



REWARDS FOR USE OF AND SHARED  
INVESTMENT IN PRO POOR  
ENVIRONMENTAL SERVICES

# PRINCIPLES FOR FAIRNESS AND EFFICIENCY IN ENHANCING ENVIRONMENTAL SERVICES IN ASIA

Payments, compensation or co-investment?

Based on our action research in Asia in the Rewarding Upland Poor for Environmental Services they provide (RUPES) program since 2002, we examine three paradigms: “Commoditized ES (CES)”, “Compensation for Opportunities Skipped (COS)”, and “Co-Investment in (Environmental) Stewardship (CIS)”. Among the RUPES action research sites, there are several examples of CIS, i.e. co-investment in and shared responsibility for stewardship, with a focus on “assets” (natural + human + social capital) that can be expected to provide future flows of ES. CES, equivalent to a strict definition of PES, may represent an abstraction rather than a current reality. COS is a challenge when the legality of opportunities to reduce ES is contested.



The term ‘payments for environmental services’ has rapidly gained popularity, with its focus on market-based mechanisms for enhancing environmental services. Current use of the term, however, covers a broad spectrum of interactions between environmental services’ suppliers and beneficiaries.

A broader class of mechanisms pursues enhancement of environmental services through compensation or rewards. Such mechanisms can be analysed on the basis of how they meet four conditions: realistic, conditional, voluntary and pro-poor.

The Rewarding Upland Poor for Environmental Services (RUPES) program has been examining such mechanisms throughout Asia since 2002.

## Key findings

We examined three paradigms: commoditised environmental services (CES); compensation for opportunities skipped (COS); and co-investment in (environmental) stewardship (CIS).

- CIS has a focus on assets (natural + human + social capital) that can be expected to provide future flows of environmental services.
- CES, equivalent to a strict definition of payments for environmental services, may represent an abstraction rather than a current reality.
- COS is a challenge when the legality of opportunities to reduce environmental services is contested.
- The primary difference between CES, COS and CIS is the way in which conditionality is achieved, with additional variation in the scale (individual, household or community) at which the voluntary principle takes shape.
- CIS has the greatest likelihood of being pro-poor, as both CES and COS presuppose property rights that the rural poor often do not have.
- CIS requires and reinforces building trust after initial conflicts over the consequences of resource use on environmental services have been clarified and a realistic joint appraisal has been carried out. CIS would often be part of a multi-level approach to the regeneration and survival of natural capital alongside respect and appreciation for the guardians and stewards of landscapes.

## Discussion

A strict interpretation of realistic, conditional and voluntary payments for environmental services schemes

(the CES paradigm or commoditised environmental services) appeared problematic at most sites and situations we studied. The question, ‘Who deserves to be paid for

improving environmental services?’, is not simple in situations when a lack of clarity on natural resource tenure rights is a major problem in developing countries<sup>2</sup>.



## Paradigm CES: commoditised environmental services

Paradigm CES is when environmental services' procurement operates at conditionality level I (Figure 1) based on actual service delivery and direct marketability. The CES paradigm is focused on direct interaction between the community that provides the services and the beneficiaries (arrows 1 and 4 in Figure 2). The price level for recurrent monetary payments in this paradigm may be fully negotiable (based on supply and demand) and provides new sources of income for those who can control land and the other resources necessary in the production of environmental services. Innovations can be expected in how to cost-effectively enhance commoditised environmental services' production. There is no explicit poverty target.

## Paradigm COS: compensating for opportunities skipped

Paradigm COS is paying land users for accepting restrictions (either voluntary or mandatory) on their use of land. COS has conditionality at level II or III (Figure 1). The basis of contracts depends on the achievement of an objectively measurable condition of the (agro)-ecosystem or the expended level of effort (or restrictions on inputs). The COS paradigm focuses on relations between government on one hand (on behalf of its citizens) and the private sector and local community on the other (arrows 2 and 3 in Figure 2). This paradigm may involve recurrent monetary payments based on restrictions imposed by local or national government and/or voluntarily accepted on privately owned land with the possibility of collective action. The basis of financial compensation in this paradigm is the opportunity costs of foregoing economically attractive and legally permissible land use that reduce environmental services. Poverty reduction targets can be added through differentiation in pay when prices are externally set rather than freely negotiated.

## Paradigm CIS: co-investment in (landscape) stewardship

Paradigm CIS is focused on assets and generally aspiring conditionality at level IV (Figure 1), with levels II or III in transitional forms. It combines arrow 3 in Figure 2 with arrows 4 and 1 (in response to arrows 5 and 2). Relative to a collectively owned or state-owned land and natural resource base, it can include the following: (1) negotiated tenure, conditional on maintenance of environmental services; (2) reduction of land-use conflicts and their collateral damage to environmental services; (3) investment in improved public services, feeder roads under community control, and (4) land use and development planning that creates employment that does not damage environmental services. The conditionality level IV (entrust local resource management) is when the buyers have full trust that the management plan (including local monitoring) set up by the community will enhance the provision of environmental services with a flexible contract, broad sanctions and a monitoring requirement. CIS explicitly adds social capital to the mix.

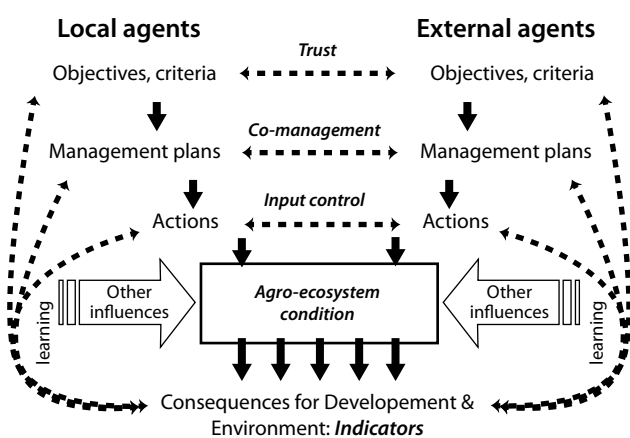


Figure 1. Four levels of conditionality between local agents (providers and associated intermediaries) and external agents (beneficiaries and associated intermediaries)<sup>1</sup>

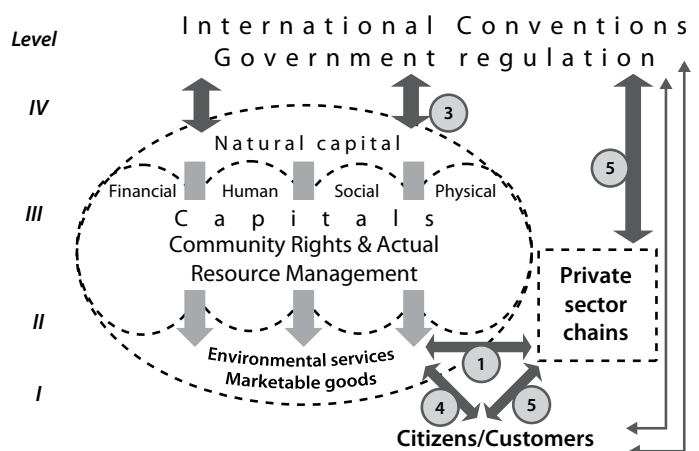


Figure 2. Relationships between environmental goods and services provision, actors in the landscape, and five assets (capitals): natural (soil, land and water), human (capacity to manage resources), social (healthy local institutions), physical (adequate access to public infrastructure) and financial (adequate money to invest)

## RUPES action research sites in Asia

Bungo, Singkarak and Sumberjaya in Indonesia; Bakun and Kalahan in the Philippines; and Kulekhani in Nepal

The question, ‘Who deserves payment for not destroying natural capital?’ is morally suspect in most contexts. What starts off as an additional incentive may soon be seen as an entitlement. When some get paid and others do not, the results may be interpreted as a potential future threat to environmental services from those who did not receive attention. The net effect of such payments on the overall level of the services may then decline.

This perverse effect is often discussed and there are some early signs that it may be real in a number of situations. It may be related to the transformation of existing (but underperforming) reciprocity norms in a buyer-seller relation without paying an adequate price. Further analysis of the conceptual failure is needed<sup>3</sup>.

The ‘business’ language in which payments for environmental services are often expressed may be partly to blame<sup>4</sup>. Recent experiments at the interface between behavioural economics and psychology support an interpretation that human interactions within a social capital context follow different rationality than interactions that directly involve money<sup>5</sup>. Experiments showed that people sometimes expend more effort in exchange for no payment (in a social market, expecting reciprocity) than they expend when they receive low payment (a monetary market). Experimental evidence also demonstrates that mixed markets (markets that include aspects of both social and monetary markets) more closely resemble monetary than social markets<sup>6</sup>. Even subtle reminders of money elicit big changes in human behaviour. Relative to participants primed



with neutral concepts, participants primed with language about money preferred to play alone, work alone and put more physical distance between themselves and a new acquaintance<sup>7</sup>. On the other hand, reminders of money prompted participants to work harder on challenging tasks and led to desires to take on more work as compared with participants not reminded of money<sup>8</sup>. Image motivation, the desire to be liked and well-regarded by others, as a driver in pro-social behavior (doing good) is crowded out by extrinsic monetary incentives (doing well)<sup>9</sup>. Monetary incentives may be counterproductive for public, pro-social activities, when they undermine existing norms and are not sufficient and/or durable enough to offset this loss of intrinsic motivation.

Replacing the ‘payment’ concept with ‘co-investment’ language is an effort to appeal to both social and financial concepts. Whether or not this can work at a universally human psychological level and/or in a culture-dependent learned set of norms will require further analysis and experimentation.

The interest in long-term assets versus current services varies among the environmental services and the amount of place-based investment of beneficiaries. For example, the economic lifespan of the investment of a hydropower company or drinking

water reservoir requires a direct match with the time over which the environmental services are needed. A more mobile, tanker-based, drinking water supplier may have more choices and thus less reason to invest for long time periods. Global concerns about biodiversity are focused on slowing the rate of anthropogenic biodiversity loss, with a long-term perspective. So, short-term schemes, which postpone local extinctions by a few years, are pointless.

Only a small part of environmental services can be ‘packaged’ in quantities that can be traded in open markets, detached from the place of origin of the commodity. Reducing net emissions of greenhouse gases may appear to be the least place-bound, because greenhouse gases have similar effects on the atmosphere wherever they are emitted or sequestered. Therefore, the carbon market is probably the closest approximation to a full commoditisation of environmental services.

However, even here, current contractual obligations include aspects of permanence or the complex and low-value ‘temporary emission reduction credits’ that were created for afforestation/ reforestation under the Clean Development Mechanism in the Kyoto Protocol and have found little application<sup>10</sup>.

The comparison of rehabilitation versus avoided degradation or deforestation may illustrate a further point. Rehabilitation may require an initial investment. Avoided degradation or deforestation is a recurrent offsetting of forgone opportunities for more economically beneficial land use that still exists. The institutions for investment in projects that supposedly start a self-sustaining path (such as rehabilitation projects) are more open to private sector engagement than those involving the long-term modification of incentives (such as avoided degradation or deforestation projects). The latter may be difficult without the involvement of public sector institutions. One-off investment for rehabilitation contrasts with recurrent payments for avoided degradation or deforestation. An investment focus on assets contrasts with a payment concept for flows. The simple payments for environmental services' paradigm thus requires revision or enrichment of both arguments: payment versus investment and flows versus stock.

In a payments for environmental services' concept as defined by Wunder<sup>11</sup>, the markets may ultimately become the mechanism to efficiently balance supply and demand for environmental services but, at this stage, information is restricted, asymmetrical<sup>12</sup> and incomplete. Brokers are needed to provide access to knowledge and

clarify bargaining positions. On the other side of the spectrum, a benevolent top-down governance system that tries to impose fairness in actions to enhance environmental services as public goods will require detailed knowledge of how such services are affected by the many options and realities in land use.

In between these two extreme positions, there is a need for public investment in the development of 'boundary objects' or knowledge products that can be accepted by the various stakeholders as a background for their negotiations of adjusting action. Enhancing environmental services through forms of compensation, rewards or payments requires linking knowledge and action and so may benefit from boundary organizations<sup>13</sup>.

Within a scheme, the financial rewards obtained by voluntary enhancement of environmental services must at least offset the real opportunity cost of modified land use (and opportunities forgone) after paying the transaction costs. Levels of reward higher than this will provide real benefit but the benefits may also be thought to derive from local spinoffs through enhanced local environmental services.

In the paradigm of CIS, this cost-benefit approach is considerably broadened. The function of total capital values (that is, natural, human, social, physical, and

financial) supplied to environmental services' providers through various forms of investment and rewards must match their opportunity cost in terms of the functions of all five capitals plus transaction costs. Transaction costs may themselves have a positive aspect of relation-building and external communication that can be valued. This broader approach involves trade-offs between capital types as well as between land-use practices that vary in their provision of goods and services. It may defy quantitative analysis.

With global concerns over climate change, the global architecture of incentives to reduce emissions from land use and land-use change (including forestry) is under debate. The criteria of 'realistic, voluntary, conditional and pro-poor' apply at the global level of interactions between countries as much as they apply locally. However, there is considerable scope for nested systems that allow countries to exchange greenhouse gas emissions for financial incentives at the national border and use this for an array of local incentives for forms of sustainable development that are compatible with 'high carbon-stock livelihoods'<sup>14</sup>.

The existing legal framework for forest management may need to be adjusted so that the conditionality is appropriately regulated<sup>15</sup>. At the local level, a number of barriers to farmers' tree planting and community-based forest management have been identified, such as lack of land-use rights, good planting material, know-how on tree management and access to markets for tree products<sup>16</sup>.

A multi-scale approach could use the CES paradigm in the relationship between countries, exchanging financial capital for verifiable and agreed emission reduction, while the government uses the funds so obtained (or the loans that can be repaid in such a way) for mechanisms that are following COS or CIS language and logic, providing co-investment in generic



environmental services that happen to have carbon co-benefits, rather than targeting emission reduction as their primary goal.

In summary, our experiences in Asia suggest that payments for environmental services' schemes may need to address a livelihood approach that considers the five capital types (human, social, physical, financial, and natural) in their interactions across scales. The interactions of all livelihood capitals address the preconditions for the CES and COS paradigms and may well have to be the foundation for all such efforts.

A language of CIS, 'co-investment' and 'shared responsibility' may be more conducive to the type of respect, mutual accountability and commitment to sustainable development that is needed. It retains reference to social exchange rather than financial transactions.

Yet, there are opportunities for phased strategies. After creating a basis of respect and relationships through the paradigm of CIS, there may be more space for specific follow-ups in the paradigm of CES for actual delivery of environmental services to meet conservation objectives. The simple

conceptual scheme of buyers, sellers, intermediaries and regulators that was used in many initial developments of payments for environmental services' schemes may need to be modified to incorporate a more holistic livelihoods perspective and the combined efforts through moral persuasion, regulations and rewards to modify local resource-use decisions in the uplands.

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### The RUPES Project:

RUPES aims to work with both potential users and producers of environmental services to find conditions for positive incentives that are voluntary (within the existing regulatory framework), realistic (aligned with real opportunity costs and real benefits) and conditional (linked to different level of conditionality in providing environmental services), while reducing important dimensions of poverty in upland areas. At each of the RUPES sites, local institutions partner with the World Agroforestry Centre (ICRAF) to implement action research aimed at developing effective reward mechanisms in the local context. The sites are in China, India, Indonesia, Nepal, the Philippines and Vietnam. National policy dialogues are aimed at making policy frameworks more conducive to positive incentives. RUPES is financially supported by the International Fund for Agricultural Development and various other donors.

### RUPES Program

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