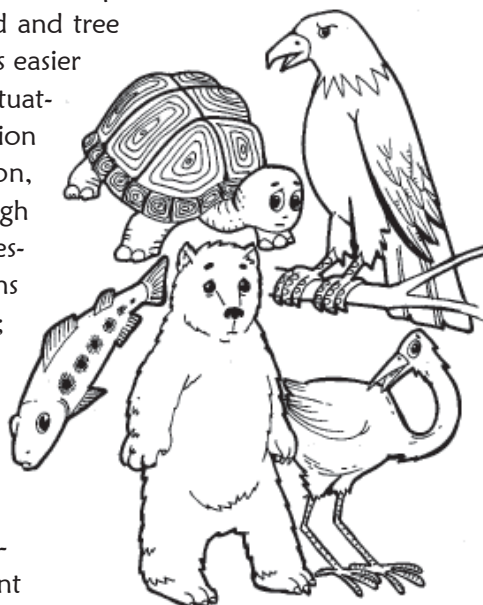
PES schemes affecting collective action. The nature of environmental service payments can also influence collective action. Conventional regulatory approaches stress enforcement and negative penalties. Demanders have a feeling of entitlement and expect public agencies to assume the responsibility to deliver services or protect against negative impacts. Under a regulatory regime, collective action among suppliers may even be to evade rules and enforcement, rather than collective action to enforce the rules, especially if these rules do not have local legitimacy. By contrast, PES offer positive economic and other incentives for ES provision. These in turn provide greater potential for collective action to enforce the rules and provide a service.

Some Conclusions on Pro-Poor PES

While there will clearly be differences from site to site, even within a broad category of ES, some key tendencies can be identified regarding the potential of certain types of PES to contribute to poverty alleviation.

Carbon sequestration. Because of the long carbon sequestration timeframe and the preference for one-time payments, secure property rights over land resources are likely to be very important for carbon PES mechanisms. However, this can be a two-way relationship: land rights are required as a condition for participating in PES, but secure tenure also is a potential incentive mechanism for ES in itself. Since both land and tree resources are relatively immobile, defining property rights is easier than is the case when the key resources are mobile or fluctuating. The linear and observable nature of carbon sequestration means that collective action is not required for provision, though it can reduce transaction costs for payment. Although smallholders are very appropriate suppliers of carbon sequestration, the lack of differentiation among suppliers means that any purchasers can go to many alternative suppliers; hence, the bargaining power of any particular smallholder or group is likely to be low.

Biodiversity. The fluctuating nature of genetic resources (particularly animals, but also plants), the generation of current and future values, and the need for recurrent investment lead to a combination of one-time and recurrent



payments. Long-term property rights over land are not as essential; rewarding tenants might be just as important as rewarding land owners. On the other hand, because of important threshold effects, collective action is likely to be much more important for provision than in the case of carbon. Smallholders occupy many of the global biodiversity hotspots, but this does not automatically give them bargaining power. In many cases, smallholders' livelihoods are perceived as in conflict with biodiversity, and public agencies are viewed as an alternative supplier.

Watershed function. Like biodiversity, watershed functions produce current and fluctuating future values. While land is certainly a key resource, vegetation and water itself play a key role, but fluctuate considerably. This combination of factors often leads to recurrent payments, which means that long-term property rights over land may not be as essential as decision-making rights over land, vegetation, and water flows. The supply of watershed ES is non-linear — it doesn't increase proportionally with the area of land being managed. In addition, there are important scale effects as well as differentiation in the importance of different types of land within a watershed. Thus, collective action is important, but not all land or farmers are equally important in the sense that not all land contributes equally to the provision of services. Nor do all watersheds generate equal value; those upstream of major cities, industries, hydroelectric facilities, or other critical water users are more likely to receive attention. Smallholders may be able to benefit from watershed PES if they live in such critical areas, but public agencies are important alternative sources of supply, and regulation is more common than rewards.

As with many other “new” resources (i.e. those which have suddenly become more valuable and do not yet have clearly established claims), PES has generated considerable enthusiasm on the part of those who hope that it might provide income streams or other benefits to poor people. Nevertheless, experience to date indicates that this is far from assured. In general, the poverty impact of PES will depend on whether poor people are potential suppliers of ES and whether they will be empowered or excluded by PES mechanisms.

Suggested Readings

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