



# Linking smallholders to PES/REDD+

## Intermediaries and ecosystem services markets

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Ina Porras and Isilda Nhantumbo

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Photo caption: Small agroforestry coffee producers' cooperative involved in a carbon project in Guatemala

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Intermediaries – governments, local organised community groups, NGOs and the private sector – are important players in linking smallholders to niche markets for environmental services. But supporting land users and persuading them to risk investing in evolving markets where the benefits are erratic is a challenge.

This issue paper focuses specifically on intermediation strategies to deliver regulating and cultural services, primarily through payments for ecosystem services (PES) and REDD+. It highlights the importance of good governance and the need to establish clear land, forest and carbon rights to protect resource users' rights and ensure the fair distribution of benefits and risks without further marginalising the poorest land users – and cautions that a one-size-fits-all, market-based approach may not be suitable for all.

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# Executive summary

The aim of this paper is to analyse the intermediaries that are involved in supporting smallholders in contributing to the generation and/or maintenance of environmental services (ES) and linking them to the markets. Our analysis focuses on intermediation strategies for delivery of regulating and cultural services, primarily through payments for ecosystem services (PES) and reducing emissions through deforestation and degradation, the role of conservation, sustainable forest management and enhancement of carbon stocks (REDD+). Intermediaries often hold important information on legislation, technologies, practices, legislation and markets as well as sources of financing. These are key to enabling smallholders to improve land uses and resources management and deliver environmental services. Therefore, intermediaries become important players in linking smallholders to niche markets for environmental services.

There are four key players in the process: governments, local organised community groups, NGOs and private sector. Each of these institutions plays a key role in PES and REDD+ through enacting legislation and creating the enabling environment such as tenure regimes and benefit sharing mechanisms; ensuring local ownership and choices over alternative and sustainable land uses, providing the necessary capacity for land users to change practices, and taking risk and investing in an area where the market is still evolving and the benefits are erratic.

The analysis shows that successful intermediation strategies to bring small scale land users and communities to the markets include:

- Keeping transaction costs down for the farmers, using group contracts and collective action with very clear delineation of roles, responsibilities, and group enforcement.
- Keeping transaction costs down along the value chains to maximise funds reaching the farmers, using simple monitoring techniques, toolkits and pro-poor standards. Certification and international standards are slowly responding to pro-poor needs, although their cost still remains high compared to the potential benefits of being certified (in terms of better prices).

- Price premiums from linking agricultural produce to better land management in small holdings can be achieved with the help of strong NGOs or local groups (like cooperatives), but this still tends to leave out the most vulnerable farmers.
- Sharing risk helps small-scale land users and communities enter the markets. Strategies for risk sharing promoted by intermediaries include upfront sales (of products and ES credits), shared cost of technical and inputs requirements (for example, in outgrower schemes), access to soft loans that understand the nature of risk for smallholders, and co-finance from donor and government groups to divert additional transactions for land users.
- Benefits to smallholder farmers and community groups are higher when intermediaries and facilitators build on existing institutions and experience, and strive to provide added value from ES deals (in the form of long-term changes in land practices, security of resources like land tenure, capacity building, and distribution of benefits among landless members of the community (for example, through infrastructure).

In order to improve linkages, PES and REDD+ must be part of a wider approach to good governance, with clear institutional arrangements, decision making, benefit-sharing mechanisms, transparency and accountability, to avoid elite capture and the further marginalisation of poor farmers and those dependent on land. Specific recommendations in relation to intermediaries include:

- Shortening the overall value chain by providing incentives at the beginning of the supply chain to ensure that not only professionals reap most benefits, but that farmers implementing the activities that provide ES receive adequate rewards. Food security and fair distribution of benefits and costs must be brought forward in scheme design.
- Reinforcing ownership and collective action by smallholders and the landless. Intermediaries should seek organisation, registration and, where possible, common ownership of resources such as water or forests. This security of tenure is a good incentive for investing in long term sustainability.

- Clarifying accountability in risk-sharing between all parties involved in the process through detailed analysis of the cost structure of different intermediaries and pro-poor models such as outgrower schemes, to establish how these systems can be viable and help reduce poverty among land users.
- Exercising caution with pro-efficiency models as most market-based solutions to ES provision are more likely to be captured by farmers with better connections and secure assets. Schemes that strive for a strong focus on economic efficiency, like auctions, risk causing a heavy social cost where there are imbalances in access, transaction costs, and power.
- Investing in replicable models based on understanding of context and success factors associated with models. For example cash-based PES schemes have worked strongly in Latin America, where Governments (local and national) have embraced the idea of ecosystem-based resource management and provided significant co-funding to steer the process. Costa Rica, Brazil, Mexico and Ecuador are leading the way in national-level schemes, and Central America hosts a myriad of small-scale water initiatives promoted by municipalities. Cash-based payments (from users and to providers), however, are yet to develop in Africa. Governments are committing carefully, due to the need to ensure sustained financing mechanisms. Further, local social networks need developing to strengthen governance in PES schemes. South-South approaches to share experience are very useful, and learning platforms have shown their ability to exchange experiences and methods. However, these exchanges have to be treated carefully, and context should be taken into account to avoid raising expectations.

While there are examples of pro-poor models focusing on the community and family level, a much broader approach is also emerging as a result of growing private sector interest in REDD+ projects. In cases where this means dealing with large areas that span different ecosystems, administrative boundaries, uses and users, there seems to be little acknowledgement of the role that land resources play in reducing carbon emissions. Nhantumbo (2011) highlights the importance of good governance and the need to establish clear land, forest and carbon rights to protect resource users' rights and ensure the fair distribution of benefits and risks.

Ultimately, rewards for community-based ecosystem services will be transacted in voluntary markets, where prices will be strongly affected by the buyers' perception of co-benefits. A project that is able to 'tell a good story' will be more likely to sell credits and get better prices. The ability to pack and sell this story will be just as important in the development of market-based approaches to the provision of ecosystem services as are the technical aspects of planting the trees. But it is important to recognise that a market-based approach may not be suitable for all. Assumptions of what is a co-benefit, and whether this is 'good' or 'desirable' will vary from place to place, as will the perception of the middlemen, from facilitators who add value and promote development, to self-enriching scammers concocting fake markets from a boiler room.

# Glossary

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Certification	Certification is a market-based mechanism, guaranteed by a third party, designed to encourage environmentally sustainable and socially responsible practices. Certification can also offer 'chain of custody' information.
Ecosystem services/ environmental services	Ecosystem services are the benefits that people obtain from ecosystems, and include <b>provisioning services</b> (like food, timber, etc.), <b>regulating services</b> (e.g. climate regulation, flood management, water purification and disease control), <b>cultural services</b> (e.g. recreation, spiritual) and <b>supporting services</b> that contribute to soil productivity through nutrient cycling, soil formation and primary production (MA, 2005b). In this paper we focus on non-provisioning services.
Intermediary	An intermediary is a mediator or negotiator who acts as a link between different parties, usually providing some added value to a transaction that may not be achieved through direct trading.
Outgrower schemes	Partnership between growers or landholders and a company for the production of commercial (usually forest or agricultural) products. The extent to which inputs, costs, risks and benefits are shared between growers/landholders and companies vary, as does the length of the partnership. Growers may act individually or as a group in partnership with a company, and use private or communal land.
Payments for ecosystem services (PES)	<p>In this paper we understand PES as:</p> <ul style="list-style-type: none"> <li>(i) An instrument that addresses an environmental externality through variable payments made in cash or kind, with <b>a land user, provider or seller</b> of environmental services responding to an offer of payment by a private company, NGO or local or central government agency.</li> <li>(ii) A <b>user</b> of ecosystems services, who is distinguishable from the seller, makes payments to enhance or protect these services through sustainable land management.</li> <li>(iii) The ecosystem service provider enters into the transaction <b>voluntarily</b>.</li> <li>(iv) Payment is <b>conditional</b> upon previously agreed land use that is expected to provide the service in question. (Porrás <i>et al.</i>, 2008; Ferraro, 2009)</li> </ul> <p>PES is anchored in the use of payments to correct an economic externality (Pigou, 1920; Coase, 1960). Coase argues that socially sub-optimal situations, in this case poor provision of ecological services, can be corrected through voluntary market-like transactions provided transaction costs are low and property rights are clearly defined and enforced (Pattanayak <i>et al.</i>, 2010).</p>
Poverty	<b>Poverty</b> refers to the lack of, or inability to achieve, a socially acceptable standard of living, or the possession of insufficient resources to meet basic needs. <b>Multi dimensions of poverty</b> imply going beyond the economic components to a wider contributory elements of well-being. <b>Poverty dynamics</b> are the factors that affect whether people move out of poverty, stay poor, or become poor (Suich, 2012).

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Small producers/ small farms	Although no common definition exists we follow Nagayets's (2005) approach, defining small farms on the basis of the size of landholding. This has limitations as it does not reflect efficiency. Size is also relative. Individual agricultural plots of <2 ha are common in Africa and Asia but larger in Latin America. Community forest land can include considerably larger patches.
Transaction costs	Pagiola and Benoit (2009) define transaction costs in REDD+/PES as those necessary for the parties to reach an agreement that results in a reduction of emissions. The costs are associated with identification of the programme, creating enabling conditions for reducing emissions, monitoring, verifying and certifying emissions reduction. Costs fall on different actors, including buyers and sellers (or donors and recipients), market regulators or institutions responsible for administration of the payment systems, project implementers, verifiers, certifiers, lawyers and other parties. The costs can be monetary and non-monetary, ex ante (initial costs of achieving an agreement) and ex post (implementing an agreement once it is in place).
Value chain	A value chain represents a series of activities that create and add value at every step in the supply chain from production to final consumption. This concept was developed by Michael Porter. According to Porter, value chains comprise several activities. Primary activities involve inbound logistics such as acquiring materials for adding value through processing, operations including all manufacturing processes, outbound activities involving distribution to the points of sale, marketing and sales including branding, promotion and sales, and post sales service.

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# Acronyms

CARE	Cooperative for Assistance and Relief Everywhere
CCBA	Climate, Community and Biodiversity Alliance
CEPAGRI	Agriculture Promotion Centre
CODEFORSA	Forestry Development Commission of San Carlos, Costa Rica
ES	Environmental services
EU-ETS	European Union emissions trading scheme
FAO	United Nations Food and Agriculture Organization
FONAFIFO	National Forestry Financing Fund, Costa Rica
FONAG	Fund for the Protection of Water, Ecuador
FSC	Forest Stewardship Council
FUNDECOR	Foundation for the Development of the Central Volcanic Mountain Range, Costa Rica
GIZ	German International Cooperation
HIVOS	Humanist Institute for Development Cooperation, The Netherlands
ICTSD	International Centre for Trade and Sustainable Development
ITTO	International Tropical Timber Organization
LULUCF	Land use, land-use change and forestry
MA	Millennium Ecosystem Assessment
MINAE	Ministry of Environment and Energy, Costa Rica
NCBA CLUSA	National Cooperative Business Association's Cooperative League of the USA
NGO	Non-governmental organisation
ORAM	Rural Association for Mutual Support (supporting land tenure and rural development in Mozambique)
PES	Payments for ecosystems services
PROFAFOR	Face Forestry Programme
PRP	Prince's Rainforest Projects
PSA	Costa Rican PES programme ( <i>pago por servicios ambientales</i> )
PV	Plan Vivo
REDD+	Reducing emissions from deforestation and forest degradation and the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries
tCO <sub>2</sub>	Tonnes of Carbon dioxide
UNFCCC	United Nations Framework Convention on Climate Change
VCS	Verified Carbon Standard

# Introduction

# 1

Although the science is still developing, there is a consensus that improved land management – ranging from protection of existing forests to improved agriculture – can help protect, enhance or revert degradation patterns affecting the provision of ecosystem services like carbon, biodiversity conservation and protection of water quantity and quality (MA, 2005b). Market-based solutions, like payments for ecosystem services (PES) and reducing emissions from deforestation and forest degradation (REDD+), are being put forward as a way to provide ecosystem services. While some acknowledge potential trade-offs, it is also hoped that these mechanisms could contribute to poverty alleviation (Bond *et al.*, 2009).

Yet it is difficult for small producers, often on the fringes of formal markets and reliant on subsistence agriculture, to enter these deals or benefit in a fair way. Therefore, intermediaries such as government institutions or the private sector (voluntary and for-profit) play a determinant role in linking producers of ecosystems services to markets. Often, intermediaries provide the technical know-how and access to finance that enable landholders to invest in sustainable land and resources management practices to generate these services. These constraints are not endemic to PES/REDD+ deals but to their general participation in markets, and PES/REDD+ approaches should be considered part of a wider set of instruments addressing forest and agriculture governance.

However, a market-based approach may not be suitable for all. Assumptions of what is 'good' or 'desirable' will vary from place to place (e.g. are traditional methods better than technologically improved methods?). So will the perceptions of middlemen, from facilitators who add value and promote development, to groups or individuals seeking self-enrichment at the expense of farmers and other local land users.

In this paper, we hope to add to the scant material on the issues that small farmers face in entering PES and REDD+ schemes; discussing what intermediaries are doing to help them bridge the gap, and who is involved in supporting smallholders in contributing to generation and/or maintenance of environmental services and linking them to the markets. First, we focus on regulating and cultural ecosystem services (i.e. water quality, carbon sequestration, protection of biodiversity) although we consider provisioning services (i.e. timber, food) when the ecosystem service can be added as a premium in the value chain or an incentive (i.e. capacity building, access to credit) can be delivered through existing management structures. Second, although we acknowledge that PES/REDD+ can impact on non-participants through leakage and/or spillovers we do not consider them here. Instead, we concentrate on those taking part, or potentially taking part, in PES/REDD+ schemes.

Chapter 2 discusses the challenges of PES schemes, and Chapter 3 describes the intermediaries and their roles. Chapter 4 looks at innovation in pro-poor intermediation and Chapter 5 presents conclusions and, looking forward, recommendations for a more pro-poor support for delivery of ecosystems services.

## 1.1 Why examine small landholder provision of ecosystem services?

In developing countries, especially in Africa and Asia, smallholder and family production systems are the dominant mode of agricultural and pastoral production (see Box 1). The linkages between small farms and ecosystem services cannot be ignored, particularly as there is a need to adopt more sustainable land-use practices and mitigation and adaptation to climate change.

### BOX 1. NOT A SMALL ISSUE...

Of the 5.5 billion people living in developing countries, approximately 1.5 billion of them are smallholder rural households. This is 27 per cent of the population of the developing world (World Bank, 2008).

Landholdings are typically small in Africa and Asia. At least 75 per cent of farms are only 2 hectares in size or less (Nagayets, 2005).

The vast majority of people living on less than US\$1 per day are small farmers who survive on a combination of subsistence and market sales (usually informal), and landless labourers.

The conservation and development communities increasingly agree that tackling depletion of ecosystem services needs to go hand in hand with food security, poverty reduction and other social benefits (Miles *et al.*, 2013, Angelsen *et al.*, 2009). With little access to technology and substitutes, smallholders are particularly dependent on ecosystem services (World Bank, 2008). And their limited access to technology often results in further depletion and degradation of the natural base they depend upon (see Box 2).

New technology and institutional innovations can help make agriculture more sustainable and increase the capacity for generation of ecosystem services. Examples of interventions that tackle the loss of ecosystem services include:

## BOX 2. CAUSES OF DEGRADATION AND LOSS OF ECOSYSTEM SERVICES

Land degradation causes the loss of nutrients and soil carbon, increased sediments, reduction in water quality and water recharge, and further expansion of the agriculture frontier. For example:

- Productivity is declining, caused by continuous cropping with no inputs.
- Cultivation on steep, fragile slopes is increasing sediment production and the risk of landslides.
- Overstocking and overgrazing is causing soil compaction and loss of nutrients.
- Shifting cultivation and slash-and-burn practices are pushing forward the agriculture frontier and encroaching into fragile areas (e.g. forest, wetlands).

- Compacted and bare soils are causing a loss of nutrients, increased sediments, increased evapotranspiration and flash floods in rain-fed agriculture.

Forest conversion is resulting in higher carbon emissions and the loss of biodiversity habitats, cultural values and important water recharge areas, caused by:

- Overexploitation of forests and woodland for timber
- Reliance on biomass energy (e.g. charcoal)
- Overharvesting for construction.

Sources: Baijukia, in FAO-CARE (2008)

- Restoration of degraded soils
- Improved management of croplands through agronomy, nutrient management, tillage/residue management (MA, 2005a) and water management (including irrigation and drainage) and agroforestry
- Improved grazing land management and intensity
- Increased productivity and nutrient management through fire management and introduction of improved seeds
- Restoration of degraded lands using erosion control, organic and nutrient amendments
- Crop management
- Livestock management, including improved feeding practices, dietary additives, breeding and improved manure management
- Forest management
- Afforestation/reforestation and introduction of exotic species
- Sustainable logging.

While the problems and the suggestions are not new, the interest now shifts towards mechanisms and institutions to help tackle them.

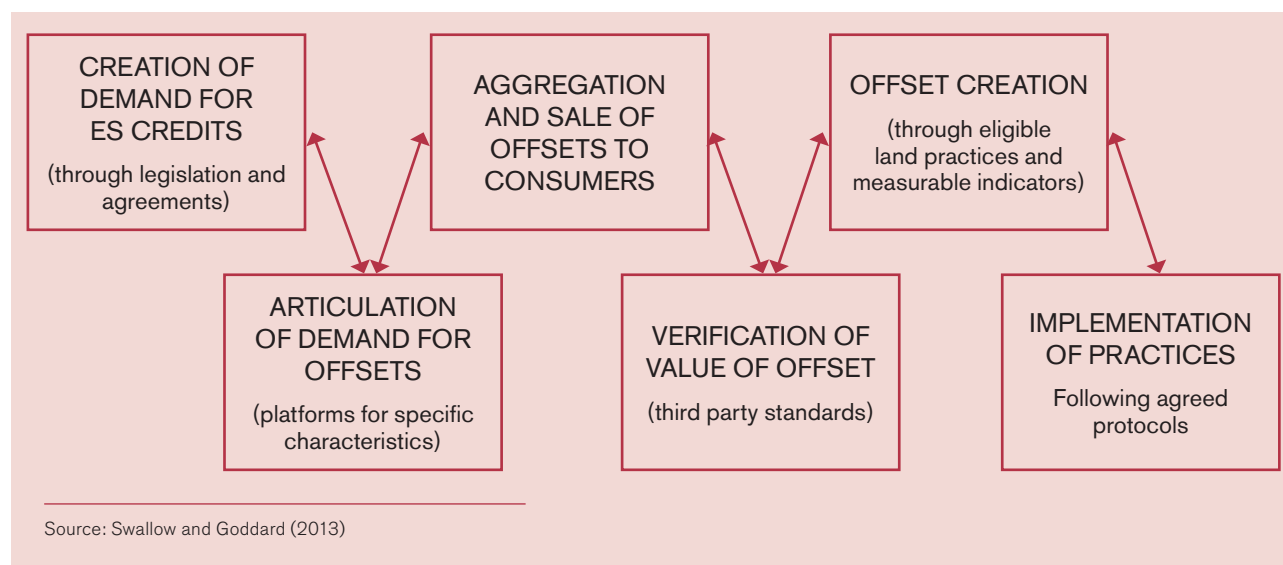
Interest is growing in making markets work for the poor, using development models that revolve around small-scale producers and based on entrepreneurship rather than aid. According to the World Bank (2008), improving the productivity, profitability and sustainability of smallholder farming is the main pathway out of poverty. Extra investment in ecosystem services by the agriculture and forestry sectors should shield supplies from market volatility and increase

producers' yields. Proponents suggest potential onsite benefits for the farmer and offsite benefits like conservation of biodiversity and water resources and carbon sequestration.

## 1.2 What's new? Innovative incentives to provide ecosystem services

Markets offer opportunities to provide incentives for the provision of ecosystem services. Some ecosystem services, like watershed services, can be traded through a relatively short value chain,<sup>1</sup> with providers (landholders) living in relative proximity to users (e.g. domestic users, hydroelectric projects) and have developed a relatively simple intermediation approach. For example, a local water utility, municipality, or NGO channels payments and monitors compliance based on inputs (e.g. hectares of forest) rather than outputs (e.g. reduction of sediments) (Porras *et al.*, 2008, Stanton *et al.*, 2010). Biodiversity and carbon, on the other hand, have a global component that tends to make their value chain longer, requiring stricter verification processes in the middle of the chain. Studies of carbon and biodiversity-carbon value chains (see Figure 1), especially in the voluntary markets where they take place, suggest that end buyers are interested not only in the end product (i.e. the carbon offset) but also in the way it is measured, verified and made available to final consumers (Swallow and Goddard, 2013). This suggests that governance structures that affect fairness and efficiency of offset production and marketing can affect buyers' willingness to pay (von Geibler *et al.*, 2010, Suyanto *et al.*, 2009).

Figure 1. Bio-carbon value chain



Large-scale and relatively well-off buyers have started purchasing intangible ecosystems services, particularly those related to climate regulation. Carbon markets pay land users for practices that help mitigate the impacts of climate change. Utilities companies pay to safeguard watersheds so that they can supply water and generate energy. Individuals, philanthropists, governments and tourists pay for the protection of landscapes and biodiversity. At the moment, this is done on a small scale, and PES is mainly limited to the market and government initiatives to raise funds by directly purchasing services or taxing fuel and electricity. The debate about whether markets can actually sustain the provision of these services has been revived by mechanisms like REDD+.

PES operates on the assumption that channelling incentives (monetary or in-kind) to land users encourages them to conserve, or reduce or reverse degradation patterns affecting the provision of ecosystems services (see Glossary). However, to be able to successfully enter and benefit from these schemes, there are minimum requirements (see Box 3). These vary in terms of legal requirements to demonstrate ownership and ability to implement land-use changes, and in terms of the costs of entering these schemes compared to the potential benefits. But the important underlying issue is access to information, which will affect land users' technical capacity to implement the project and their bargaining power for a more equitable distribution of benefits.

### BOX 3. WHAT DO LANDHOLDERS NEED TO ACCESS PES?

**Technical and legal:** Clearly defined rights to the assets concerned, particularly secure tenure for land users, and the ability to demonstrate conditionality (i.e. delivery of ecosystem service, or at least contract compliance).

**Economic:** Willingness and ability to invest in improved practices in order to obtain payment, and the ability to provide a critical threshold level required for some ecosystem services (e.g. watershed protection, biological corridors).

**Information:** An understanding of how land management affects the provision of (intangible) ecosystem services, the cost involved and how best to bargain for a good deal.

Source: Authors' own research

# Old challenges for smallholders and communities

# 2

Market-based mechanisms for providing ES are not yet fully formed and, as such, are open to speculation. For example, ActionAid (2011) warns the international community about the dangers of entering soil carbon markets (see Box 4). Their arguments are valid and revolve around challenges faced by small producers in other sectors. In the agricultural commodity sector, small farmers face geographical dispersion which results in high transaction costs, lack of market information, and limited access to affordable credit and inputs. Their share of the final price of their produce is low and declining, and their resource base is often threatened (Blackmore *et al.*, 2012).

## BOX 4. 'NO' TO SOIL CARBON MARKETS!

A report from ActionAid suggests that soil carbon markets should not be promoted for small farmers in developing countries.

Funding is uncertain and insecure, and even if there are revenues to be made a large proportion is likely to stay at the technical level and not reach the farmers. The report suggests that transaction costs involved in the creation of new institutions do not compare to the minimum benefits that will reach the farmer, and efforts should focus more on food security for the poor in developing countries, and less on avoiding the responsibility of developed countries to reduce their own emissions.

Source: ActionAid, 2011

In PES-type schemes similar technical, financial and information constraints limit their ability to take part in these schemes – and their capacity to get a good deal when they do. This section focuses on what is required under a PES scheme, and the main constraints small producers and communities face (Pagiola *et al.*, 2005, Grieg-Gran *et al.*, 2005). Other challenges go beyond the scope of this paper. For example, the technical process of 'commoditising' intangible ecosystem services such as regulating services for which the metric being advocated/used is carbon. Yet scientifically based, verifiable and standardised methods of measuring and establishing baselines and performance of this metric are still being developed.

We concentrate on four main types of constraints to participation:

- **Biophysical constraints:** spatial eligibility, land use required to provide the environmental service, and minimum threshold levels

- **Legal/technical constraints:** unclear land tenure and rights over ecosystem services, lack of capacity to implement activities required, and lack of ability to implement and enforce collective contracts
- **Economic constraints:** unclear returns and/or path to poverty alleviation, lack of upfront investment possibilities, high transaction costs and unwillingness or inability to take risk
- **Information constraints:** lack of information on markets, prices and bargaining power.

These constraints to market development centre on the participation of smallholders.

## 2.1 Common biophysical constraints for participation

The main biophysical constraints are linked to location, type of activity and threshold levels:

- Are smallholders and communities located in the areas that provide the ecosystem services?
- Do the land-use activities required to enter the programme exclude poorer land users currently deriving their livelihoods from the ecosystems, or compromise their livelihoods?
- Does the provision of the ecosystem service require a minimum threshold?

### 2.1.1 Location: are smallholders/communities in the targeted areas?

Depending on the nature of the ecosystem service, location is extremely important. For water recharge, for example, it is important to address fragile slopes, recharge areas and riparian areas. Targeting buffer areas of national parks and reserves is important for biodiversity and also to reduce pressure for conversion of forest. Projects addressing carbon emissions from land degradation caused by charcoal production may need to concentrate on lands more at risk, usually alongside roads where the risk of degradation is higher (for example the Beira Corridor in Mozambique). From the point of view of environmental effectiveness, the ES initiatives must deal with the people living in these areas, regardless of property size or level of wealth. For the benefit of the rest of the discussion, we assume that smallholders and communities are located in the targeted areas.



## 2.1.2 Do the activities required exclude poorer land users or compromise livelihoods?

The type of land use required affects potential participation. If the objective is forest conservation, then the proportion of forest cover within the property will be a key variable in determining participation (Zbinden and Lee, 2005). This tends to leave out small properties and/or those where farmers depend on the forest for their livelihoods or where the proportion of forest within the property is small (Grieg-Gran *et al.*, 2005). Initiatives that target activities with high potential for carbon emission mitigation can have serious trade-offs, compromising farmers food security (see Table 1). Reducing deforestation using more intensive and agrochemical-based farming to increase productivity and production may improve food security. However, these practices can still contribute to emissions of carbon and other GHGs, hence resulting in low impact on mitigation of climate change. Therefore, net gains in emissions reduction will come from sustainable land-use practices which will include putting degraded and non-productive land into cultivation. Conservation agriculture and agroforestry systems are promoted as cleaner and more sustainable ways of producing the food. However,

the extent to which this can meet the growing demand often behind agrochemical based intensification is still debatable.

## 2.1.3 Can combined small plots guarantee minimum threshold levels?

Some ecosystem services require large areas for the marginal change in service provision to be evident. For example, some soil and water conservation projects addressing rain water and water quality recharge may need a basin-wide approach (i.e. Tana in Kenya). Biological corridors will need to create a continuous patch of forest for wildlife. In these cases, either the size of the properties participating or their capacity to organise as a block, will affect environmental effectiveness and transaction costs.

## 2.2 Legal and technical constraints

Until now, most of the science behind the provision of ecosystem services relies on the assumption that specific actions will increase the likelihood of service delivery. Compliance is based on participants not only being in the targeted areas, but offering some level of

Table 1. Synergies between food production, land degradation and mitigation activities

		MITIGATION POTENTIAL	
		LOW	HIGH
FOOD SECURITY	HIGH	<ul style="list-style-type: none"> <li>Expand cropping onto marginal land</li> <li>GHG emission-intensive irrigated crop production</li> </ul>	<ul style="list-style-type: none"> <li>Restore degraded land</li> <li>Expand low energy-intensive irrigation</li> <li>Agroforestry options for increasing food security</li> </ul>
	LOW	<ul style="list-style-type: none"> <li>Bare, fallow land</li> </ul>	<ul style="list-style-type: none"> <li>Expand biofuel production</li> </ul>

This table shows some of the trade-offs between mitigation activities and food security in sub-Saharan Africa. Farmers undertake activities that use low-energy irrigation to help extend into or continue farming marginal and degraded lands, and agroforestry systems that permit enhancement of soil fertility and diversity within the plot, rather than extensive biofuel crops. In this sense, the objective of agricultural carbon finance is to 'leverage climate-smart agricultural investments and increase agricultural productivity'.

Source: Tennigkeit *et al.* (2009)

guarantee that they will be able to perform the activities required. Limitations include:

- Unclear land tenure and rights over ecosystem services
- Lack of capacity to implement activities required
- Ability to implement and enforce collective contracts

### 2.2.1 Tenure: rights to use and defend land and associated ecosystem services

Security of tenure is one of the key constraints in low- and middle-income countries, and not only for environmental services (Cotula and Mayers, 2009). It raises fundamental questions beyond who owns the land. Who owns the environmental services, and who will meet the costs and risks of making these services available to beneficiaries (or those who pay for the environmental service)? In practice, tenure of tangible resources such as land for agriculture or forest rights for timber extraction is often unclear or contested. For intangible environmental services, like rights to carbon or water quality, ownership and responsibility becomes even more blurred.

### 2.2.2 Technical capacity: implementing required activities

Communities and smallholders often lack the technical capacity to design, implement and enforce contracts between buyers and sellers. Local capacity to negotiate fair deals is often limited due to low levels of literacy and general knowledge. For example, In a study on uptake of forestry certification, Cashore *et al.* (2006) highlight how community operations typically lack business experience and have low efficiency and product quality, making it difficult to access environmentally sensitive markets, which are almost exclusively international.

Government extension services are very important, but they are also seriously under-budgeted, under-staffed, and with little access to available technologies. In government-led schemes, problems may be caused by institutional disagreements between departments vying to manage the scheme (setting the Ministry of Water or Environment against the Ministry of Agriculture or Ministry of Finance, for example), and complex bureaucratic procedures that preclude quick responses to changing conditions and impede the equitable distribution of benefits. In some cases, government institutions need to overcome distrust among local farmers and communities to gain sufficient credibility to implement the schemes.

### 2.2.3 Capacity to sanction non-compliance, especially in community-managed projects

Many local groups lack the legal capacity to sanction failure to comply with contracts. There may also be a conflict of interests in reporting violations, because collective contracts can be invalidated by one member of the group defaulting (as with group contracts that were valid between 1997 and 2002 in Costa Rica). But collective responsibility is considered critical for self-regulation as is enforcement of norms to meet the conditionality associated with PES. Strong governance structures at the local level is essential to achieve this.

## 2.3 Economic constraints to participation

Even assuming that small holders are in the targeted areas and they are legally and technically able to execute a project, there are serious concerns about the benefits and costs, and whether smallholders are able (or should bother) to formalise their participation in markets.

Although there are many potential economic constraints, in this paper we focus on four:

- High transaction costs (directly for the farmer, and as a percentage of the intermediation process that results in lower payments at the farmer level)
- Unclear returns and/or path to poverty alleviation
- Lack of upfront investment possibilities
- Unwillingness or inability to take risk.

### 2.3.1 High transaction costs

There are many transaction costs in PES schemes, including negotiating, contracting, implementing and monitoring (see Table 2). Unfortunately, many of these costs are fixed, which means that, for any given project, relative costs decline as the volume of transactions increases (in terms of environmental service and/or land under the scheme) making participation of small farms prohibitive (Cacho and Lipper, 2006) if not organised in groups that pursue the generation of ecosystems services. Strengthening organisations is often the entry point to supporting local land users to reduce transaction costs and help land users engage in the markets for these services.

Some costs fall directly on the farmer and constrain their participation (including costs in terms of time, implementation and fees). Others do not fall directly on the farmer, but high transaction costs usually result in lower end-payments to the farmer.

Here, we highlight three main transaction costs:

- The individual costs of entering a PES agreement. This includes time spent in the application process and time/cost of meeting legal (i.e. titles, property rights), technical (i.e. farm-use plans) and other requirements. In some cases, meeting criteria assigned by international standards and certification schemes (for example, FSC) can be very costly and leaves out small producers.
- Management costs of grouping providers to meet targets/thresholds, especially when dealing with large numbers of small-volume producers, which can result in projects preferring larger providers.
- The costs of monitoring and ensuring conditionality of the scheme. In many cases, these costs are unknown or ignored.

Most intermediation costs are linked to administration, usually high at the start-up stage but with relatively low running costs (Wunder, 2007). But information is patchy and it is hard to draw any firm conclusions. Many schemes are 'housed' within existing public institutions (such as municipalities) and may benefit from subsidies that are not accounted for, which would mean that the true cost of intermediation tends to be understated.

Administration costs are correlated to the type of activity for which payments are made (in cash or kind, as ongoing or one-off payments), the number of participants, their location, and economies of scale (Grieg-Gran *et al.*, 2006, Wunder, 2007). For example, programmes that aim to maintain land use are less costly than those that focus on changing economic activities, such as reforestation or improving agricultural practices (Engel *et al.*, 2008). Programmes aiming at selling at international markets should also include the costs of accessing standards.

Table 2. Transaction costs in PES

TYPE OF TRANSACTION COST (JINDAL AND KERR, 2007)		REPORTED COSTS FROM ONGOING PES SCHEMES
Search	Finding interested partners for the transaction; communication (e.g. expenses for telephone and sales representatives); price information and quality control (e.g. agents).	<ul style="list-style-type: none"> <li>• Transaction costs for the land diversion programme in Canada amount to about 25% of total costs (Wunder, 2007).</li> <li>• The annual budget in FONAFIFO (CR PES Programme) has been US\$ 14–17 million/year between 2010-2012. Of this, approximately 80% of all funds are transferred to farmers as PES. From the payment received, participants pay 12–18% to the local intermediary for assistance and supervision.</li> </ul>
Negotiation	Coming to an agreement (e.g. time, visiting and drafting contracts).	<ul style="list-style-type: none"> <li>• The Pimampiro scheme in Ecuador had start-up costs of US\$69/ha, but low running costs of US\$1.6/ha/year.</li> <li>• The PROFAFOR-FACE carbon project in Ecuador had start-up costs of US\$17/ha and running costs of US\$6/ha/year.</li> </ul>
Approval	Expenses that arise when the trade must be approved by a government agency (e.g. modifications).	<ul style="list-style-type: none"> <li>• There is great variety in the costs involved in accessing international standards (i.e. Verified Carbon Standards (VCS), Gold Standard, CarbonFix and Plan Vivo (PV)). These include individual issuing cost (US\$0.1–0.65/credit), registration cost (US\$1000–5000 flat fee), and methodology review by expert (US\$200–2000).</li> </ul>
Monitoring	Establishing the baseline, observing the transaction and verifying adherence to the terms of the contract (e.g. hiring a verification service).	<ul style="list-style-type: none"> <li>• In forestry, the ITTO Expert Panel puts the estimated cost of achieving sustainable tropical forest production management at US\$12/ha while implementation and transaction costs for REDD+ projects are estimated at a rough average of US\$1/ton CO<sub>2</sub>e (Olsen and Bishop, 2009).</li> </ul>
Enforcement	Insisting on compliance once divergence from contract is detected (e.g. suing the seller).	
Insurance	Insurance policies (e.g. for compensation in the event of losses).	

### 2.3.2 What if the benefits of ecosystem service activities are unclear?

Like many conservation projects, social and environmental objectives are not always aligned, and are often contradictory. Unless taken explicitly into account, farmers' efforts to secure their short-term food security may undermine the sustainability and accountability of a scheme.

To date PES schemes have been mostly experimental and still a gamble for the farmer. There is little information about the profitability of the activities proposed, and even less on opportunity or implementation costs, and how the proposed activities fit within the overall farming system. Does the scheme include direct payments or contributions to cash income or alternative activities? What is the timescale for economic returns? What are the discount rates, type, stability and continuity of payments and/or non-monetary benefits? Many smallholders in fragile ecosystems depend on subsistence activities, or operate on the fringes of informal economies. It is unclear how they will benefit. Income security for smallholders is a big challenge in investments in forests, for example, that can be lost to fire, pests or theft, especially if a loan needs to be paid even if all the income is lost (Pokorny *et al.*, 2010).

Understanding the level of potential benefits and how they will be distributed is very important especially in community-based projects or schemes involving many small providers, where the per capita impact of the benefits could be too low to make an impact (van Noordwijk and Leimona, 2010).

### 2.3.3 Lack of finance for upfront investment

Even assuming that smallholders are located in targeted areas and perceive an economic benefit, their participation in PES may still be severely limited if the activities require upfront investment. For example, in a review of smallholder forestry plantations in the tropics, Pokorny *et al.* (2010) found that smallholder profits from commercial production forests, agroforestry systems,

and home gardens are highly compromised because of the high cost of inputs and site preparation.

Most smallholders and poor farmers in developing countries lack access to savings, off-farm income, credit and collateral. Small-scale schemes often lack the funding to scale-up operations or ensure minimum thresholds. Even if short-term funding is obtained to kick-start a project, there may not be sufficient long-term funds to cover running costs (especially if the amount paid for the ES externality is lower than the cost of running a scheme). Therefore, unless predictable and sufficient technical and financial resources are made available to land users, the generation of regulating services in particular will be hampered.

### 2.3.4 Uneven benefits: cost ratio

Benefits from a PES project in the form of cash or yields must be looked at in relation to costs. For example, Tennigkeit *et al.* (2009) analyse the revenues and costs for different agricultural mitigation packages from the farmer's perspective. The main benefit in all the packages discussed (which range from no external inputs to seeds, fertiliser and agroforestry) came from improved revenues from increased yields rather than the modest annual benefits from carbon payments, which represented between 2 and 12 per cent of total revenues (see Table 3 below). The added revenue from carbon credits is, however, an important incentive for sustainable land use.

It is clear that for any of the package scenarios (ranging from basic inputs to agroforestry), the potential gains from carbon sales is only a proportion of the potential revenues that farmers could experience given the increase in yields. It is important, however, to be doubly cautious. The basic scenario appears negative, suggesting that unless farmers are given support accessing inputs, the default result may well be a loss for the farmer. Any benefits from additional PES income must be considered in light of the costs of participating in the scheme, as well as income lost from other resource-use options (Lee and Mahanty, 2009).

Table 3. Revenues and costs from the perspective of sub-Saharan African farmers

PACKAGE	Carbon sequestration rate (tCO <sub>2</sub> /ha-yr)	Revenues (US\$/ha)		Costs (seeds, fertiliser, labour) (US\$/ha)	Net revenue (US\$/ha)
		Carbon	Improved yield		
With basic inputs	0.5	1.15	34	45	-10
With inputs (seeds only)	1	4.9	225	97	133
High level of inputs (seeds and fertilisers)	1.5	8.65	450	179	280
Agroforestry	4	27.4	225	98	154

Source: Tennigkeit *et al.* (2009).

## 2.4 Information, education and power constraints affecting distribution of benefits

The potential distribution of benefits and costs of ecosystem services is affected by the extent to which participants influence decision-making processes at the different levels. The potential of market-based schemes to generate new jobs is considerable, and cannot be left aside: for example, the potential job creation from habitat banking (Bovarnick *et al.* (2010) (see Box 5). Intermediation can reduce direct costs to smallholders. But in some cases, the complex technical processes make the intermediation an enterprise in itself with significant benefits to people providing such services. For example, many standards and certification schemes have very high transaction costs. This challenge is likely to continue until local landholders improve their capacity and internalise land-use and management practices and market knowledge. Studies in Costa Rica highlight how the PES programme has strengthened a generation of experts in forestry and conservation (for example Miranda *et al.*, 2004). However, newly created markets for ecosystem services may be too technical, with potential gains more likely to be on the technical and financial side than trickling down to farmers at the bottom of the chain (ActionAid, 2011). This is a significant risk for PES schemes' sustainability and potential transformation that may be undermined if equity issues are not addressed.

### BOX 5. WANT A JOB IN HABITAT BANKING?

Habitat banking promises a fertile ground for the job market. Bovarnick *et al.* (2010) give a list of potential types of expertise required to make them work.

- **Designing, establishing and maintaining habitat banks:** Wetland conservation scientists, biodiversity conservation scientists, hydrological engineers, conservation wardens, landscape engineers, forestry professionals, habitat restoration experts, NGO specialists, construction workers
- **M&E:** Wetland conservation scientists, biodiversity conservation scientists, forestry professionals, habitat restoration experts
- **Legal support:** Property lawyers, financial lawyers
- **Registry and administration:** Market administrators, registry specialists, public administrators
- **Finance and banking:** Investment bankers, venture capitalists, commercial bankers, insurers, investment and endowment fund managers, fund management consultants
- **Market information:** Market researchers, news and intelligence analysts

Source: Bovarnick *et al.* (2010)

Participation in decision making at the bottom of the ladder is difficult. Providing the space for smallholders and communities to engage can be costly. Some projects and programmes often give priority to meeting project milestones rather than engaging closely with the community, or to top-down approaches where consultations take place after decisions have been made (Pham *et al.*, 2010).

This lack of participation can lead to corruption and disempowerment of the poor. In community projects, power can be captured by elites, or decision-making is strongly influenced/dictated by the government (Pham *et al.*, 2010), to the detriment of other members of the group or community (see lessons from FPIC and the Round-table on Sustainable Palm Oil in van Noordwijk *et al.* (2007)).

Sometimes participation (or lack of it) is affected by a mistrust of institutions. For example, lack of information can lead farmers to fear further government regulation arising from PES. For example, in the early stages of the PES programme in Costa Rica, it was believed that land under forest would be expropriated in the future (Hope *et al.*, 2005). The idea that carbon deals imply 'selling oxygen to the gringos' is considered by some as a good thing – for example, in the Amazon in Brazil (CIFORBlogger and Coony, 2011a) but regarded with mistrust by others, including some Andean communities in Bolivia (CIFORBlogger and Coony, 2011b).

Those with better access to information are more likely to benefit. Porras *et al.* (2012) highlight how participation of private companies has consistently increased over the years in Costa Rica, highlighting some potential asymmetries in access to information and capacity to respond to PES requirements when compared to individual farmers.

# Intermediaries: who they are and what they do

# 3

Direct deals between providers and buyers of environmental services are possible but rare. In most cases, transactions take place through an intermediary agency. Their role ranges from the more 'classical' one of project development and linking buyers and sellers, to the provision of ancillary services to help create enabling conditions like provision of technical support. In the emerging carbon markets there are over 200 organisations working as retailers, wholesalers, brokers and/or developers of carbon credits (Peters-Stanley *et al.*, 2011).

Here, we discuss the roles of intermediaries in tackling constraints: how they help to reduce transaction costs, increase value of the ES activity, and reduce risk. What types of intermediaries are emerging in PES initiatives? How are they linked to agriculture and forestry? What are the main innovations in the promotion of pro-poor deals?

### 3.1 Main roles and scale of action

Intermediaries play several roles in linking sellers and buyers of environmental services:

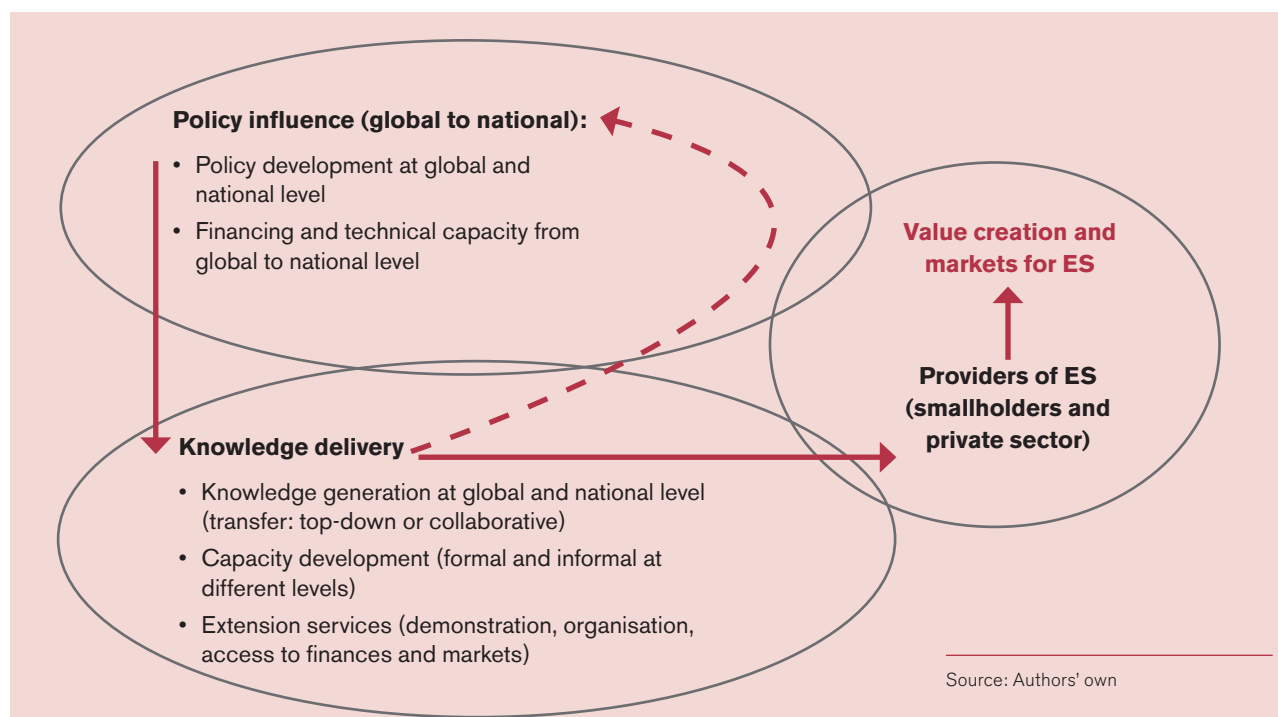
- **Matching buyers and sellers**, and managing the steps needed to reach common agendas, and reducing transaction costs.
- Building on capabilities, reputation and trust to **establish credibility and legitimacy**; acting as

agencies or certifiers who (formally) confirm and guarantee the robustness of contracts; linking processors and retailers in forest-based activities, providing insurance and risk management, and serving as a contact with donors and agencies.

- **Helping communities and small-scale producers** adapt land-use practices and improve their bargaining power.
- **Promoting enabling conditions** for market creation and access, ranging from providing information and building networks, to ensuring that **environmental and ethical issues** are taken into account.
- **Bulking environmental services** such as biodiversity and emissions reduction to obtain higher premiums.
- **Monitoring** the management systems and impacts not only on regulating services, but also provisioning to avoid compromising food and energy security as well as other livelihoods. This can allow low-cost third-party validation of management systems and performance.
- **Influencing policy** and supporting knowledge transfer.

Figure 2 highlights the different levels of intermediaries, from global to national, sub-national and local, ensuring the continuous flow of finance and capacity that influences ecosystem goods and services, and feedbacks into policy agendas.

Figure 2. Intermediation extends beyond the market for ecosystem goods and services





## 3.2 Types of intermediary

The aims, priorities and relationships of intermediaries and ES providers will vary according to their background – for example, private sector intermediaries seek efficiency and profit maximisation, and these goals determine their relations with providers. Government intermediaries are limited by regulations that determine their use of resources and capacity to respond to change. In PES and REDD+ deals, NGOs are emerging as leading organisations promoting the creation of ES deals, and establishing alliances between landholders, the public and private sectors and the international community.

Experiences of accessing and distributing funding for PES (see Section 4.5) vary depending on the character and level of the intermediary. National and international groups tend to be better connected (through unilateral, bilateral and multilateral agreements). However, these often lack the ability to reach farmers at the local level, demonstrating the need for a multi-layered approach to intermediation. This section discusses the type of intermediaries currently working in PES agreements, but also those working in smallholder agriculture and forestry activities. We look at each of these groups and their advantages and disadvantages according to risk taking, financing, and institutional strengths, which are summarised in Table 4.

### 3.2.1 Government agencies (national and local)

Implementation of REDD+ requires national-level policies and bodies with the resources and capacities to effectively implement the mechanism. Often backed by legislation and a firmer vertically integrated institutional setting, governments and their agencies can (in theory) tackle the direct causes of deforestation and forest degradation in different sectors (agriculture, energy, infrastructure, mining and logging) and indirect causes such as investment and fiscal policies. They can also increase funding for PES by tapping into different sources and redirecting funds to where they are most needed. In terms of managing costs, national programmes tend to have an assigned budget for institutional activities, which reduces the pressure to increase cost effectiveness. Decentralisation processes in Latin America and Africa are conducive to strengthening land users' rights to assets and providing local governments with the means to respond to market creation – although in the practice experience and capacity is still limited in many places (FAO-CARE, 2008).

In addition to their primary objectives, government schemes usually have secondary objectives such as poverty alleviation, job creation and rural development. Although social issues are generally seen as an

essential element of fair and sustainable development, these secondary objectives may be actually included as political favours to placate powerful groups, and thus undermine the effectiveness of ES schemes (Wunder *et al.*, 2008, Muñoz-Piña *et al.*, 2011).

### 3.2.2 Local (organised) community groups

Organised local groups are important for collective decision making, particularly where payments are made to communities rather than individuals. Local institutions with community representatives, clear roles and decision-making procedures build cohesion within communities and facilitate honest and effective interaction between key stakeholders (Pham *et al.*, 2010). Often, community-level organisations need to be strengthened and supported in order to increase the chances of success of a PES scheme. This includes establishing such organisations where they do not exist, building leadership and management capacities, defining statutes and by-laws that promote transparency and accountability, and obtaining legal recognition through formal registration.

### 3.2.3 National and international NGOs

As market actors, **non-governmental organisations** (NGOs) can operate at different levels and play different roles, channelling funds, providing capacity building and technical assistance, managing projects, and also helping to shape enabling conditions to establish and improve access to better markets. One example of NGOs in agricultural markets is the case of sugarcane production in Xinavane, Mozambique (see Jelsma *et al.*, 2010). The forest and agriculture sector have several well-established networking groups that promote smallholder forestry agendas, strongly supported by NGOs and think tanks, for example, ForestConnect<sup>2</sup>, the Forest Governance Learning Group<sup>3</sup> and the Hivos Programme<sup>4</sup>.

In the marketplace, NGOs are good for linking the social agenda to environmental targets. They are usually perceived as more trustworthy than other agencies, and often have the ability to explore new areas and niche markets traditionally avoided by the private sector. Although their lack of business acumen can sometimes work against them, NGOs are starting to work with the private sector to compensate for this, and have had some success in the coffee industry and in carbon deals. Grieg-Gran and Wilson (2007) provide a summary of the advantages and disadvantages of NGOs in the marketplace, which is also valid in the development of non-provisioning ES deals.

Table 4. Advantages and disadvantages of different intermediaries in PES/REDD+

TRUST AND RISKS	FINANCING AND PROMOTION OF ALTERNATIVES	INSTITUTIONAL ISSUES
<b>Governments</b>		
<p>Pros</p> <ul style="list-style-type: none"> <li>• Provide vital extension services to local farmers which can pave the way for sustainable land-use practices.</li> <li>• Enact policies (e.g. taxes, PES laws) that enable sustainable practices to be implemented (e.g. PES in Costa Rica and Mexico, and CBNRM in Southern Africa).</li> </ul>	<ul style="list-style-type: none"> <li>• Take a long-term view of development, hence able to support and make investments in areas where benefits are likely to be observed in the long term.</li> <li>• In the context of REDD+, governments are taking the lead in developing implementation mechanisms.</li> <li>• Government research institutions are leading research on alternative and sustainable land uses in agriculture as well as sustainable and more efficient biomass energy production and consumption.</li> </ul>	<ul style="list-style-type: none"> <li>• Their strong presence at all levels and continuity makes them a partner that can have influence on land users.</li> <li>• Potentially have the capacity to enact policy and legislation to promote ES.</li> </ul>
<p>Cons</p> <ul style="list-style-type: none"> <li>• The coverage of these technical support systems can be inadequate to meet the needs of large and often dispersed farming communities in many developing countries.</li> <li>• Weak capacity to enforce the legislation.</li> </ul>	<ul style="list-style-type: none"> <li>• Finance for implementing technological solutions is often limited to covering only immediate needs.</li> <li>• The conflicting interest and priorities of rapid economic growth with the use of natural resources via large-scale investments <i>vis a vis</i> shouldering investment in creating the capacity of smallholders to produce sustainably and enter the mainstream market.</li> </ul>	<ul style="list-style-type: none"> <li>• Local-level institutions are often badly resourced in terms of the human, financial, infrastructure and technological resources necessary to promote change in land-use practices.</li> </ul>
<b>Community organisations</b>		
<p>Pros</p> <ul style="list-style-type: none"> <li>• Strong local control of decision making by local groups and development of bylaws with participation of stakeholders, which increases trust in investment in PES/REDD+ schemes.</li> </ul>	<ul style="list-style-type: none"> <li>• Existing local knowledge or early adherence to alternative land-use practices by a number of land users can be a powerful mobilisation tool for the rest of the community.</li> </ul>	<ul style="list-style-type: none"> <li>• Participants can monitor the activities of leaders and practices of peers, hence reinforcing compliance and good governance.</li> </ul>
<p>Cons</p> <ul style="list-style-type: none"> <li>• Risk aversion from farmers may lead to higher transaction costs which the local groups may not be able to bear.</li> </ul>	<ul style="list-style-type: none"> <li>• Often, local community and producer organisations rely on other players – NGOs, government and private sector – to provide the link with financing institutions and to deliver the land-use packages that contribute to enhancing ES – they lack information and capacity to deliver on their own.</li> <li>• Remoteness of financial and microfinance services, for example, in Africa, limit the potential investment in PES.</li> </ul>	<ul style="list-style-type: none"> <li>• Elite capture and lack of transparency and accountability of the leaders responsible for management of financial resources.</li> </ul>

TRUST AND RISKS	FINANCING AND PROMOTION OF ALTERNATIVES	INSTITUTIONAL ISSUES
<b>Non-governmental organisations (NGOs) (Grieg-Gran and Wilson, 2007)</b>		
<p>Cons</p> <ul style="list-style-type: none"> <li>• Their 'not for profit' status often makes them more trustworthy in using standard verification processes for monitoring.</li> <li>• Altruism can increase cost-effectiveness.</li> </ul>	<ul style="list-style-type: none"> <li>• NGOs can have access to specific funds that may not be available to the private sector, for example, to support poverty alleviation or conservation projects.</li> <li>• They promote fair-trade activities and other initiatives that directly benefit producers, and provide and manage micro-finance.</li> </ul>	<ul style="list-style-type: none"> <li>• NGOs often have greater potential for innovation and flexible responses than government.</li> </ul>
<p>Pros</p> <ul style="list-style-type: none"> <li>• NGOs require more certainty than the private sector, which accepts that some start-ups will fail.</li> </ul>	<ul style="list-style-type: none"> <li>• Niche markets may not be replicable, and are a distraction from more fundamental changes in trading regimes.</li> <li>• NGOs are not always attuned to business matters, and tend to shy away from business and profit.</li> </ul>	<ul style="list-style-type: none"> <li>• Many NGOs lack financial and institutional sustainability.</li> <li>• They are not united and have different agendas (often driven by funding), use different tactics that sometimes create tension and are not always conducive to strengthening allegiances with the private sector.</li> <li>• NGOs may be under pressure from donors to produce measurable outputs within a short timeframe, and may reflect donors' preferences rather than those of local communities.</li> </ul>
<b>Private sector</b>		
<p>Pros</p> <ul style="list-style-type: none"> <li>• Venture into new areas of investment opportunity and take risks in the hope of making profits.</li> <li>• In the long term they are likely to play a key role in the market for ES, linking suppliers and buyers, especially in carbon and biodiversity schemes.</li> </ul>	<ul style="list-style-type: none"> <li>• Strong knowledge of the financing landscape and conditions.</li> <li>• Acquainted with technological know-how to influence changes in land use for generation of tradable credits.</li> </ul>	<ul style="list-style-type: none"> <li>• Well informed about policies and opportunities to access knowledge and capital.</li> <li>• Good network of institutions to purchase services, for example for accounting and verifying the credits generated over time.</li> </ul>
<p>Cons</p> <ul style="list-style-type: none"> <li>• Low demand for carbon and biodiversity credits (especially for those with a social angle) influences the extent of investment and risk taken and number of institutions engaged so far.</li> <li>• Amongst genuine investors there are also scammers, who make potential investors cautious, but also land users wary of investing in sustainable practices.</li> </ul>	<ul style="list-style-type: none"> <li>• Contractual arrangements with land users might not always deliver significant and continuous stream of revenues for local land users.</li> <li>• Market volatility risks reducing premium that land users could receive for the ES delivered.</li> </ul>	<ul style="list-style-type: none"> <li>• Shareholders benefit first.</li> <li>• Policy vacuum means that <i>ad hoc</i> deals are made over a long period of time and lack of provisions for adapting the contracts to context might negatively affect the schemes.</li> </ul>

Source: Authors' own

### 3.2.4 The private sector

Intermediaries from the **private sector** tend to get more involved when there are potential gains to be made from trade. They mainly operate in the agricultural, forest products and tourism sectors, helping to arrange negotiations at local, national or international levels. Their participation will ultimately be linked to risk and potential returns. But given the substantial gaps in investment, the potential benefits of involving the private sector probably outweigh the risks (O'Sullivan *et al.*, 2010). For example, in their report to DfID on the potential involvement of the private sector in REDD+, O'Sullivan *et al.* suggest that, with careful design and review of the process (i.e. exclusion of high-risk and unsustainable projects), the private sector can effectively be involved in the social and environmental goals of REDD+ alongside returns of investment required by the private sector.

#### Brokering ecosystem services trade

The private sector is gaining participation in brokering activities, especially in the carbon sector and international markets (see Box 6).

## BOX 6. THE ROLE OF THE PRIVATE SECTOR IN CARBON DEALS

Non-profit organisations initially led the way in carbon markets, but have been outnumbered by private sector operators since 2006. These operators help develop and scale up projects in low- and middle-income countries, drawn in by the expected economic gains to be made from this market (Peters-Stanley *et al.*, 2011).

According to a survey by Peters-Stanley (2011), the majority of resellers are located in the USA, UK and Europe.

- 65 per cent are project developers that take on emissions reduction projects to sell to resellers or final customers
- 21 per cent are brokers that do not own credits, but facilitate transactions between sellers and buyers
- 11 per cent are retailers that own and sell small volumes of credits to individuals or organisations, usually online
- 3 per cent are wholesalers that only sell offsets in bulk and often own a portfolio of credits

Banks, insurers and other financial service providers play an increasingly important role in managing the risks associated with capital endowments, promoting transparent resource management, improving risk management, and exploring the business opportunities presented by the mitigation and offsets hierarchy (PricewaterhouseCoopers, 2010). Conservation brokers are a new set of actors in habitat-banking schemes such as BioBank. They help facilitate credit transactions when there are large numbers of potential participants in the market, identifying landowners with suitable land for habitat banks and then helping them put together and market their projects (Eftic *et al.*, 2010). The BushBroker scheme in Victoria, Australia, is a good example of the type of role that they play. Treweek *et al.* (2009) argue that the participation of conservation brokers will help improve market information on the availability and likely price of credits, although it may also limit the ability to strategically locate compensation measures in areas likely to provide the best biodiversity observation outcomes.

#### Building on existing distribution and market channels

The private sector can act as an intermediary by using existing channels for agricultural or forestry products, especially access to specialised markets with price premiums that require stricter standards (see Section 4.5). For example, in outgrower schemes, partnerships with the private sector help small farmers access formal markets and cover upfront investment (see Section 4.2). The caveat is often the fact that farmers become vulnerable to losses as prices of final product are set by the company.

#### Providing ancillary services

Professional consulting firms like Technoserve and NCBA CLUSA provide ancillary services like organising studies, making inventories, writing proposals, providing technical assistance and giving legal advice as arbitrators and mediators. Because they adhere to professional standards, they are perceived as more trustworthy in using standard verification processes for monitoring. Their knowledge of markets can give them an edge in negotiations with international buyers regarding carbon, scenic beauty, biodiversity and so on.

# Innovations in pro-poor smallholder and community intermediation

# 4

Pro-poor deals are more likely to be reached if:

- The targeted area is characterised by small/vulnerable farmers (**location**).
- Buyers/project promoters have an **interest** in and benefit from pro-poor arrangements (ethically, legally, politically or by reputation).
- Buyers/project promoters are **risk averse**, and excluding poor people may further threaten the long-term supply of environmental services.
- There may be public **financial** subsidies, payments or grants earmarked for work with vulnerable groups (van Noordwijk *et al.*, 2007).

How are intermediaries helping to tackle the main bottlenecks affecting smallholder participation in emerging markets for ecosystem services? Here, we concentrate on regulating (carbon, biodiversity) and cultural services but will draw lessons from intermediaries working in provisioning services markets (food, water) to which non-provisioning services can be added.

## 4.1 Reducing the impact of transaction costs

A concern in emerging markets for ecosystem services is that they will demand high levels of technical and professional expertise, and that funding will remain out of reach to the farmers who are responsible for implementing land practices (ActionAid, 2011). Recognising this as a problem, some schemes are exploring options to ensure that a significant proportion of payments reaches the farmers. For example, reducing fixed transaction costs is one of the main ways of promoting smallholder participation. Successful strategies for this include:

- Increasing project size by promoting collective action amongst suppliers
- Building on existing management structures rather than creating new ones, and
- Streamlining requirements for participation through guidelines, templates and standards that reduce the costs of access to schemes and monitoring. (Cacho and Lipper, 2006)

### 4.1.1 Collective or group contracts

A common problem of small farmers' participation is linked to fixed costs (especially for technical studies and monitoring) and diseconomies of scale of non-contiguous small blocks of land. The use of group

contracts (for application, technical studies and distribution of payments) rather than individual contracts has been used with mixed success. This is especially important if ES depends on a group rather than an individual, or when there are multiple small properties. Smith and Scherr (2004) give examples of carbon projects with smallholders where the intermediary helps with identifying, contracting and enforcing viable carbon activities.

Group contracts can be made where even landless people can play a role in managing common lands (Jindal and Kerr, 2007). This approach is being pursued in Africa and Asia (rewards, use and shared investment in pro-poor environmental services or RUPES), and has worked well in Mexico, where the farmers are legally represented by their *ejidos* (system of communally held land) but with less success in Costa Rica where enforcement in the group was more difficult (Porrás *et al.*, 2012). After some testing, the PES programme in Costa Rica now promotes group technical support but individual contracts, to prevent default of the group as a whole in case of non-compliance by one individual. Collective contracts, if well designed, can promote 'peer or self' monitoring, where participants will have an incentive to monitor and report the impact on the ecosystem service.

### 4.1.2 Strengthening pro-poor management structures

Rather than building new structures and systems that require higher transaction and management costs (creation and running of local offices, IT infrastructure, administration of payments etc.) PES schemes are more likely to take place when they build upon existing institutions (Swallow *et al.*, 2009).

Many small PES and carbon schemes build upon some existing institutions or ongoing community projects. Communities that already have experience in working cooperatively are likely to have lower costs of participation and dispute resolution – another important transaction cost (Cacho and Lipper, 2006). Benefits for smallholders are likely to be higher if these institutions already support vulnerable farmers (Bracer *et al.*, 2007). NGOs are good at working to create and/or strengthen producer associations or cooperatives that encourage trust and horizontal collaboration (see Box 7). For example, SAFIRE<sup>5</sup> facilitates the establishment of viable community-managed rural enterprises in Africa, and offers lessons on the transaction costs associated with such initiatives. The PES scheme promoted by Bolsa Floresta in Brazil supports local associations by ensuring that a percentage of the PES goes to them (see Box 10).

## BOX 7. COCOA COOPERATIVE TACKLES THE MARKETS

The cocoa industry provides useful examples of how enabling policies and infrastructures are central to helping smallholders become competitive and enter new markets. The Kuapa Kokoo Cooperative in Ghana is an example of how to combine social, economic and environmental objectives.

Created in 1993, the cooperative is partnered with well-known international entities like Twin Limited, Comic Relief, Fairtrade, Body Shop, Trading Visions, International Labour Organization and DfID. It has three subsidiaries, including a credit union to provide micro-finance to its members, a farmers' trust and a commercial trading wing managed by professionals

to provide the farmers with the best services, a better price and a share in its profits. The cooperative also owns 45 per cent shares of the UK-based Fairtrade chocolate company Divine.

The benefits are distributed to farmers through different avenues, from access to cheap credit to revenues from shares. Wider benefits include investments in health and safety (i.e. pump wells, mobile clinics), education (building schools and promoting exchanges with the UK), and the promotion of alternative activities for off-season livelihoods.

Sources: [www.kuapakokoo.com](http://www.kuapakokoo.com); Cotula and Leonard, 2010

### 4.1.3 Streamlining the process

#### Reducing excessive requirements

Reducing requirements for participation can also help small farmers, especially legal requirements – for example, using possession rights instead of legal property rights, as in the case of Los Negros in Bolivia (Asquith *et al.*, 2008). Accepting properties with legal restrictions, like mortgages, is particularly important for vulnerable farmers whose main source of wealth is on the land itself and who have limited access to other income.

#### Reducing baseline and monitoring costs

Strategies to reduce monitoring costs include relying more on local and community monitoring, for example, community monitoring of sediments in the RiverCare Programme in Indonesia (Harto Widodo *et al.*, 2006; Suyanto, 2010).

Promoting guidelines, toolkits, cheap technology, and rules to estimate baselines is one approach to reducing transaction costs. These allow the use of generic parameters to estimate levels of ecosystem services (mostly used for carbon stocks to date) of project activities (Cacho and Lipper, 2006). Carbon projects combine models to predict tree growth, remote sensing using relatively cheap handheld GPS (geographical positioning system) and satellite maps. Audits calculate carbon credits, rather than measuring individual plots (Jindal and Kerr, 2007). The Noel Kempff Mercado Climate Action Project<sup>6</sup> in Bolivia (ongoing since 1997) is a good example of how forest emission reductions from conservation can be fully verified using rigorous standards based on those used in the Clean Development Mechanism.

#### Promoting pro-poor certification and standards

A big limitation of ES deals is linked to measuring and monitoring. While voluntary agreements tend to bypass the issue of solid scientific evidence, a better-established market will demand more confidence. The use of internationally approved standards and certification is a valid method to reduce the costs of individually measuring thousands of small plots, thus increasing the level of reassurance of delivery to buyers. Standards are necessary to participate in exchange platforms, some of which are specifically designed for ecosystems services. For example, Malua BioBank deals with biodiversity; the Chicago Climate Exchange, the World Bank BioCarbon Fund and the EU Emissions Trading Scheme (EU-ETS) deal with carbon. Other platforms that govern forest products or agricultural trade (such as the ICTSD-IPC Platform on Climate Change, Agriculture and Trade) could be used to link up with ecosystem service standards, private standards (Borot de Battisti *et al.*, 2009), local trade agreements and the Forest Stewardship Council (FSC) for timber.

Nevertheless, certification and standards have been geared towards Northern markets and tend to exclude small farmers and community groups. For example, although FSC certification operates in 82 countries, the majority of forests are located in Northern countries (46 per cent in Europe, 34 per cent in Canada and USA, 10 per cent in Latin America – half of which is Brazil, 6 per cent in Africa and 2 per cent in Asia).

Some standards have been specially created to include a social angle in the provision of ecosystem services (especially carbon and biodiversity), directly targeting small farmers and/or developing guidelines for aggregating small units or activities, using methods that

are acceptable to national governments and affected communities. For example:

- Plan Vivo targets smallholders and community projects (Plan Vivo, 2010; Neale, 2009; Goodman, 2012).<sup>7</sup> Plan Vivo is working on alternative technical specifications and methodologies for small-scale farmers, that include carbon links and trade-offs with other ecosystem services.
- The Gold Standard Pro-poor Community-Focused Micro-scale Scheme, which involves a simplified fee and a verification/validation structure for micro-projects in less developed countries, and includes additional support like retroactive registration and crediting. They focus on renewable energy and end-use energy efficiency.<sup>8</sup>
- The Voluntary Carbon Standard (VCS), through their jurisdictional and nested REDD+.<sup>9</sup> The VCS is working with CCBS (see below) to engage with small farmers and community projects, for example in Sierra Gorda in Mexico.<sup>10</sup>
- Climate, Community and Biodiversity Standards (CCBS) focus on land-based carbon projects in industrialised and developing countries. Costs for project validation range from €5,000 to €25,000.<sup>11</sup>
- Smallholders' Forest Stewardship Certification. The FSC is extensively recognised and offers potential market niches and better prices for sustainably managed timber. However, the requirements and participation costs are often prohibitive compared to the potential gains, with high entry costs and uncertain short-term benefits (Cashore *et al.*, 2006). In response, FSC has promoted a smallholders certification scheme.<sup>12</sup> Group certification is expected to provide easy, low-cost and equitable access to certification for owners of small forest holdings. Rather than certifying forest holdings individually, the scheme establishes a group of certifiable forest operations where group members share logistics and costs.
- Fairtrade labelling. Although so far this label concentrates on commodities, its experience is valuable in terms of reaching and benefiting small farmers and distributing social benefits, like infrastructure. Its premiums, however, and minimum prices have lost value in real terms over time and need to be recalibrated if they are to make a substantial difference to producer livelihoods (Blackmore *et al.*, 2012). Fairtrade has moved into the mining sector, and is looking for ways to incorporate markets for ecosystem services into their value chains.<sup>13</sup>

Table 5. Examples of intermediation costs of carbon standards

STANDARD	DESCRIPTION	PREMIUM
Plan Vivo	Developed specifically for small-scale LULUCF (land use, land-use change and forestry) projects, emphasises participatory design, stakeholder consultation and promotes tree planting using native species.	Average premium just below US\$10 per tCO <sub>2</sub> .
Gold Standard/ Carbon Fix Standard	Established by WWF in 2003, it promotes carbon and sustainable development in legislated or voluntary transactions. The Carbon Fix Standard (recently merged with the Gold Standard) focuses on certifying high-quality forestry carbon offsets with biodiversity and sustainability benefits.	Average premium just over US\$10 per tCO <sub>2</sub> in 2011.
Verified Carbon Standard (VCS)	Developed by the Climate Group, the International Emissions Trading Association, and the World Business Council for Sustainable Development.	Had the biggest market share among all carbon standards in the voluntary market with 125 million tCO <sub>2</sub> traded in 2010 at the total value of US\$393.5 million, at an average premium of about US\$5 per tCO <sub>2</sub> .
Climate, Community and Biodiversity Standards (CCB Standards)	Developed by the Climate, Community and Biodiversity Alliance (CCBA), it focuses on projects that deliver carbon, local community and biodiversity benefits.	Average premium of about US\$5 per tCO <sub>2</sub> .

Source: Programme technical documents and Peters-Stanley *et al.* (2011)



Limitations to benefits include: cost (too high), technical requirements (too many and too complex), and uncertainty over benefits (niche markets or better prices not materialising). Blackmore *et al.* (2012) review the evidence behind pro-poor certification (tea, coffee, cotton) in Asia. They warn that while certification provides many benefits, it is likely that for many farmers it is too costly, and those with larger asset bases who are already producing quality products are better placed to meet certification requirements. For ecosystem services, the uncertainty of being able to sell credits (even if certified), coupled with the natural risk of provision of the service and the high costs of access make international standards an uphill struggle for small and community farmers.

## 4.2 Helping to cover upfront costs for farmers' participation

Most rural farmers have limited resources and require continuous technical assistance to make technological improvements and adopt land-use practices that deliver ecosystem services. Revolving funds, and self-help groups, can help land users continuously improve their production practices, catering for both early adopters and those who engage later in the process after learning about the positive impacts of the schemes.

### 4.2.1 Upfront payments, soft credit and forward sales

Access to credit is important to help establish new technologies. It is easier for organised groups (i.e. farmer cooperatives) than individual farmers to access credit and other facilities, because of the cost savings that service providers enjoy by working with large groups (Frank and Penrose-Buckley, 2012). Upfront payments are also used in some PES cases, where intermediaries build in systems that provide higher direct PES payments at the beginning of the contracts to help start-up costs. For example, in Costa Rica the intermediary organisation, FONAFIFO, gives reforestation contracts 50 per cent of the full amount during the first year, covering roughly 40 per cent of the total costs. FONAFIFO also has soft credit available for small and medium enterprises. Forward sales involving timber or carbon credits have also been used to generate revenues in the early stages of investment, but they come with high levels of risks attached (Rapidel *et al.*, 2011).

### 4.2.2 Shared risk through outgrower schemes

Outgrower schemes provide a useful model (with some limitations) that combine forward sales with upfront investment. Although they take place at the moment in provisioning services (i.e. food and timber), they

## BOX 8. SUSTAINABILITY CHALLENGES AND LEARNING

Carbon projects – like many conservation and development projects – face sustainability challenges. This is the case with some of Plan Vivo's certified projects such as the Nhambita Envirotrade scheme. Communities are incentivised (by technical and financial support) to adopt sustainable land-use practices such as establishment of woodlots for biomass energy and agroforestry systems to increase crop yields, hence reducing deforestation.

In this scheme, contracts initially committed farmers to producing services through tree planting for 100 years, in exchange for payments for the first seven years only. The basis for this model relied on future earning from fruits, timber and other products after that period.

Although in principle this makes sense, there are various reasons why this model can be challenging:

- It is committing more than one generation to producing services for which they will not be paid (particularly carbon credits)

- Technical specifications in tree spacing, for example, will affect predicted yields and expected incomes, and
- The remoteness of the village may affect access to high-value markets.

On top of this, the scheme, like many so far, has depended heavily on donations. The sales of carbon credits generated are still limited and the management and monitoring costs as a proportion of final payments to farmers are relatively too high.

The project has been learning and adapting, but profitability of the land users' interventions and robustness of markets to purchase the credits at a fair price will determine the long-term sustainability. This is the case for many other schemes being implemented elsewhere in developing countries.

have the potential to access revenues from carbon/biodiversity/water that can be traced back to activities at farm level (i.e. through price premiums).

Also known as contract farming arrangements, outgrower schemes are linked to rural development and income diversification, helping to spread the risk among participating producers, and enabling them to integrate vertically with agro-processors or traders. A central entity (which may be private, public, a public–private-partnership or part of a development project) contracts farmers to produce specific raw materials for its business. Contracts are agreed whereby companies from the private sector provide technical assistance and inputs that enable farmers to improve their knowledge, increase productivity, enhance the quality of their produce and access markets, in return for having the first option on the farmers' produce.

These schemes have been used for biofuel crops like cassava and sugarcane in South America and, cotton and tobacco in Malawi and Mozambique, and flowers and sugarcane in Kenya and Mozambique (see Box 9).

This monopsonic arrangement has its limitations. Farmers have a secure market but little bargaining power over the inputs they obtain or the price they receive for their graded produce. Non-compliance is also an issue, as buyers may not purchase what the farmers produce if there are concerns about quality or the volatility of international markets; while producers may sell to other buyers if they think they can get a better deal elsewhere (Brüntrup and Peltzer, 2007).

When sharing risks and costs, measures to ensure that intermediaries or direct buyers from the private sector are transparent and accountable in their dealings with small-scale producers are important, especially when private companies cover the cost of inputs and then claim the right to set producer prices.

## BOX 9. AN OUTGROWER SCHEME FOR SUGARCANE PRODUCTION IN XIVANE, MOZAMBIQUE

Launched in 1998, this scheme involves 1,539 farmers working on over 2,000 ha of land (roughly 1.4 ha each). This is a public–private partnership, involving Açucareira de Xinavane, the government of Mozambique, the African Development Bank, the Southern African Development Bank and the European Investment Bank. Açucareira de Xinavane is responsible for direct employment and outgrower schemes. This includes expansion of the scheme, management of sugar procurement and risks associated with production, and exploration of new technologies to lower production costs (i.e. processing capacity, bulk supply of agrochemicals, technical assistance and credit to farmers). A subcontracted organisation, Agricane, provides technical assistance and helps organise and supervise smallholders. A separate company (Unitrans) is responsible for transport, organising harvesting, loading and haulage.

Three NGOs are involved in helping to set up farmer associations (Kulima), awareness and land rights (ORAM), and conflict resolution and community empowerment (Guevhane). The public organisation Agriculture Promotion Centre (CEPAGRI) and

local government facilitates the implementation of legislation. Farmers are organised into associations and a federation of associations (Mhova). On average, they produce 105 tonnes of sugarcane per hectare, generating US\$525 net revenues during the first three years, when they are not required to pay back the inputs, technologies and equipment received from the company. This falls to US\$236 from Year 4 to Year 10, and rises to US\$657 after the loans have been repaid.

While the initiative has been successful in promoting smallholder participation in the sugar industry, there are significant problems associated with land rights, lack of clear contracts regarding water rights, production and inputs, and lack of financial transparency. Communities have no access to any accounts relating to the deductions that the company makes for the inputs it provides, and there are no auditing procedures to clarify its financial dealings or confirm that farmers are getting a fair return on their land, labour and other investments.

Source: Jelsma *et al.* (2010)

## 4.3 Improving added value and long-term benefits to farmers

Schemes that are able to strengthen assets of the poor are more likely to have a long-term benefit. These go beyond financial benefits to include human, environmental and physical assets (Landell-Mills and Porras, 2002; Lee and Mahanty, 2009).

The potential of PES to add value is linked to the activity promoted (i.e. protection of forest versus changing land practices), the type of payment (cash or in-kind, continuous or one-off) and the culture of the recipient (i.e. regarding the use of cash payments).<sup>14</sup>

### 4.3.1 Helping to clarify tenure

One of the main restrictions for smallholders and communities is their ability to demonstrate ownership of land. Although this is still a weak area in emerging PES schemes, and is linked to overall resource governance, we can still see some emerging issues. Small local schemes, e.g. Los Negros in Bolivia, are more able to understand and adapt to their local context, and have been successful in implementing contracts that are mutually regarded as binding by participants even if no land titles exist (Asquith and Vargas, 2007).

National programmes, like the Costa Rica PES, are more limited, although the programme has relaxed the requirement for land titles, demonstrating that uncontested possession is very difficult and time consuming, especially for vulnerable farmers with limited access to legal advice. Some local facilitators have tried to help by subsidising participation of small farmers, but increasingly participation is geared towards larger farms and relatively wealthier owners.

### 4.3.2 Higher income through cash payments

Cash payments rely on the well-tried economic principle that the recipient is best placed to decide how to allocate his/her income in order to maximise welfare. They are also easier to administer from an intermediary point of view, and promote significant self-monitoring if payments are truly conditional on delivery (i.e. protection of the ecosystem). Most of the PES schemes in Latin America are cash-based. In Costa Rica and in Mexico, for example, even contracts with indigenous and communal lands are made in cash, through the official indigenous (or *ejido* in Mexico) representative. It is up to the individual organisations to determine how to

distribute the funding. The Bribri Association in Costa Rica, for example, use the funds to support productive projects as well as health and education, thereby ensuring a fairer distribution amongst the participants (Porras, 2013).

However, the principle of maximisation of personal utility presents serious challenges and in some circumstances a more 'paternalistic' approach may be necessary (Currie and Gahvari, 2007). Some of these limitations include credit and technological constraints and asymmetric access to information and power relations (i.e. within community projects), which may result in unfair distributional outcomes. An individual cash payment may also be relatively low in relation to the costs of implementing changes in practice, especially if they are time-tied rather than continuous. In cases like this, either all the incentive amount, or part of it, is invested directly in practices expected to result in a long-term change in land practices.

## BOX 10. THE INTEGRATED INTERNATIONAL-TO-LOCAL APPROACH IN BOLSA FLORESTA

Bolsa Floresta Programme (BFP) in Brazil is one of the largest PES schemes in the world, with 8,000 participating households in 15 reserves covering 10 million hectares of forest. It was established by the government of the State of Amazonas in 2006 and is implemented by the Amazonas Sustainable Foundation (FAS). The communities involved are located in remote areas with little access to economic alternatives. BFP provides a comprehensive incentive package to reduce practices that push degradation and deforestation, in the form of four components that include a direct cash payment to women, promotion of alternative economic activities (i.e. small-scale chestnut and cocoa industry), investment in community infrastructure and support to local organisations. The management of such a large-scale programme is not easy or cheap, compared with the more 'hands-off' approach of direct cash payments only promoted for example in Costa Rica. However, in situations of near non-markets, lack of infrastructure and communal ownership, it may be the only way forward to ensure protection of the ecosystem base.

Source: Viana (2008)

### 4.3.3 Mixed incentives targeting increased productivity

For many small farmers, benefits from improved, sustained yields from changes in agriculture techniques are generally considered more important than short-term cash payments. In most low- and middle-income countries they are considered the main means of helping small-scale producers enter the market for environmental services, ensuring food production and reducing pressure over expansion of the agriculture frontier (see Table 1).

The benefits from increased productivity and alternative livelihoods ranked highest on the list of perceived benefits a PES/silvopastoral scheme in Matiguás, Nicaragua (González López, 2007). After the scheme was introduced the amount of degraded pasture fell by two thirds, while pastures with high tree density increased substantially, as did fodder banks and live fences. Farmers benefited from additional income after the payments ended.

This approach is also central to the carbon trading promoted by Plan Vivo, where farmers receive an initial payment to support changes in land practices, but the long-term viability of the project relies on benefits from increased productivity. This result is also highlighted in an analysis of smallholder forestry plantations in the tropics by Pokorny *et al.* (2010). They found that even if the management costs per hectare are similar, the delayed return on investment in long-term activities alongside need to meet food requirements make smallholders prefer agriculture over forestry. This also reflects the short time preference that smallholders generally have.

The use of agroforestry systems and a focus on trees that provide non-timber forest products, such as fruit, which provides an income over time, helps small farmers in the transition to improved land practices. These project activities, however, must be tailored to suit the local socio-economic and institutional context, as resource endowments and entitlements can vary across and within communities. Failure to take account of differences in access to land, control over resources, capital assets and the availability of both formal and informal institutions can undermine rather than improve distributive justice (Bansha Dulal and Brodnig, 2010).

## 4.4 Promoting intra-community distribution arrangements

A common problem in community-based resource management schemes is distribution of benefits and costs, with better-off households reaping more of the benefits. For example, landless members of a community may lose access to resources if deals to stop deforestation are channelled only to improve productivity of those with lands. Bolsa Floresta in Brazil is an example of how a project can provide individual benefits while providing community infrastructure that benefits all, especially children and disadvantaged groups. This project combines a series of cash and in-kind payments to reward actions that result in carbon storage, which are sold internationally (under the CCB standard) and are combined with state funding to promote sustainable development (see Box 10).

The Tanzania Forest Conservation Group facilitates a similar initiative in Kilosa, Tanzania. About US\$73,000 has been set aside for distribution among 492 local men, women and children. Payment criteria are based on the proportion of the forested area of the reserve within each community, historical deforestation and estimated carbon stocks and risk of leakage. Although the CCB Standard is used here, it differs from the Bolsa Floresta project in that the payments are covered by public funding, much of it from the Norwegian government. Approaches of this type and magnitude require a combination of significant investment, low opportunity cost, and strong commitment and dynamism from the programme promoters.

## 4.5 Ensuring sustainable, long-term and diverse funding

Finding sources of sustainable funding (beyond start-up costs) for environmental services schemes can 'make or break' any intermediary. Only when funding is available can schemes pursue a more equitable and fair agenda. Here, intermediaries can help to:

- Reach international ES markets with a social component

- Buy and sell goods with a social/environmental component (i.e. Fairtrade, organic)
- Target market segments willing to pay a social premium for ecosystem services (through corporate responsibility, or public taxes), and
- Facilitate systems to bundle different funding sources to tackle multiple objectives (like trust funds).

### BOX 11. EXAMPLES OF AGREEMENTS THAT HELP RAISE FUNDS FOR REDD+ OUTSIDE THE UN

- US-based NGO Avoided Deforestation Partners established a unit agreement between NGOs and American corporations to finance climate change, introducing a 5 per cent emissions allowance through a US federal cap-and-trade system to reduce international forest emissions.
- The Forest Now Declaration of 2007 asks governments to include REDD+ in an international climate treaty that incorporates commitments to reduce national emissions and to support capacity-building efforts elsewhere.
- The Prince's Rainforests Projects (PRP) in the UK aims to combat tropical deforestation. Its 2009 emergency package of measures to slow the rate of tropical deforestation calls for swift and substantial funding from public–private partnerships in rich countries, including rainforest bonds.

### 4.5.1 Helping smallholders reach international credit markets

Intermediaries are key to obtaining international carbon or biodiversity credits (see Box 6). Experience shows that although many carbon sales come directly from project developers, a significant majority are from multi-layered brokers. Credits tend to be formally registered, for example, through the Markit Environmental Registry, to facilitate transparency of the process.<sup>15</sup> Pro-poor, smallholder carbon credits are still wedged within the voluntary sector of the markets. To date, most have been experimental or registered with a social/environmental certification group.

### 4.5.2 Buying and selling products with a social/environmental component

Intermediaries have been useful in promoting niche markets for products with a social and/or environmental angle, either buying directly and reselling, providing technical support or helping with start-up costs and networking (NGOs in particular, see Section 3.2.3). Examples include Fairtrade Café Direct (originally established by Oxfam and Traidcraft), Kuapa Kokoo and Divine Chocolate (see Box 7).

Green markets<sup>16</sup> use price premiums to tap into consumer willingness to pay for better land use practices, usually in association with eco-labelling approved by the Rainforest Alliance or similar agencies (see Section 4.1.3). Although these premiums mostly apply to the European and American markets, a few developing or evolving economies charge price premiums for organic agriculture and sustainable forest management.

### BOX 12. PRICE PREMIUMS SLOW TO HAPPEN

The impact on price in niche markets for certified products for sustainable timber is debatable and difficult to measure (Conroy, 2005). Asia-Pacific seems to report better prices for certified timber (Cashore *et al.*, 2006), and Malaysia has benefited from an average premium of 37 per cent on sawn timbers (see Shahwahid, 2006). Muhtaman and Prasetyo (2006) report that Perum Perhutani in Indonesia received a 15 per cent price premium while Wairiu (2006) notes that the Solomon Islands eco-forestry timber marketed through Village Eco-Timber Enterprises went up from US\$ 100 to US\$ 297 per cubic metre. A comparative price analysis from Sabah, Malaysia, shows that prices for certified products were higher than for uncertified depending on the species, and that high-quality timber in

international markets can fetch a premium of 27–56 per cent (Kollert and Lagan, 2007).

Yet many countries struggle to achieve price premiums. In Guatemala and Mexico, concerted efforts by the government, communities and industry to use certification have failed to generate the expected economic returns. It is unlikely that any more groups and companies will seek certification unless market access and prices increase (Carrera *et al.*, 2006; Anta-Fonseca, 2006). The price of timber from transitional countries such as Poland and Latvia has not gone up either, probably because EU markets are already supplied with certified timber from other countries (Cashore *et al.*, 2006).

Although a price premium for sustainable practices can be defended on ethical grounds, the reality is that the price of the final marketable product is determined by fluctuating supply and demand in the global market, which ultimately influences the economic prosperity of resource-dependent communities (Adamowicz *et al.*, 2003). Revenues from premiums have been slow to materialise for sustainably managed timber. Social premiums have taken place in Fairtrade products (Frank and Penrose-Buckley, 2012), but in many cases these prices have been stagnant in relation to costs and other products (Blackmore *et al.*, 2012).

Ferraro *et al.* (2005) argue that if direct payments for conservation are not feasible, a price premium approach is likely to be more effective than subsidies to capital acquisition in eco-friendly commercial activities. The key point here, however, is the presence of an effective group or NGOs to educate the consumers and redirect the funds raised at the point of sale to ecosystem protection payments at the point of production. One model that could be developed and applied is that used at the Ranomafana National Park in Madagascar,

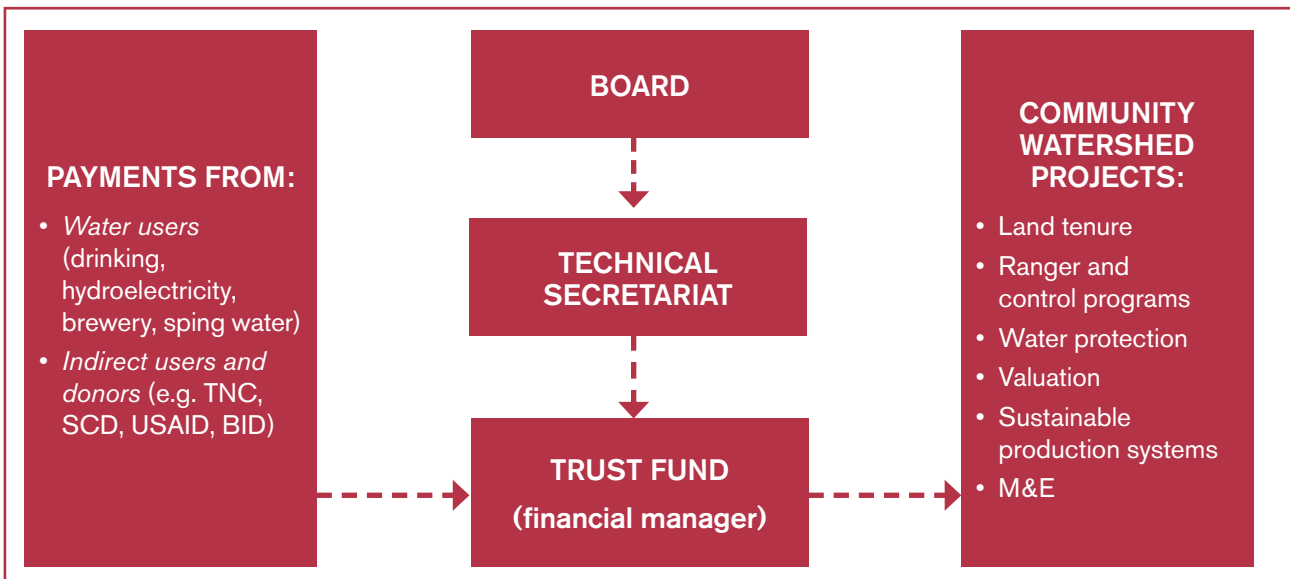
to increase the value of intact rainforest by providing support for commercial, eco-production activities: forest management, apiculture (beekeeping), and aquatic-species management.

### 4.5.3 Bundling ecosystem services and social objectives to tap into funding

Bundling ecosystem services can help diversify the potential funding pool and cost-sharing mechanism, combining income-generating activities with various ecosystem services protection, as well as donor funding for start-up costs or with a social angle.<sup>17</sup> Intermediaries can help reach a variety of funding sources to co-finance initiatives and pursue multiple objectives, and reach out to target audiences.

Environmental funds are emerging as an important type of private intermediary tool in PES, especially in Latin America. Trust funds such as FONAG in Ecuador (see Figure 3) are legal structures that rely heavily on the banking sector to manage funding as a long-term operation. They are a good mechanism for

Figure 3. FONAG Trust Fund in Ecuador



Source: Authors' own

The Fund for the Protection of Water (FONAG) is a private mercantile trust that was established in January 2000 as a permanent, stable economic financial mechanism. It is regulated by the Securities Market Law. Yields from its equity are used to co-finance activities and conservation projects, and maintain hydrographic basins that provide water for human and productive needs in the Quito Metropolitan District and surrounding areas. The trust fund was created for various reasons:

- To coordinate and enhance individual efforts
- To make better use of stakeholders' skills and capabilities
- To ensure continuity and transparency in conservation activities through long-term conservation financing, and
- To promote public-private partnerships in conservation.

Source: [www.watershedmarkets.org](http://www.watershedmarkets.org)

intermediation, and are useful in pooling funds from different sources and with different timescales (annual lump sums, monthly payments from users, one-off grants from donors). Donor agencies prefer separate funds with a defined legal structure to ensure that funding is sustainable (Porras *et al.*, 2008). By 2010, FONAG had helped protect 382,341 hectares of watershed, helped the Ministry of Environment establish park guards and community oversight groups to monitor protected areas, and helped 13,110 residents obtain the benefits of more sustainable economic practices. The model is being replicated in several other municipalities in Ecuador.

## 4.6 Tackling unwillingness to take on risk

As mentioned previously, most existing schemes for non-provisioning ecosystem services rely heavily on assumptions rather than solid scientific evidence. Although considerable work is going on in terms of tools for measuring impacts on ecosystem services, the vast majority of existing schemes pay for a land-management practice expected to generate this service. Needless to say, there are considerable risks in this approach but perhaps the risk of no-action is higher. Intermediaries enter here to absorb part of this risk.

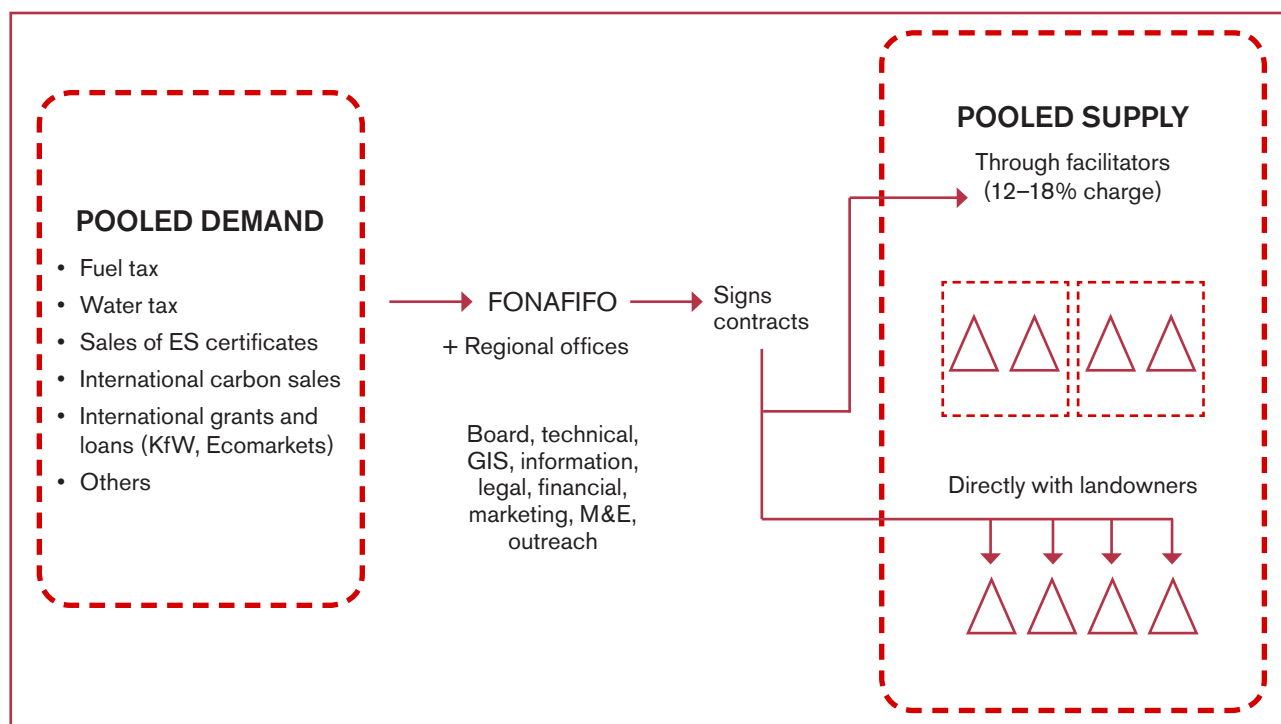
Various arrangements can be made to deal with the risks associated with these schemes.

- Intermediaries help to bypass costs by paying the land managers for the agreed land practices, but pass on the risk to final consumers through price premiums. More established examples include shade coffee, biodiversity-friendly products and the Marriott hotels in the Bolsa Floresta example in Brazil (Box 10), which charge extra to support schemes such as REDD+.
- In carbon deals, intermediaries set aside a portion of the carbon credits generated as buffer insurance -in case of unexpected events that compromise the carbon offsets- and sell only a fraction of the carbon that is actually stored.
- Paying landholders a fixed price for land management options and 'debundling' this package to sell to different potential users (like the PES in Costa Rica) as 'over the counter' deals.

These types of arrangement include voluntary private initiatives that either absorb the costs of selling environmental services or pass them on to final consumers; mandatory private arrangements to meet targets for carbon and biodiversity offsets; and public sector support (sometimes in cash but usually in kind) providing extension services and developing legal instruments that enable poorer land users to enter markets.

The Costa Rican PES programme is an example of an intermediation strategy that links a government-led scheme with bundling and the distribution of risk (see Figure 4). The programme, administered by a semi-autonomous public organisation – the National Forestry Fund (FONAFIFO), shows how the government leads the market by buying environmental services wholesale from landowners and selling them to buyers at different levels. Farmers sign individual contracts, and are paid on the basis of the type of land use rather than the environmental service provided. Other PES initiatives work alongside the government-led programme, for example the PSA Solidario<sup>18</sup>, promoted by FUNDECOR (Porras, 2013) and direct deals of providers and hydroelectric plants (i.e. La Esperanza<sup>19</sup>). Other examples of government schemes can be found in Mexico, Plan Verde in Colombia, Pro-Bosque (Pro-forest) in Ecuador, slope and soil management in China, watershed rehabilitation in the Philippines, and Working for Water in South Africa (Porras *et al.*, 2008).

Figure 4. Bundling ecosystem services in the Costa Rican PES scheme



Source: Authors' own

Having operated at the national level over the years, FONAFIFO has developed the ability to survive changes in government and reach out at the international level. Applicants for the Payments for Ecosystem Services scheme have to fulfil numerous, often confusing requirements, and make an appointment to submit their completed forms in person. Each application has to be signed and verified by an independent forest manager (*regente forestal*), who charges farmers a commission for M&E amounting to approximately 12 per cent of the fee. Several strategies have been used to reach local farmers:

- Group contracts (*contratos globales*) valid between 1997 and 2002, now introducing group monitoring
- Establishing FONAFIFO regional offices in strategic areas in 2002
- Contracts with indigenous groups
- Supporting work with local facilitators
- Actions to reduce transaction costs for all parties

In 2002, five years into the programme, FONAFIFO opened seven regional offices in strategic places around the country. This move coincided with the end of the group contracts, and helped prevent a sharp decline in participation in remote areas. Regional officers provide information on the PES scheme and other FONAFIFO services (such as forestry credits), and make personal appointments to receive and check pre-applications for new contracts.

Applications that fulfil the requirements are entered into a GIS system and double-checked for irregularities. Pre-approved applications are also marked up and allocated extra points for particular criteria relating to poverty and environmental aspects, and sent to the main office in San José for final approval. The number of contracts signed depends on the funds available. Applications that have been approved but not funded are put in line for the next financial year. All payments are made by the central office directly into the farmer's bank account. Each farm under contract is monitored and evaluated by an independent (certified) forest manager. These evaluations are then reviewed by regional office staff who also visit the farms and provide information for independent audits.

Source: Porras *et al.* (2012)



## 4.7 Facilitating enabling conditions

### 4.7.1 Promoting capacity building

Capacity building is vital when technological change is required for implementing a PES scheme, even when this builds upon existing practices (Bracer *et al.*, 2007). Capacity building can come from government extension services, the private sector (for example, through specialised agents like the forest managers in the Costa Rican PES programme, or outgrowers schemes, discussed in Section 4.2.2), or NGOs.

NGOs have been effective in promoting technological change, introducing new techniques and skills and providing training services (Grieg-Gran and Wilson, 2007). CODEFORSA and FUNDECOR are two of the most successful NGOs working in the forestry sector in Costa Rica, offering support to farmers in forest conservation, reforestation and management, and diversifying activities around PES programmes (Miranda *et al.*, 2004). These NGOs have forest technicians who are able to fully support the farmers in the design and implementation of the PES contracts, as well as provide first-hand monitoring.

### 4.7.2 Changing attitudes towards legitimacy of pro-poor ecosystem services deals

NGOs have successfully campaigned on international trade rules, ethical initiatives and corporate social responsibility (Grieg-Gran and Wilson, 2007). The Common Code for the Coffee Community, which is supported and facilitated by Deutscher Kaffeeverband

and GIZ<sup>20</sup> is a good example of NGO involvement and multi-stakeholder partnerships that have raised environmental and social standards in the production, processing and trading of mainstream green coffee. NGOs like the Rainforest Alliance have worked hard to promote organic and sustainability certification, and were at the forefront of the first carbon exchange deals brokered before 2002 (Peters-Stanley *et al.*, 2011).

NGOs have also proven effective in advocating for policies and regulations that assist poor producers, creating a better investment climate, and supporting the development and strengthening of appropriate institutions and representative organisations. At the local level, they can generate interventions that influence official attitudes and practices, and take the lead on pilot projects that aim to change cultural assumptions (such as gender-based constraints).

From the legal point of view, the UNFCCC climate change negotiations have acknowledged the importance of participation by indigenous people and other communities that voice their interests at the local level. The guidelines for REDD+ readiness preparation plans state that consultation and establishing safeguards are key to delivering equitable emissions reduction proposals that acknowledge the rights of local communities, are gender sensitive and establish fair benefit-sharing mechanisms.

# Conclusions on innovations

5

PES should not be a tool for poverty alleviation only (Pagiola and Platias, 2007). However, issues of fairness and justice become increasingly important when looking into the provision of ecosystem services, especially in developing countries (Grieg-Gran *et al.*, 2013). In some cases, participation of smallholders and community groups cannot be ignored, either because of location (i.e. they are in the target areas), inclination (a pro-poor approach is required) or potential (there are important economic benefits). Forging enabling conditions to make them active players in PES/REDD+ markets is not straightforward, but many intermediaries are slowly taking up the challenge.

The type of intermediary varies according to the activity promoted, how the environmental service is 'converted' into a commodity, and whether farmers access formal or informal markets, and whether they are national or international. NGOs and public institutions play a leading role in bringing small-scale and community farmers into the mainstream market and building their capacity to meet its demands. Public and donor funding is essential to create the enabling conditions for markets to work. The private sector is an increasingly strong player, particularly in the production of provisioning services and the production and maintenance of regulation services. However, its ability to deal with the social and environmental agenda is still very limited, and it needs to establish good internal governance structures to ensure transparency, accountability and fair distribution of costs and revenues between companies and the farmers with whom they work.

## 5.1 Which strategies have been successful?

The challenges in bringing small farmers and communities into both formal and informal markets are not new. What this paper does is look into what intermediaries and other facilitating agents are doing to enable them to access these markets, and how they benefit in the process. Our review shows that successful intermediation strategies include:

- Keeping transaction costs low for the farmers by using group contracts and collective action with very clear delineation of roles, responsibilities and group enforcement.
- Keeping transaction costs low along the value chains to maximise funds reaching the farmers, using simple and effective monitoring techniques, toolkits and pro-poor standards. Certification and international standards are slowly responding to pro-poor needs, although their costs still remain high compared to the potential benefits of being certified (in terms of better prices).
- Price premiums from linking agricultural produce to better land management in smallholdings can be achieved with the help of strong NGOs or local groups (like cooperatives), but this still tends to leave out the most vulnerable farmers.
- Sharing risk helps small farmers and communities enter the markets. Strategies promoted by intermediaries include upfront sales (of products and ES credits), shared cost of technical and input requirements (e.g. outgrower schemes), access to soft loans that takes into account the nature of risk for smallholders, and co-finance from donor and government groups to make transitions easier.
- Benefits to small farmers and community groups are higher when intermediaries and facilitators build on existing institutions and experience, and strive to provide added value from ES deals (in the form of long-term changes in land-use practices, security of resources like land tenure, capacity building and distribution of benefits among landless members of the community (for example through infrastructure).

## 5.2 Looking forward: recommendations for improving linkages

PES and REDD+ must be part of a wider approach to good governance, with clear institutional arrangements, decision-making and benefit-sharing mechanisms, transparency and accountability to avoid elite capture and the further marginalisation of poor farmers and those dependent on land. Here, we outline some specific recommendations in relation to the role of intermediaries.

### 5.2.1 Shorten the overall value chain

In some cases, improved land management for enhancing the provision of environmental services can be linked to market outlets by providing incentives at the beginning and end of the supply chain. This overall value chain is still painfully long, complex and involves numerous players in domestic and international markets, especially for global services like carbon and biodiversity, and for those products seeking a price premium in established agricultural and timber markets. A significant proportion of the revenues are still captured by professionals in the process, to the disadvantage of the farmers implementing the activities that provide ES. Intermediaries must seek to address this imbalance both by reducing transaction costs, and by increasing the bargaining power of farmers at the end of the chain.

## 5.2.2 Food security and fair distribution of benefits and costs brought forward

Trade-offs between food security and provision of ecosystem services are high on the agenda of small farmers. Although more expensive to manage, ES deals that address these issues through local intermediaries, as well as the distribution of benefits and costs within the community, are more likely to have a long-term impact on the people who provide the ecosystem services.

Food security and income generation are important yardsticks in measuring the real benefits that land users obtain from their efforts to tackle land degradation and mitigate the impacts of climate change. But many ES schemes are not determined by local needs but by exogenous factors such as the landscape or services targeted by the scheme, often decided by intermediaries such as NGOs, public institutions or private operators, based on their perception of the level of threat and need to particular ecosystems. Initiatives that work for small farmers and communities should take into account their needs when designing the mitigation activities and how they will be implemented and monitored.

## 5.2.3 Reinforce ownership and collective action and include the landless

More emphasis should take place on collective action for securing ownership of resources and process. Intermediaries should seek organisation, registration and, where possible, common ownership of resources such as water or forests.

Farmers' level of effort and commitment will be affected by the availability of land and their security of tenure. A lack of clear ownership is one of the key drivers of deforestation and forest degradation. Forests and other resources are often owned by governments (whose capacity to manage them is limited), rather than resource users, who are not involved in decision making about the use and management of these resources. One of the aims of processes like decentralisation and community-based natural resource management is to devolve resources and provide sufficient security for users to feel that it is worth investing in the protection and sustainable use of resources.

Engel and Palmer (2008) note that while PES-type instruments acknowledge the social need to include landless and chronically poor rural households, they are most likely to be effective in conditions where

poverty is not extreme, and where landowners are able to make and enforce decisions regarding land use. PES and REDD+ schemes therefore tend to exclude poor landless farmers who make a living by selling their labour to landholders. Tschakert (2007) reports that initial evidence from small-scale, rain-fed agricultural systems in Senegal suggests that participation and benefits for these group are very unequal, and that participation in ES markets (like carbon) can involve significant trade-offs between poverty and resource conservation. In our view, it is very important that pro-poor PES/REDD+ models take explicit account of landless and resource-poor farmers. It is also essential to invest in improving access to land and forests, carbon rights and security of tenure in order to implement pro-poor PES/REDD+ schemes. Although the process may be more expensive, it is the role of intermediation – particularly by public extension services and NGOs – to empower communities to deliver ecosystems services.

## 5.2.4 Clarify accountability in risk-sharing initiatives

More detailed analysis of the cost structure of different intermediaries and pro-poor models is needed to determine the most cost-effective means of intermediation. Intermediaries need to be open about transaction costs and the costs of implementing PES/REDD+ initiatives. A detailed study of the costs and reward structures of private/smallholder ventures would also be useful, particularly further analysis of outgrower schemes, to establish how these systems can be viable and help reduce poverty among land users. It is necessary to agree on measures to ensure that intermediaries or buyers from the private sector are transparent and accountable in their dealings with small-scale producers, especially when private companies cover the cost of inputs and then claim the right to set producer prices.

## 5.2.5 Caution with pro-efficiency models

At present, most market-based solutions to ES provision are more likely to be captured by farmers with better connections and secure assets. Schemes that strive for a strong focus on economic efficiency (like auctions) risk incurring a heavy social cost where strong imbalances exist in access, transaction costs and power.

## 5.3 Degree of replicability from existing models

Cash-based PES schemes have worked well in Latin America, where governments (local and national) have embraced the idea of ecosystem-based resource management and provided significant co-funding to steer the process. Costa Rica, Brazil, Mexico and Ecuador are leading the way in national-level schemes, and Central America hosts a myriad of small-scale water initiatives promoted by municipalities. PES is mostly taking a different format in Africa. Emphasis is being placed on engaging with governments and other ecosystem beneficiaries to assess where payments would be coming from, and how regular they would be. Substantial efforts are going into understanding the infrastructure required to monitor activities for compliance, and, importantly, how to ensure that the smallest smallholders and forest users with no land titles can benefit, and how PES activities generate added value at the plot level e.g. in terms of food security and new market opportunities. The form of the payment to the farmer varies from small cash payments, capacity building or market access support, and/or community compensation mechanisms. South-South approaches to share experience are very useful, and learning platforms have shown their ability to exchange experiences and methods. However, these exchanges have to be treated carefully, and context taken into account to avoid raising expectations.

While there are examples of pro-poor models focusing on the community and family levels, a much broader approach is also emerging as a result of growing private sector interest in REDD+ projects. In cases where this means dealing with large areas that span different ecosystems, uses and users, there seems to be little acknowledgement of the role that land resources play in reducing carbon emissions. Nhantumbo (2011) highlights the importance of good governance and the need to establish clear land, forest and carbon rights to protect resource users' rights and ensure the fair distribution of benefits and risks.

Ultimately, rewards for community-based ecosystem services will be transacted in voluntary markets, where prices will be strongly affected by the buyers' perception of co-benefits. A project that is able to 'tell a good story' from social and environmental perspectives will be more likely to sell credits and get better prices. The ability to package and sell this story will be just as important in the development of market-based approaches to the provision of ecosystem services as the technical aspects of planting trees. But it is important to recognise that a market-based approach may not be suitable for all. Assumptions of what is a co-benefit, and whether this is 'good' or 'desirable' will vary from place to place, as will the perceptions of middlemen, from facilitators who add value and promote development, to self-enriching scammers concocting fake markets from a boiler room.

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# Notes

1. A value chain approach is useful to analyse flows of products from their origin to the final consumers. They show how buyers' willingness to pay is not only affected by the product itself, but also by the way in which it is produced, processed, transported and made available to consumers.
2. See [www.iied.org/forest-connect-linking-small-medium-forest-enterprises-markets-services](http://www.iied.org/forest-connect-linking-small-medium-forest-enterprises-markets-services)
3. See [www.iied.org/forest-governance-learning-group](http://www.iied.org/forest-governance-learning-group)
4. See <https://hivos.org>
5. See [www.safireweb.org](http://www.safireweb.org)
6. See [www.forestcarbonportal.com/project/noel-kempff-mercado-climate-action-project](http://www.forestcarbonportal.com/project/noel-kempff-mercado-climate-action-project)
7. See [www.planvivo.org](http://www.planvivo.org)
8. See <http://tinyurl.com/goldstandard-micro>
9. See <http://v-c-s.org/sites/v-c-s.org/files/FactSheet%20JNRI%202012%20-%20MidRes.pdf>
10. See [www.forest-trends.org/publication\\_details.php?publicationID=3280](http://www.forest-trends.org/publication_details.php?publicationID=3280)
11. See [www.climate-standards.org](http://www.climate-standards.org)
12. See <https://ic.fsc.org/smallholder-support.152.htm>
13. See [www.fairtrade.org.uk/en/buying-fairtrade/gold](http://www.fairtrade.org.uk/en/buying-fairtrade/gold)
14. See Porras *et al.* (2008) for discussion on types of payments in PES.
15. See [www.markit.com/product/registry](http://www.markit.com/product/registry)
16. Ferraro *et al.* (2005) classify a green product as an 'impure' public good, consisting of a private good (such as rainforest honey) bundled with a jointly produced public good (such as biodiversity protection).
17. Donor funding is very important to help start-up initiatives and ease farmers into new technologies, reducing the dependence and short-term uncertainty of market sales. However, many of these donor funds are tied to administrative milestones and make practical application difficult (Pham *et al.*, 2010).
18. See [www.fundecor.org/es/node/30](http://www.fundecor.org/es/node/30)
19. See [www.watershedmarkets.org/casestudies/Costa\\_Rica\\_La\\_Esperanza\\_eng.html](http://www.watershedmarkets.org/casestudies/Costa_Rica_La_Esperanza_eng.html)
20. See [www.sustainable-coffee.net](http://www.sustainable-coffee.net)



Intermediaries – governments, local organised community groups, NGOs and the private sector – are important players in linking smallholders to niche markets for environmental services. But supporting land users and persuading them to risk investing in evolving markets where the benefits are erratic is a challenge.

This issue paper focuses specifically on intermediation strategies to deliver regulating and cultural services, primarily through payments for ecosystem services (PES) and REDD+. It highlights the importance of good governance and the need to establish clear land, forest and carbon rights to protect resource users' rights and ensure the fair distribution of benefits and risks without further marginalising the poorest land users – and cautions that a one-size-fits-all, market-based approach may not be suitable for all.

IIED is a policy and action research organisation working to promote sustainable development – development that improves livelihoods in ways that protect the environments on which these are built. Based in London and working on five continents, we specialise in linking local priorities to global challenges. In Africa, Asia, Latin America, the Middle East and the Pacific, we work with some of the world's most vulnerable people to ensure they have a say in the decision-making arenas that most directly affect them – from village councils to international conventions.



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