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## **Pro-poor benefit distribution in REDD+: Who gets what and why does it matter?**

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# Pro-poor benefit distribution in REDD+

Who gets what and why does it matter?

Essam Yassin Mohammed

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## Abbreviations

CBNRM community-based natural resource management

CO<sup>2</sup> carbon dioxide

ICDP integrated conservation and development projects

IIED International Institute for Environment and Development

PAL Programa de Apoyo Alimentario

PES payments for ecosystem services

REDD reduction of emissions from deforestation and forest degradation

# Abstract

Ensuring that the poor or the most vulnerable sections of society benefit from REDD+ projects is crucial to building both national and international legitimacy and to fostering successful delivery of conservation and social objectives. In both academic and non-academic literature, issues of the equity of benefit-sharing at a community or household level are overlooked compared with distributional issues at the national and international level. Therefore, this paper aims to look at some of the issues related to benefit distribution at village and household level. Two very important factors that are likely to affect benefit distribution from REDD+ at a village level are whether payments are made directly to households or to communities as a whole; and whether payments are made in cash or in kind. In addition, the paper looks at the following design questions, which are closely related to these above factors:

1. What should the provision of benefits be based on – landholding size, actual emission reductions or the demography of the community – to ensure that equitable design criteria are met?
2. How can it be ensured that more vulnerable groups such as ethnic minorities, the small-landholders and landless poor, women and children do not lose out?
3. What impact would the type of benefit transferred have on the well-being of the communities and the local economy?

To this end, experiences are reviewed from payments for ecosystem services, integrated conservation and development projects, community-based natural resource management and food or cash transfer programmes across the global south. In addition, benefit distribution systems that would enable the REDD+ pilot projects in general are suggested, and the REDD pilot project in Cat Tien National Park in particular, to be more pro-poor. Evidence is examined on how well schemes meet external criteria of equitable benefit distribution as well as assessing the perceptions of those involved. Conclusions drawn include:

- Whether benefits are provided to a community as a whole or to individual households, and what benefits to transfer, are decisions that should be made on the basis of community consultation and careful assessment of their preferences.
- Even though determining payment types and levels is best tailored through consultations with local people to best match community aspirations and those in need, economic feasibility, local institutional capacity and governance structures, and the effects on the local economy and on the livelihoods of the poor households should be carefully weighed and assessed.
- Assessment of the preference for payment type should not be a one-off activity. Because participant communities are unlikely to have experience in receiving rewards in exchange for ecosystem service provision, their stated preferences may not be accurate in the early stages of the scheme. Once the scheme is implemented and communities start receiving payment, their preferences should be periodically assessed and changes in payment type should be made accordingly. This will increase the implementation and transaction costs of REDD+. Project developers and designers should budget for the cost of participation at the project design phase.
- To promote pro-poor benefit distribution from REDD+ interventions, benefit distribution based on proportionality and the equality of opportunities to participate would be more relevant in areas where the participants are characterized by less inequality. In an unequal society (for example characterized by land disparity), on the other hand, benefit distribution based on need that positively discriminates in favour of the poor would be more desirable so that poor or weak claimants do not receive disproportionately lower benefits than the relatively well-off.

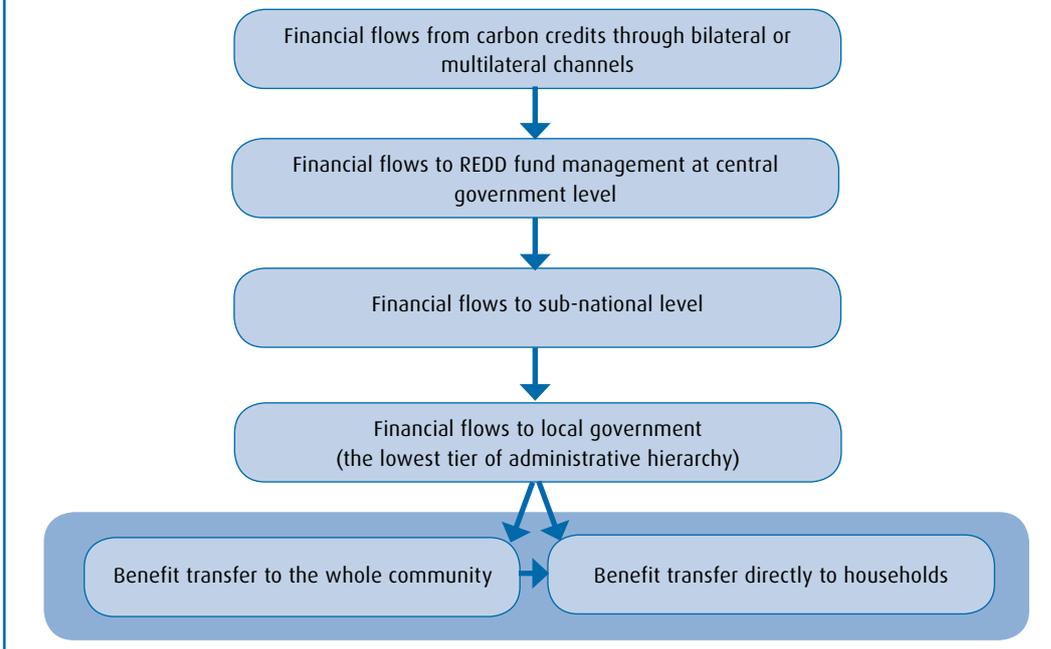
# Introduction

Emissions from deforestation are estimated to contribute up to 17 per cent of global greenhouse gas emissions (IPCC, 2007) – the third-largest source of anthropogenic greenhouse gas emissions after energy supply and industrial activity (Karousakis, 2009). It was only at the 11th Conference of the Parties (COP11) to the United Nations Framework Convention on Climate Change in Montreal in 2005 that integrating the reduction of emissions from deforestation and forest degradation (REDD) in developing countries into the post-Kyoto climate change regime was proposed by the government of Papua New Guinea on behalf of the Coalition for Rainforest Nations. REDD was recognized and later incorporated into the Bali Action Roadmap (Carpenter, 2008), which further included the role of conservation, sustainable forest management and the enhancement of forest carbon stocks, which is commonly known as REDD+. Few issues have dominated the recent environmental debate as much as the proposal of including REDD in a post-2012 international climate policy agreement (Börner *et al.*, 2010). The basic idea behind REDD is simple: countries that are willing and able to reduce emissions from deforestation and forest degradation should be compensated for doing so (Scholz and Schmidt, 2008). It is predicted that financial flows for greenhouse gas emission reductions from REDD+ could reach up to US\$30 billion a year (UN-REDD, n.d.).

The issue of distribution remains key to ensuring that the poor or the most vulnerable sections of society benefit from REDD+. According to Peskett *et al.* (2008), one of the main reasons equitable or fairer benefit-sharing is important is in order to build wider national (and international) legitimacy and support behind the REDD+ mechanism. If a REDD+ intervention is perceived as illegitimate, this may lead to conflict and jeopardize environmental conservation efforts as well as the effectiveness of the scheme. Lindhjem *et al.* (2009) state that careful balancing between effective incentives and legitimacy is needed. Gaining the support of local, resource-dependent people through improvements to their livelihoods and poverty alleviation may in turn assist in the achievement of conservation objectives (Groom and Palmer, 2008). Lindhjem *et al.* (2009) argue that, to foster legitimacy for REDD+, enough people must benefit but, if too many people benefit from something they did not contribute to, this will dilute incentives, which may result in lower emission reductions and in lower overall benefits to share. On the other hand, if rewards are given only to certain groups, actions or geographical areas, people may feel unfairly treated and turn against the whole mechanism as illegitimate. Thus, a clearer understanding of distributional issues is becoming increasingly important for the design of REDD+ (Porras, 2010).

Benefits distribution issues are important at the international level – where financial rewards are transferred to recipient countries – and at national and sub-national levels – where benefits from REDD+ are disbursed from national governments to local governments and other entities such as nongovernmental organizations and community organizations (see Figure 1). More importantly, equitable benefit-sharing is imperative at the level of communities and households, which are the final recipients of the payment. Although there has been an emphasis on addressing the issues of REDD+-related benefit distribution at the international level and to some degree at national (or central government) level, there has been very limited analysis (if any) at the lowest tier of administrative hierarchy, which is usually a village, and how this may affect benefit-sharing *within* and *among* households.

**Figure 1. Simplified diagram of REDD+ benefit flows at international, national and sub-national level**



Note: This paper focuses on the lowest tier of administrative hierarchy (shaded area).

### 1.1 Objectives of the report

This report examines two very important factors that are likely to affect benefit-sharing from REDD+ at a household and village or community level. These are:

1. whether benefits are provided to communities or directly to households;
2. the form in which benefits are provided – cash or in kind, or combinations of different types of benefit.

The paper will also look at the following design issues closely related to these two factors:

- What should the provision of benefits be based on – landholding size, actual emission reductions or the demography of the community – to ensure that equitable design criteria are met?
- How can it be ensured that more vulnerable groups such as ethnic minorities, the landless poor, women and children do not lose out?
- What impact would the type of benefit transferred have on the well-being of the communities and the local economy?

There is no one-size-fits-all approach to benefit distribution systems. Impacts on the well-being of the recipient communities or households, as well as the effectiveness, legitimacy and overall success of the scheme, will depend on the local context of each REDD project. Therefore, this paper looks at some of the factors that are very likely to affect the way benefits are shared or distributed at village level and will suggest benefit distribution systems that would enable the REDD pilot project in Cat Tien National Park, Viet Nam, to be more pro-poor. Viet Nam is one of 14 countries where the United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries (UN-REDD) is supporting the development of REDD readiness. In preparing for REDD, there are several elements that need to be addressed: the ‘components of readiness’. Of these, the Government of Viet Nam identified the design of a transparent and equitable benefit distribution system as a priority for UN-REDD support (UN-REDD Programme Vietnam, 2009).

As Madeira (2009) states, since most REDD activities are not yet fully operational, little is known about how they will be implemented and whether they will deliver pro-poor benefits. There has been very limited progress to date and the situation is still more or less the same. There is, however, a great deal of accumulated experience from development and conservation programmes such as payments for ecosystem services (PES), community-based natural resource management, integrated conservation and development programmes and development-focused food/cash transfer programmes. Lessons will be drawn from those programmes that are relevant and applicable to REDD projects. These interventions are chosen primarily because (1) they are at different points on a spectrum of conditionality at the individual and community level, ranging from being identified as poor or most vulnerable where participants are compensated for providing labour inputs, through to carrying out specified conservation and land management practices to protect and enhance the supply of ecosystem services; and (2) they involve challenges of targeting – identifying the appropriate people to receive the benefits and ensuring that benefits are concentrated on the most appropriate to maximize poverty reduction impacts.

## 1.2 Structure of the report

The review is divided into five sections. Section 1 has provided a brief definition of REDD+, why a pro-poor benefit distribution system is key to project success, the objectives of the study, and key design issues that may affect benefit distribution at community and household level. Section 2 explains in detail what equitable benefit distribution means, why it matters, and the different criteria used to assess whether a given benefit distribution is pro-poor or not. Section 3 reviews the distributional implications of benefits transferred to communities or directly to households and draws lessons from PES. Section 4 explores the impacts of the type of benefit transferred – cash benefits, tangible and intangible in-kind benefits, or a mix of both – on inter- and intra-household benefit distribution, and their impacts on the well-being of households and the local economy as well. Section 5 introduces the pro-poor REDD+ pilot project in Cat Tien National Park in Viet Nam, draws lessons and provides sets of recommendations to ensure that the benefit distribution system of the pilot project is pro-poor. It also provides a summary and points a way forward.

# Pro-poor benefit distribution: What does it mean and why does it matter?

There is a growing need to ensure that REDD works for the poor. Beyond the moral argument, scholars mention the sustainability of REDD in the long term, risk reduction in projects and for investors and buyers, political motivation or legitimacy. Forest conservation policies that hurt the poor or privilege the wealthy disproportionately may not be acceptable to those who are to pay for REDD or to the governments in countries supplying reduced emission reductions (Börner *et al.*, 2010).

The potential social benefits from carbon finance include new revenue streams flowing to poor communities, particularly in terms of increased, stable and long-term financial and non-financial benefit flows in rural areas, and benefits from the more efficient and sustainable land-use practices it supports (CARE, n.d.; Peskett *et al.*, 2008). In practice, however, REDD systems could present new risks for the poor, including loss of access to land, the concentration of power by elites and distortion effects in local economic systems (Peskett *et al.*, 2008). CARE adopts an explicitly 'pro-poor' approach that aims to ensure that (1) poverty reduction benefits reach poorer households, women and other marginalized groups within poor communities, (2) there are no negative social impacts or, where such impacts are inevitable, that effective mitigation measures are put in place to achieve a net 'do no harm' outcome, (3) there is equitable sharing of benefits between local, national and international levels, and (4) human rights are respected, protected and secured. Furthermore, Peskett *et al.* (2008) list 10 requirements for making REDD work for the poor (see Box 1).

## Box 1. Ten requirements for making REDD work for the poor

1. Provision of information
2. Provision of upfront finance and use of mechanisms for reducing costs
3. Use of 'soft' enforcement and risk reduction measures
4. Prioritization of 'pro-poor' REDD policies and measures and long time horizons
5. Provision of technical and legal assistance to national and local governments, NGOs and the private sector
6. Maintenance of flexibility in the design of the REDD mechanism
7. Clear definition and equitable allocation of carbon rights
8. Development of social standards and application of existing extra-sectoral standards to REDD systems
9. Applying measures to improve the equity of benefit distribution
10. Alignment with international and national financial and development strategies

Adapted from Peskett *et al.* (2008).

There is no clear definition of pro-poor benefit distribution in REDD+. The existing literature on benefit distribution focuses on the following five issues:

- whether it is defined using externally derived criteria or the perceptions of the public;
- whether payments are made on the basis of equity (payments match contributions), equality (equal payments to all households or communities) or need (where the needy are systematically favoured);
- whether the basis of the payment mechanism is inputs (for example, labour and size of landholding) or outputs (reduced CO<sub>2</sub> emissions) ;
- targeting – how to ensure that disadvantaged groups such as small landholders do not lose out.

## 2.1 Defining pro-poor benefit distribution using externally derived criteria

Even though it seems easy to define what pro-poor means, assessing whether and to what extent an initiative is pro-poor is difficult in practice. How do we know whether the benefit distribution mechanism that we adopt really is pro-poor or not? Pagiola (2007) describes a pro-poor intervention as a mechanism 'that maximizes its potential positive impact and minimizes its potential negative impact on the poor'. According to Pernia (2003), as long as the poor benefit proportionally more than the non-poor, the given intervention is pro-poor in nature. Pernia further argues that a development strategy or an intervention that makes efficient use of labour – the poor's principal asset – and makes appropriate investments in education and health is good for both growth and distribution.

In this paper pro-poor benefit distribution in REDD+ is defined as a mechanism that (1) ensures equitable participation by and consultation with the communities directly affected by the scheme; (2) in absolute terms delivers a positive net benefit to the poor; (3) in relative terms benefits the poor proportionally more than the relatively well-off; and (4) enhances and makes use of the poor's primary assets, namely labour and social capital. Such externally derived criteria can be used to assess whether an initiative is pro-poor. However, the perceptions of those involved in the scheme are also important indicators.

## 2.2 Pro-poor benefit distribution and community perceptions

Recently, many researchers have started to examine the public's perceptions of fairness to assess whether a particular scheme has been pro-poor or not. Sommerville *et al.* (2010) state that a main determinant of the acceptability of an intervention such as payments for ecosystem services or REDD is the perceived fairness of the distribution of the costs and benefits of the intervention. Taking a case study from Menabe in Madagascar, the authors investigated the role of perceived fairness and benefit distribution in community-based payments for ecosystem services interventions. Sommerville *et al.* (2010) found that the intervention appears to be an overall success, with individuals reporting high levels of perceived fairness of payment distribution and a high proportion of individuals expressing overall net benefit. Therefore, as well as providing tangible benefits, conservation success is contingent on developing positive local attitudes (Struhsaker *et al.*, 2005).

Community consultations and participation in project planning and implementation processes can be a very effective tool to build positive perceptions among client communities. However, even when local people's needs (in terms of payment types) are integrated into project planning and implementation, varying opportunity and transaction costs among individuals and communities may result in the perception of unfair distribution (Sommerville *et al.*, 2010). The authors reiterate that it is usually the case that the costs of conservation are shouldered by local people (mostly the poor) who depend on natural resources for their livelihood, whereas the benefits are enjoyed by all. Thus, an equitable distribution of benefits and costs is crucial to ensure the success of the intervention. This can be done by carefully assessing the transaction costs and opportunity costs incurred by different groups of participants and ensuring that these costs are equally distributed. This should mainly be done to distribute benefits in proportion to the costs of participation. If payments are made without carefully equating opportunity and the transaction costs associated with landholding size (which are not necessarily directly proportional to the size of the landholding), then large landholders may benefit disproportionately more than small landholders. As a result it is very likely that this is going to develop sense of injustice which is not going to serve the purpose of the intervention.

### 2.3 The principles of equitable benefit distribution in REDD+

The United Nations Collaborative Programme on Reducing Emissions from Deforestation and Forest Degradation in Developing Countries has assisted the Government of Viet Nam to identify key issues that need to be addressed in the design of a REDD+ compliant benefit distribution system based on four key principles, namely: equity, transparency, additionality, and performance-relatedness. In making the allocation decision, authorities often use distributive rules such as equality (everyone receives the same amount), equity (the amount of the resource received matches contributions) or need (outcomes satisfy needs) (Törnblom and Vermunt, 2007). Even though nowadays many tend to define 'equity' in a broader sense that encompasses equality and need, others (for example, Wagstaff, 1994; Maiese, 2003) emphasize that the three principles of distributive justice – equity, equality and need – are equally important and operate in different situations. Equity or proportionality operate mainly in competitive situations where individuality is stressed. Even though benefit distribution based on contributions makes economic sense, it is very likely to arouse resentment and social unrest, thereby jeopardizing social capital. Consequently this will undermine the effectiveness of the intervention. Equality and need, on the other hand, operate in situations where group solidarity, harmony and the well-being of individuals is the group goal. These can be categorized as social capital, which is the primary and most important asset of poor rural communities in many developing countries.

Therefore, in this paper it is argued that benefit distribution will depend on the nature of the participants in the scheme. In areas where the participants are characterized by less inequality, a benefit distribution system based on equity (competitiveness) and equality (equal opportunities to participate) would be more relevant. In contrast, in an unequal society, benefit distribution based on need would be more desirable so that poor or weak claimants do not receive disproportionately lower benefits.

### 2.4 What should the calculation of benefits be based on?

Although there are several proposed options for determining the amount of benefit transferred (per hectare of forest conserved; per ton of CO<sub>2</sub> emissions reduced; in relation to input to conservation activities such as tree planting and carbon monitoring; or a mixed approach), there is no agreed mechanism for the calculation of benefits (commonly known as the payment mechanism) for REDD. This is mainly because of the potential implications of each payment mechanism for benefit distribution. The payment mechanism will have significant implications for benefit distribution, which will very probably be affected by negotiations; in particular, power imbalances between ecosystem service sellers, buyers and mediators. Any mechanism needs to ensure that small elite groups are not over-compensated and that as many as possible small landholders (who are usually poor) are involved in the scheme. This becomes significantly important in regions or countries characterized by disparities in landholding.

While Latin American countries are notorious for disparities between small landholders (*minifundios*) and large landholders (*latifundios*), many poor Asian and African countries are increasingly becoming so. Jayne *et al.* (2003) conducted a household survey in Ethiopia, Kenya, Rwanda, Mozambique and Zambia and found serious disparities in incomes and land allocation at the local level in all five countries. They argue that, although it is possible that village-level disparities in incomes and land could occur as an outgrowth of differences in capabilities and entrepreneurship across households, it is also possible that local and national governance decisions over time play a role in generating such disparities. This trend is becoming increasingly common in Viet Nam as well. According to Nguyen *et al.* (2006), land inequality in Viet Nam is widening, where the poor households often have small areas of agricultural land. Thus, it is very important for the Vietnamese government to carefully design a benefit distribution system that does not exclude weak claimants.

## 2.5 Targeting: How to ensure that small landholders or landless groups do not lose out

It is becoming more apparent that REDD+ benefits transfers are very likely to be made according to the size of landholding conserved or the amount of CO<sub>2</sub> reduced, or to be based on a quasi-auction where buyers and sellers negotiate (Börner *et al.*, 2010). However, owing to the high transaction costs involved in basing payments on outputs (reduced CO<sub>2</sub> emissions) and in quasi-auctions, many REDD+ projects are very likely to use landholding size dedicated to REDD+ as the basis for payment.

Making benefit transfers on the basis of reduced emissions is going to be more challenging in Viet Nam. According to Bleaney *et al.* (2009), monitoring carbon storage at the household level is difficult because of the sheer number of households managing forests in Viet Nam and limited capacity. This may make it difficult to distribute benefits below the provincial level on the basis of 'pay per performance'. If individual households are rewarded in proportion to the size of their landholding, then large landholders may benefit disproportionately more than small landholders, and landless but forest-dependent community members will be excluded. This will raise equity issues in regions experiencing land disparity such as Viet Nam. In these circumstances, it is desirable to engage the landless poor in monitoring and assessment activities and to pay them for their labour. This would enable the landless poor to benefit from the scheme.

In addition, the transaction and perhaps opportunity costs of participating in REDD+ are negatively proportional to landholding size. This means that large landholders are going to benefit from economies of scale of production and will disproportionately benefit much more than the poor. What can be done to overcome this problem? As argued by Schwarte and Mohammed (2011), to distribute the costs of and benefits from participation more fairly, schemes could provide a declining reward for each additional unit of land. This would result in diminishing payment as landholding size increases. In this way, participation by small landholders is encouraged while ensuring that large landholders do not rip off the benefits associated with REDD+. The same approach was used in Ecuador in an incentive-based programme for the conservation of native forests called Programa Socio Bosque.<sup>1</sup>

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1. See <http://www.scribd.com/doc/16445485/Programa-Socio-Bosque> (accessed 5 December 2011).

# Should benefits be transferred to households or to the community as a whole?

For the sake of simplicity, development practitioners and donor organizations have for a long time taken the household (as opposed to the individual) as the utility-maximizing unit. This simply means that household members make decisions together and try to maximize their household welfare. This is based on the assumption that households are characterized by unity and agreement, which has been proved to be wrong. Nonetheless, benefit transfer programmes usually take households as a unit and make payments accordingly. Some interventions have been seen to magnify this assumption at the community level and to take a community as a unit. In natural resource conservation programmes, it is preferred to reward communities where the natural resource is communally owned. In addition, it is argued that contracting with and providing benefits to communities as a whole has the advantage of economies of scale and thus lower transaction costs. However, benefits provided to households or to communities will have varying implications for benefit distribution. In this section, experiences are reviewed from payments for ecosystem services (PES) and the implications for benefit distribution of benefits provided directly to households or to the community as a whole (for a definition of PES, see Box 2).

## 3.1 Lessons from payments for ecosystem services

PES is based on the notion that, to maintain the supply of environmental goods and services, immediate incentives are needed to induce people to forgo the more disruptive land-use and resource-use practices (Frost and Bond, 2006).

PES is, arguably, the most promising innovation in conservation since the United Nations Conference on Environment and Development in Rio de Janeiro in 1992 (Wunder, 2005). It has attracted increasing interest from both policymakers and researchers as a mechanism to translate external, non-market values of the environment into financial incentives for local actors to provide ecosystem services (Engel, Pagiola and Wunder, 2008). In addition to conservation benefits, PES *arguably* has the advantage of providing additional income sources for poor land users, helping

### Box 2. Defining payments for ecosystem services

Wunder (2005) defines PES as (1) a voluntary transaction where (2) a well-defined ecosystem service or a land use likely to ensure that the service (3) is being 'bought' by a minimum of one ecosystem service buyer (4) from a minimum of one ecosystem provider (5) if and only if the ecosystem service provider secures ecosystem service provision (conditionality). As can be noted from this definition, compared with command-and-control and other disincentive-based environmental policies, the PES concept has two innovative features: *voluntariness*, which makes the scheme at least welfare neutral for those who participate voluntarily; and *conditionality*, where payments are provided contingent on the agreed increased environmental service provisioning compared with a business-as-usual scenario (Börner *et al.*, 2010). However, not all PES schemes comply with Wunder's criteria (Porrás, Grieg-Gran and Neves, 2008).

A number of PES schemes are being experimented with in Viet Nam (Hoang *et al.*, 2008) but, according to Wunder *et al.* (2005), they do not fall within their definition of PES. In particular, the issue of voluntariness on the buyer side seems to be missing. The recently drafted and approved Payments for Forest Environmental Services (PFES) Decree No. 99/2010/ND-CP (see <http://eprnews.com/en-US/Document/Details.aspx?ID=105>) issued by Viet Nam's Prime Minister states that all ecosystem service buyers, which range from governmental companies to downstream water users, are 'obliged' to pay for the services they receive.

to improve their livelihoods. However, as highlighted earlier, this will very likely depend on how benefits are provided. Decisions on whether to provide benefits at the community or the household level often depend on (1) careful assessment of the pros and cons of each mode of benefit transfer, and (2) the availability of the resources to be distributed and eligibility.

### 3.1.1 The pros and cons of providing benefits to communities vs. directly to households

The provision of benefits to communities (rather than directly to households) often takes one of two forms. Either they are implemented as predetermined development interventions or financial resources are provided to communities and they decide how to distribute or what to build in their community.

Tacconi (2009) state three advantages of investing in community infrastructure – whether this is decided by communities or through predetermined development programmes – to be: (1) it reduces transaction costs, which are a major barrier to the participation of the poorest in PES schemes; (2) it builds the institutional capacity of local communities and thereby strengthens their social capital; and (3) by supporting community infrastructure and services it establishes longer-lasting foundations for the improvement of local livelihoods.

It is also commonly believed that benefits directed at building community infrastructures allow all community members to benefit from the payments generated from PES. Sommerville *et al.* (2010) argue that a focus on benefit provision to communities as a whole and investing in community infrastructure could potentially ensure that the entire community has the opportunity to access the benefits, and may avert benefit capture by small elite groups and guarantee access to the poor. There is growing evidence to suggest that payments made to communities, whether they are implemented by an intermediary organization or communities are provided with financial resources and decide how to use the money, are usually invested in building community infrastructures such as roads, schools and hospitals.

However, PES incentives that are directed at whole communities for communal participation may not be effective because this relies on the assumption that the community is unified. It cannot be expected that everyone in the community will benefit equally (Skutsch *et al.*, 2011). Therefore, one needs to bear in mind that projects aiming at developing community infrastructure are not always immune to elite capture. The location of schools and clinics, for example, is usually selected in favour of the elite. It is also common in many development projects for the elite to claim *de facto* ownership of the public goods and to exclude weak claimants from benefiting from the resource.

### 3.1.2 Resource availability and eligibility

In addition to the distributional, administrative and livelihood benefits that are often associated with providing benefits to communities as a whole, the financial resources available are very likely to affect the decision-making process. If the financial resources available to be distributed are very limited in relation to the number of eligible and willing participants, then the incentives provided to each household might not be large enough.

In a study by González Guillen (2004) to assess the importance of cash payments in the Mexican PES programme, and documented in *All That Glitters* by Porras, Grieg-Gran and Neves (2008), in areas where communities received relatively large payments these were more likely to be distributed between community members. On the other hand, a community in Santa Maria de Ocotan and Xoconostle in Durango state received US\$72,000 to be shared between 18,000 households, which is equivalent to US\$4 each. In this case the payment was not shared out but was invested in publicly owned goods. In theory it is very likely that the *perceived*

value of benefits transferred to communities is higher than that of small or negligible benefits transferred to each household. Therefore, investing in community infrastructures that can be enjoyed by all can be an effective way of incentivizing people to change their natural resource use behaviour.

Sometimes there can be a mix of both direct transfers to households and payments made collectively to communities. An example of such a scheme is the Bolsa Floresta (forest allowance) Program in the state of Amazonas in Brazil (see Box 3). The Bolsa Floresta Program provides payments and social benefits to every household in a reserve that agrees to be part of the scheme regardless of its primary income-generating activity. For example, a fisher household and a household primarily dependent on agriculture or selling forest products are both eligible and receive the same compensation.<sup>2</sup> This may seem generous and to be providing equal opportunities to all members of the communities in the reserve, but the efficacy of the programme could be undermined. Such blanket distribution of benefits to everyone in a village or community tends to lower the benefits per household, which weakens the social objective of the scheme as well. Instead of providing benefits simply on the basis of belonging to a community, landless community members and those who are less dependent on the forest ecosystem for their livelihood could be hired as labour in the scheme's conservation or monitoring activities, such as carbon and biodiversity monitoring and tree planting.

### Box 3. The Bolsa Floresta Program, Brazil



The Bolsa Floresta (*forest allowance*) Program is a voluntary programme to reduce deforestation and promote sustainable development by rewarding the communities of the Amazon for conserving it (Parker and Cranford, 2010). The programme has four components that encourage the sustainable use of forests:

1. *The Bolsa Floresta Income* promotes sustainable production of non-timber forest products such as nuts and vegetable oil and aims to improve the efficiency of production chains. The payment is not made directly to households, but is part of community investment. All activities that do not cause deforestation are eligible for this allowance.
2. *The Bolsa Floresta Social* supports infrastructure improvements related to education, health, communication and transportation and aims to break the cycle of deforestation by providing key services that would otherwise be financed by converting tropical forests to other uses. This package provides financial support equivalent to US\$200 per family per year.
3. *The Bolsa Floresta Family* provides direct payments of US\$25 per month per household. Payments are made to the mothers of families living in protected areas that agree to a zero deforestation goal.
4. *The Bolsa Floresta Association* aims to strengthen community-based organizations in the region. This package provides additional financial support equivalent to 10 per cent of the amount paid to all families registered in Bolsa Floresta Family in each reserve.

2. This information is obtained from the Fundação Amazonas Sustentável (the Amazonas Sustainable Foundation), the NGO that implements the Bolsa Floresta Program in the Amazonas, based on a recent survey to assess the public's perceptions of the Program.

### 3.2 Lessons learned

Although many proponents of direct payments to households argue that this requires less institutional capacity and no sustained flow of funds for maintenance; it is believed that investing in community infrastructures through payments to communities is arguably less vulnerable to elite capture. In addition to the potential benefits that either distribution mode provides, project designers and developers may need to carefully assess the amount of financial resources available per participant. If there are too many eligible and willing participants, then providing benefits directly to households might dilute the incentives provided and undermine the effectiveness of the scheme. In that case, investing in community infrastructures that can be enjoyed by all can be an effective way of incentivizing people to change their natural resource use behaviour. If sufficient funds are available and the participants prefer benefit provision directly to households, then the decision on whether to make transfers in cash or in kind is also crucial.

# Should benefits to households be distributed in cash or in kind?

If it is decided that benefits are to be transferred to households rather than invested in public infrastructures, it is still much debated, now more than ever, whether to transfer the benefits in cash or in kind. Though no distinction is made between the different forms of in-kind benefit, Garfinkel (1970) made one of the first attempts to take account of beneficiary preferences in the analysis of the efficiency of cash or in-kind payments. A proposed payment type could be effective, efficient and technically and politically feasible; however, according to Garfinkel, beneficiaries' *preferences* should be brought to the forefront of the analysis. This section goes beyond looking at the public's preferences to explore lessons from payments for ecosystem services (PES), community-based natural resource management (CBNRM) and integrated conservation and development projects (ICDPs), and food/cash transfer programmes. Examined are (1) the implications of cash and in-kind benefit distribution; and (2) the potential impacts on the well-being of the households participating in the scheme of other exogenous factors such as administrative costs, vulnerability to corruption and looting, consumption sovereignty or the ability to choose, and distortions of the local economy.

## 4.1 Lessons from payments for ecosystem services

In PES, direct payments to households are usually made in *cash*, in *kind* (tangible or intangible) or in a *mix* of both cash and kind. Examples of direct cash payment schemes include the Costa Rican PSA (*Pagos por Servicios Ambientales* – a Spanish version of PES). In the Los Negros valley in Bolivia, a PES scheme involves the simultaneous purchase of two environmental services. The United States Fish and Wildlife Service is paying for the protection of habitat for migratory bird species, while downstream irrigators in the municipality of Pampagrande are paying to conserve the same upland forest and puna vegetation which is thought to help maintain water supplies in the dry season (Asquith, Vargas and Wunder, 2008).



In the following sub-sections the documented advantages and disadvantages of each type of benefit in PES schemes will be explored, including whether the preferences of the participant communities or households are assessed just once or periodically. Periodic assessments are mainly to take account of changes in preferences for a specific type of benefit, which often vary with experience (participation in the scheme) and unprecedented climatic and economic situations.

#### 4.1.1 The pros and cons of cash vs. in-kind benefit distribution in PES

Empirical evidence assessing the advantages and disadvantages of each type of benefit distribution in a PES scheme is available from the Los Negros scheme in Bolivia. Robertson and Wunder (2005) interviewed local people to investigate the perceived advantages and disadvantages of the current in-kind (non-financial) payments versus hypothetical financial or cash alternatives. The PES recipients in Santa Rosa (Bolivia) specifically rejected the option of payments in cash. The main reasons are summarized in Table 1. Proponents of in-kind payments usually argue that they can be a more lasting benefit because cash payments are more vulnerable to rapid spending. On the other hand, proponents of cash payments argue that they allow participants greater flexibility in the use of resources, more readily replace (temporary or permanent) loss of income resulting from complying with the introduced land-use changes and are less prone to being seen as paternalistic (FAO, 2010).

**Table 1. Locally perceived advantages and disadvantages of two PES payment modes in Santa Rosa: Financial and non-financial transfers compared**

Beehive pros	Cash pros
Cash is spent rapidly and leaves no long-run benefits	Lack of both skill and interest in beekeeping leads to the loss of benefits
Cash feels more like giving up property rights	Beehives are difficult assets to sell, compared with animals or equipment
Honey is a useful subsistence product	Beehives are inflexible assets in terms of subdivision
Beekeeping includes an incentive to protect the forest as a bee habitat	Beekeeping involves extra costs, such as training and labour inputs

Source: Asquith, Vargas and Wunder (2008).

According to Asquith, Vargas and Wunder (2008), non-financial transfers such as beehives in Bolivia have allowed participation by disadvantaged groups and have had livelihood impacts. Through a trickle-down effect, the scheme has activity-enhancing effects that benefit the landless in a variety of ways. Some PES participants have sold beehives to landless people specializing in apiculture; one landless worker is employed by the initiative to undertake hydrological measurements; another has been hired by the farmers as a roving bee expert who helps with hive management; and other farmers are hiring landless community members to help with honey processing. Moreover, according to Heyman and Ariely (2004), psychological research shows that low-value non-financial payments can be more effective than low-value cash payments in stimulating effort, since recipients are more likely to view non-financial transfers as compatible with reciprocal exchange in a local economy where cash is rarely used.

Nonetheless, some scholars and development practitioners tend to favour cash over in-kind redistribution because of the associated problem of indivisibility with in-kind transfers. Money is thought of as the most finely divisible good. The more divisible an item is, the more likely it is that it will allow equitable benefit-sharing among recipient households and communities. The problem of indivisibility is even bigger if intangible in-kind benefits are distributed. In an emerging scheme in Sumberjaya, Sumatra, Indonesia, intangible in-kind benefits have been offered to farmers to legalize their land tenure situation. This has very valuable multiplier effects by freeing them from the fear of eviction and allowing them to access social services

such as health and education (FAO, 2010). However, there are instances where the issue of indivisibility becomes less of a problem for some in-kind benefits too. In Bolivia's PES for example, the indivisibility of a beehive has not been a constraint. Farmers with smaller conservation plots simply contract to undertake conservation for longer periods to maintain an equivalent payment. For example, 5 hectares conserved for 2 years is considered to be equivalent to 1 hectare of land conserved for 10 years; in both cases, the farmer would simply receive one beehive (Asquith, Vargas and Wunder, 2008).

#### 4.1.2 One-time vs. periodic assessment of preferences

Even though payment types are decided through a consultative approach that takes the preferences of the recipient households and communities into account, human preferences do change over time. Communities that lack experience of receiving rewards in return for ecosystem service provision are less likely to express their preferences accurately. Especially in areas where people have limited experience or have never been part of a benefit transfer programme, communities are very likely to express their preferences by trial and error. Moreover, preferences are usually influenced by short-term experiences and thus are very likely to change as situations change. Therefore, it would not be sufficient to assess preferences only once (often just before the start of the scheme) when deciding how to make the payments. Some flexibility should be allowed and preferences should be assessed periodically (for example annually). This would permit participants in the scheme to learn from experience and change their expressed preferences.

A good example of a scheme that allowed such flexibility is the Sloping Land Conversion Program in China. At the beginning, the programme stipulated that farmers who converted degraded and highly sloping cropland back to either ecological forests, economic forests or grassland would be compensated with (a) an annual in-kind subsidy of grain, (b) a cash subsidy and (c) free seedlings, provided to the farmer at the beginning of the planting period. However, in 2004 the payment structure shifted to the provision of seedlings and payments made wholly in cash (Bennett, 2008).

The Fundação Amazonas Sustentável (FAS),<sup>3</sup> in collaboration with the International Institute for Environment and Development, has just completed a survey assessing the perceptions and preferences of the participants in the Bolsa Floresta Program in relation to the different allowances three years after the scheme started. This is being done to allow changes in the components of the allowances in response to the participants' preferences.

#### 4.1.3 Lessons learned

In summary, the decision on whether to make payments in cash or in kind should primarily be based on participants' preferences. If recipients have no any particular preference for one payment type over another, then the benefits associated with both cash and in-kind payments need to be carefully weighed and assessed. Although cash payments are finely divisible and do not violate consumer sovereignty, the issue of indivisibility associated with in-kind payments can be made less problematic by systematically factoring in the temporal value of the cash equivalence of the in-kind payment. Moreover, benefits associated with in-kind payments can trickle down to non-participant landless farmers. The distribution of beehives in the Bolivian PES mentioned above perfectly exemplifies the trickle-down effect of in-kind payments. Finally, because preferences for payment types are unlikely to be accurate, it is recommended that periodic assessments of preferences are undertaken to allow reasonable flexibility to change the payment type over time.<sup>4</sup>

3. The Amazonas Sustainable Foundation is the NGO that implements the Bolsa Floresta Program in the state of Amazonas.

4. Many of the lessons were drawn from the Los Negros scheme in Bolivia for two main reasons: (1) unlike schemes that provide one-off in-kind benefits, the Los Negros scheme makes a periodic in-kind payment with some form of conditionality; and (2) this solves the common indivisibility problem associated with in-kind benefits.

## 4.2 Lessons from integrated conservation and development projects and community-based natural resource management

Conservation in developing nations has in the past emphasized indirect approaches such as ICDPs and CBNRM to maintain biodiversity (Ferraro and Kiss, 2002). The two approaches, which are synonymous (Chapin, 2004), have been some of the most pervasive paradigms for conservation in the tropics over the past 20 years (Blom, Sunderland and Murdiyarso, 2010). ICDPs use three main approaches (Fisher *et al.*, 2008):

- **compensation:** building community infrastructures such as schools, clinics and roads to compensate for benefits forgone when protected areas are established;
- **alternatives:** reducing pressure on the environment through agricultural intensification or livelihood alternatives;
- **enhancement:** increasing the value of the natural area itself through developing previously unexplored markets or through ecotourism.

Many REDD schemes are very likely to be similar to ICDPs by providing incentives to reduce unsustainable land-use practices. These incentives are very likely to aim at providing alternatives and enhancement to reduce the pressure on natural resources in order to control leakage. For example, the Bolsa Floresta Program in the state of Amazonas – widely known as a PES or REDD scheme – has the characteristics of both PES (it provides direct incentives) and ICDPs (it provides livelihood alternatives). This makes the experiences from ICDPs and also CBNRM very relevant for REDD+ designs. Thus, this echoes Blom, Sunderland and Murdiyarso (2010), who argue that the lessons accumulated by these schemes will be essential tools for designing effective, efficient and equitable REDD projects. The authors warn that, if REDD fails to draw on the vast experiences of ICDPs, they are likely to succumb to some of the pitfalls and weaknesses that have dogged ICDPs for over 20 years.

### 4.2.1 The pros and cons of ICDPs/CBNRM

Among the early detractors of ICDPs and proponents of direct incentive mechanisms, Ferraro and Kiss (2002) argue against ICDP-type indirect mechanisms for three main reasons: (1) a complex community investment requires a more complex institutional capacity for its implementation than does a direct incentive mechanism, and this capacity may be lacking in the 'global south'; (2) direct payments benefit poor farmers by improving cash flows, providing a fungible store of wealth and diversifying sources of household income, and landholders or resource users decide how best to meet their own goals and aspirations, rather than being subsidized to carry out predetermined activities, as is the case under the indirect approach; and (3) indirect approaches are likely to require a sustained flow of funds over time, which makes them undesirable.

However, Johannesen (2006) indicates that some ICDP and CBNRM programmes have been successful in creating jobs by stimulating increased productivity in the agricultural sector, which, according to the definition of pro-poor benefit distribution given in this report, is a highly desirable attribute. Nonetheless, agricultural productivity improvements may not necessarily be a solution for conservation. Johannesen argues that it depends on whether the crop is land intensive or labour intensive. With fixed land endowments, an increased price for land-intensive output is likely to reduce the labour demand for farming and hence increase resource extraction, leading to deforestation and forest degradation. Thus, it is desirable that labour-intensive agricultural productivity is promoted.

Job creation could be one of the most preferred interventions by the local communities in and around Cat Tien National Park (CTNP) in Viet Nam. In a survey conducted in CTNP by Petheram and Campbell (2010), it was evident that many respondents preferred an increase in job opportunities. As discussed earlier, by creating jobs, REDD projects could make efficient

use of labour, which is the primary asset of the poor. Job creation can be promoted through the introduction of labour-intensive agricultural productivity and/or by getting local people to participate in forest monitoring activities. There is no agreed mechanism for deciding whether participants should be paid on the basis of performance (amount of CO<sub>2</sub> emissions reduced or hectares of land conserved) or inputs (where community members engage in forest monitoring and reporting). Skutsch *et al.* (2011) argue that involving local communities in forest monitoring activities can be the most cost-effective alternative.



#### 4.2.2 Participation, targeting and equity

Although ICDPs inherently seek to redistribute the costs and benefits associated with natural resource management, Hughes and Flintan (2001: 9) admit that, for most ICDPs, little information is available on the distribution of benefits between different stakeholder groups, such as minority ethnic groups, women or those displaced by the establishment of protected areas. However, some studies suggest that levels of participation and appropriate targeting of the participants have an effect on the equity and effectiveness of the intervention.

As in many conservation interventions, there is evidence that community consultation and participation are key to project outcomes in CBNRM and ICDP projects. Preece *et al.* (2009), for instance, found that preliminary analyses of ICDPs in the lower Mekong region suggest that community participation and consultation are associated with better conservation outcomes. However, community consultation and participation processes, as in many other schemes such as PES, can be very costly and time consuming. Higher costs can be translated into fewer resources (benefits) to be distributed to participating households and communities. The cost of participation is believed to be higher in economically and socially diverse communities, which are common in the rural areas of many developing countries. In their review of CBNRM in Botswana, Van der Jagt *et al.* support this argument by stating that, the less homogeneous the community, the more difficult it is to obtain consensus:

Not all areas in Botswana have the same natural resource base, nor are communities socio-economically homogenous. What has worked in northern Botswana may be difficult

in other parts of Botswana. Preferences and priorities of communities will vary from area to area, depending on lifestyle, culture, location, history, levels of education and material well being . . . In general, the more homogeneous a community, in terms of ethnicity and class, the easier it is for the community to agree on a management structure, management plans, use of benefits, etc. The more diverse the community, the longer it takes to obtain consensus. (2000: 8, 28)

Therefore, even though many academics have a greater and justifiable preference for community consultation, it should be acknowledged that this is going to require a substantial input of financial resources that would otherwise have been transferred to the communities or households. This should not be interpreted as participation and community consultation should be compromised for lower transaction costs. Instead, efforts should be made to reduce the transaction costs associated with community participation and consultation. One way of reducing these costs could be the use of information and communication technologies (ICTs) such as local radio stations to communicate the design of the project and to allow participants to express their opinions. ICTs can thus potentially offer practical hands-on solutions to reduce the cost of participation and consultation.

Many studies have found that inappropriate targeting is one of the main problems in several ICDPs. Hughes and Flintan (2001: 9), in their review of experiences from ICDPs, found that 'ICDPs, which base their implementation on social units that are "inappropriate" to local and traditional forms of social organisation, may not achieve the required level of participation. This can lead to problems of equity over access to resources or benefits accruing from the ICDP projects.' Therefore, careful targeting of the social groups that are the main threat to ecosystem conservation and disadvantaged groups is crucial to make sure that benefits are equitably distributed or, in other words, that weak claimants such as ethnic minorities and women do not lose out.



### 4.2.3 Lessons learned

The lessons learned from ICDPs/CBNRM that have direct implications for the equitable distribution of benefits can be summarized as follows:

- REDD schemes are very likely to take some form of ICDP by providing alternatives to reduce the stress on ecosystems through job creation. Job creation through the promotion of labour-intensive agricultural productivity should be pursued, rather than a land-intensive production system, which may reduce labour demand. Making use of the labour of local communities in carbon and biodiversity monitoring can also be a cost-effective way of creating jobs.
- Participation is key to the success of conservation programmes but can be very costly. Therefore innovative ways to reduce the cost of participation should be introduced, such as the use of ICTs (for example, local radio stations).
- Appropriate targeting of participants in the scheme is crucial. The key to project success and to ensuring that marginalized or disadvantaged groups do not lose out is to target social units that are (a) the main threats to ecosystem conservation and (b) appropriate to local and traditional forms of social organization.

### 4.3 Lessons from cash and food transfer programmes

Cash or food transfer programmes have been important aspects of rural public works in many low-income countries in Asia, Africa and Latin America. The main differences between such transfer programmes depend on whether they are provided with or without conditionality (see Table 2). Experiences from cash or food programmes are well documented and there are a significant number of lessons to be learned that are relevant to REDD. They are relevant to REDD because:

- REDD projects may aim to ensure that the poor benefit from the scheme as a preventive measure against leakage rather than as a system where the benefits provided to the poor are precisely calculated on the basis of their emission reductions or the land area conserved. These development programmes provide lessons on how to distribute benefits to the poorest.
- Some REDD pilot projects have applied similar approaches from this experience. For example, the widely acclaimed Bolsa Floresta Program in the state of Amazonas was inspired by the Bolsa Familia (*family allowance*) – the Brazilian government’s social welfare programme, which provides financial assistance to poor families in return for their children attending school and getting vaccinated.
- Food-for-work or cash-for-work programmes can shed light on how intra-household benefit distribution can be affected by each type of transfer.

Table 2. Food and cash transfer programmes

Type of programme	Definition	Examples
Food for work	Provides food rations in exchange for a given amount of work such as terracing and road construction, often to protect poor households against the decline in purchasing power and to relieve deprivation	Food for work programme in Ethiopia aimed at rehabilitation of forest, grazing and agricultural lands
Cash for work	Provides cash in exchange for a given amount of work such as terracing and road construction	Cash for work project in the Democratic Republic of Congo aimed at supporting the resettlement of displaced and war-affected people in DRC (Guluma, 2004)
Conditional cash transfers for the poor	Provides cash payments to poor households that meet certain behavioural requirements such as sending children to school	Mexico’s Progresa provides cash in exchange for regular school attendance, health clinic visits and nutritional support
Conditional food transfers for the poor	Provides food supplements or subsidies to poor households that meet certain behavioural requirements	Food for education programme in Bangladesh – conditional transfer of food to poor families that was designed to increase school attendance

Source: Extracted from Rogers and Coates (2002), unless indicated otherwise.

#### 4.3.1 Impacts on intra-household benefit distribution

There has been very little evidence, if any, on in-kind (food) transfers and increased nutritional intakes by participating households. Ahmed *et al.* (2009) compared food and cash transfers to the ultra poor in Bangladesh and provide a clear explanation of the impact of each transfer type on benefit-sharing *within* a household depending on age group, gender and food type. They found that participation by an adult female does not lead to increased caloric intakes by pre-school children. They reported that the benefits from cash transfers in terms of increased caloric intake appear to be evenly shared between men and women. Similarly, Cunha, De Giorgi and Jayachandran (2010) evaluated the nutritional intake and health of young children (aged 0–6) under transfers in cash and in kind (beans, sugar and oil, for example) among the people covered by the *Programa de Apoyo Alimentario* (PAL) in Mexico. The study found that there is little evidence overall of differential caloric and nutritional intakes under in-kind and cash transfers.

In Bangladesh, however, a further analysis among those who received food payments found that the type of food transferred affects the distribution of benefits within a household. According to Ahmed *et al.* (2009), food interventions that provide rice have a greater effect on men's caloric intake relative to women, whereas the opposite is true for an intervention that provides the less-favoured *atta* flour, the main ingredient of most varieties of bread in the Indian subcontinent. The use of a less-preferred food type (*atta*) increases the share of food that goes to women relative to men. Even though REDD participants rarely (if ever) receive food as compensation, this still indicates that the *type* of in-kind benefit is very likely to affect benefit transfers between household members.

A cash-for-work programme in the Democratic Republic of the Congo (DRC) established by the Save the Children (UK) Food Security and Livelihoods programme aimed to support the resettlement of displaced and war-affected people in the DRC (Guluma, 2004). The programme gave priority to livelihood insecurity over food security and decided to inject cash into the local economy. In an assessment of how the cash was allocated within the household in this programme, it was found that approximately half of the cash received was used directly by the household, and the other half was used by the husband, mainly for gifts, to pay debts or for unproductive consumption such as beer. In a few cases, women did not receive any money from their husbands. Those who used the money for direct household expenditure put the cash towards the purchase of items such as salt, soap, clothes for the wife and children and foodstuffs such as palm oil and dried fish; many others paid school fees for their children, purchased livestock and paid other health costs. Very interestingly, according to Guluma's report some women mentioned that they were able to get credit because of the increased reliability within the community owing to their husband's involvement in stable and official work contracts.

#### 4.3.2 The cost-effectiveness of food and cash transfers

In addition to the distributional impact of the types of benefit transferred, the costs involved in each transfer type and method should be considered carefully. Many studies suggest that food or other in-kind transfers cost substantially more than cash transfers. In a maternal and child health programme in Honduras, it cost 1.03 lempiras to deliver 1 lempira of income transfer in the form of a coupon, whereas it cost 5.69 lempiras to deliver the same income transfer in the form of food.<sup>5</sup> In a similar study conducted to evaluate the cost-effectiveness of the PAL programme in Mexico, Cunha, De Giorgi and Jayachandran (2010) found that in-kind transfers are likely to have greater distribution costs than cash transfers. The PAL in-kind basket costs at least 20 per cent more to administer than the cash transfer. The author argues that the policy debate over transfers of equal value in cash and in kind must, therefore, consider the differences

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5. The lempira is the currency of Honduras; in December 2011, the exchange rate was 18.91 lempiras to US\$1.

in costs of these two approaches. Echoing Cunha's finding, Guluma (2004) asserts that the cost of carrying out cash-for-work projects is significantly less than that for food-for-work projects; in the latter case, most of the additional costs arise from transport and storage fees.

However, one of the lingering problems of cash-for-work programmes is that they suffer from inflationary pressures (Rogers and Coates, 2002). Usually, when the economy is hit by inflation and consumer price rises, the value of the cash paid by the projects drops; this disincentivizes participants and they usually abandon the project. This phenomenon was seen in the cash-for-work programme in the DRC. Whereas many employers responded to inflation and the consequent consumer price increases by increasing wages to labourers, the rigidity of the project, which is common in many development projects, did not allow any flexibility. As a result, many of those involved lacked motivation and abandoned the project. Therefore, if REDD projects decide to make payments in cash or in kind, the following factors need to be taken into consideration: (1) at a national level, the country's macroeconomic stability and whether the country can contain inflationary pressures, and (2) at a project level, should cash payments be favoured, contingency plans to increase payment levels in the event of inflation occurring.

Although in-kind transfers make sense when the benefit is needed to be shared by members of the household who have no decision-making power (usually women and children), this may potentially violate consumer sovereignty. As a result, according to Faminow (1995) recipients may *perceive* their well-being as being lower than it would have been, because in-kind or food transfers force them to consume a different bundle of goods and services than if equivalent dollar cash payments had been provided. As discussed earlier in this paper, recipients' perceptions are a very important measure of well-being and therefore a negative perception of well-being by recipients can potentially make the intervention counterproductive.

The pros and cons of cash vs. food transfers are summarized in Table 3.

**Table 3. Pros and cons of cash vs. food transfers**

Pro-food, con-cash	Pro-cash, con-food
If carefully selected, certain food types may have a distributional impact by increasing nutritional intakes by women and children	Food transfers do not generally increase the nutritional intake of participating households
Cash is more susceptible to unproductive consumption, usually by male household heads	Food transfers incur high administrative and distribution costs compared with cash transfers
Cash suffers from inflationary pressure whereas food transfers do not	In-kind transfers in general and food in particular could encroach upon consumers' ability to purchase anything they wish

#### 4.3.3 Benefit transfer types and changes in household consumption bundles

Rural or poor communities usually face relatively more stringent budget constraints to meet their demands for basic necessities such as food, clothing and shelter. To reduce poverty, it makes sense to provide cash payments to rural and poor households to help ease their budget constraints. Thus many scholars confidently argue in favour of cash transfers or payments as a means of reducing poverty. The household will have more financial resources to spend on different bundles of goods of its choosing; thus it can maximize its welfare. In contrast, with in-kind payments the project designer specifies some of the bundle of goods that the ecosystem service provider will receive. As a result, the ecosystem service provider will probably be less well off than if cash had been provided, because the same resources would have been allocated in a way that – for them – was not necessarily optimal. In this case, one can easily conclude that cash payments are more effective than non-monetary payments. This is effective in the sense that cash payments can satisfy the recipient and thereby lead to successful outcomes.

However, this may not hold true in some circumstances. When ecosystem service sellers reside in a remote and not easily accessible area and cash is rarely used to buy consumable goods, then in-kind payments are more likely to be preferred. Thus, the decision on whether to provide cash or in-kind payments should involve a clear understanding of the way the local market functions and whether cash is commonly used to buy basic necessities.

#### 4.3.4 Benefit transfer types and effects on the local economy

It is widely believed that different payment types are very likely to have varying impacts on the local economy. Cunha, De Giorgi and Jayachandran (2010) examine how cash and in-kind transfers into small, *partially closed* economies (villages) affect prices, and they hypothesize that cash transfers increase demand for normal goods, causing prices to rise. Non-financial or in-kind transfers generate a similar increase in demand, but they also increase supply. Therefore, relative to financial transfers, non-financial or in-kind transfers should lead to lower prices. This can be perceived as a positive outcome if the ecosystem service sellers are consumers but not producers. If they are producers and the intervention is leading to a decline in commodity prices, this will have a negative impact on their well-being.

Cunha, De Giorgi and Jayachandran (2010) took the case of a transfer programme for poor households in rural Mexico that randomly assigned villages to receive in-kind food transfers, cash transfers of equivalent value or no transfers at all. They found that the price decline in villages receiving in-kind food transfers increased the programme's net transfer by 12 per cent for a recipient who is a consumer of food. On the other hand, the price increase in villages receiving cash reduced the real value of the transfer for the recipients by 11 per cent. They conclude that choosing non-financial (in-kind) rather than financial (cash) transfers generates extra indirect transfers to the poor that are worth 23 per cent of the direct transfer itself. This explanation holds true in a closed or semi-closed economic system. It is assumed that local economies in remote rural areas are partially or semi-closed and the means of communication such as telephones and access by road are limited. Therefore, this explanation is specific to the local context. In easily accessible areas and areas close to big cities and towns, one cannot use the same rationalization to argue for or against either payment mode.

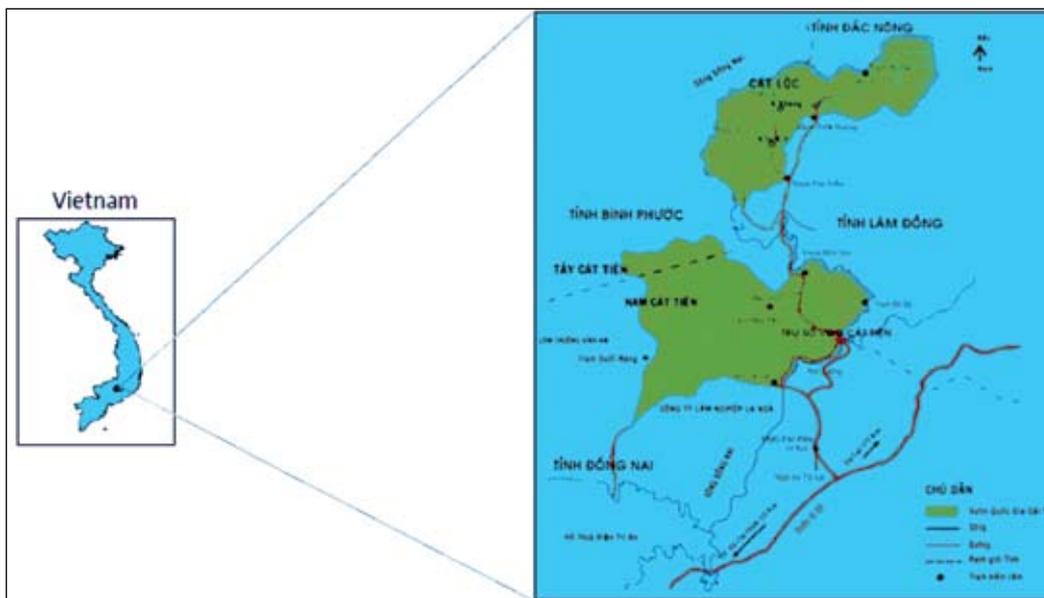
Cunha, De Giorgi and Jayachandran (2010) focus only on recipients and do not consider other people who may be affected. Distortion of the local economy should not be assessed solely on the basis of the impact on the participants in the scheme. The impact an intervention may have on the community as a whole, including non-participants – must be considered. This would satisfy the commonly agreed 'do-no-harm' principle and strengthen the legitimacy of the scheme among both local communities and other interested parties at national and international level.

# Conclusion: Lessons for the pro-poor REDD+ pilot project in Cat Tien National Park

## 5.1 Introduction

The Cat Tien National Park (CTNP) is located 160km north of Ho Chi Minh City and consists of two adjacent segments separated by agricultural land: Cat Loc in the north and Nam Cat Tien in the south (see Figure 2). CTNP is 'one of the most important biodiversity hotspots in Southeast Asia, providing habitat for 40 globally threatened species of plants and animals and 126 species threatened in Viet Nam' (SNV, n.d.). There is anecdotal evidence that it is the last remaining mainland habitat of the Javan rhinoceros (*Rhinoceros sondaicus*), although it is feared that it has become completely extinct. However, this habitat is threatened by land speculation by the richest and by agricultural expansion, particularly from the expansion of cashew production, by the poorest in Lam Dong province, resulting in encroachment onto CTNP (Planet Action, n.d.).

Figure 2. Map of Cat Tien National Park, Viet Nam



Source: Dansk Vietnamesisk Forening, Cat Tien National Park, <http://www.davifo.dk/?p=214> (edited by the author).

To address this problem, the International Institute for Environment and Development (IIED) in collaboration with SNV Vietnam launched a REDD pilot project funded by the UK government's Darwin Initiative to reward local communities for avoiding deforestation and for co-management of the forest resources.

As was highlighted in the Introduction, the Government of Viet Nam identified the design of an equitable benefit distribution system for REDD as a priority. In light of this, the paper has reviewed interventions with development and/or conservation objectives: payments for ecosystem services (PES), integrated conservation and development projects (ICDPs), community-based natural resource management (CBNRM), and cash and food transfer programmes. In this section, lessons learned from these interventions are summarised, that are relevant in designing both an effective and a socially acceptable benefit distribution system for the Cat Tien REDD+ pilot project.

**Lesson 1: Whether the distribution of the benefits associated with REDD is based on proportionality (in proportion to input or output), equality (equal payments to all) or need (social safety net) will have implications for making REDD projects pro-poor**

To promote pro-poor outcomes from REDD+ interventions, it is recommended that, in areas where the participants are characterized by less inequality, benefit distribution based on proportionality and the equality of opportunities to participate would be more relevant. In an unequal society (for example characterized by land and income disparities), on the other hand, benefit distribution based on need would be more desirable so that poor or weak claimants do not receive disproportionately lower benefits than the relatively well-off. In places such as Viet Nam, where inequality between the rich and the poor in general and land disparity in particular is continuously increasing, a benefit distribution system that systematically favours the landless poor must be introduced.

**Lesson 2: Equitable benefit distribution could be achieved by systematically favouring the landless and small landholders**

Even though land disparity in Viet Nam is not at the moment strongly associated with income inequality (Takahashi, 2007), it will be if REDD+ rewards participants in proportion to the size of their landholding. This is mainly because small landholders or the landless will then lose out and all benefits are very likely to be captured by large landholders, who are often relatively well off. Takahashi (2007) found that land productivity in rural Viet Nam was inversely proportional to land size. This means that, the larger the land size, the less productive it is. This supports the argument that the transaction and opportunity costs of participating in REDD+ are negatively proportional to landholding size.

Therefore, as suggested by Schwarte and Mohammed (2011) and applied in practice in the Programa Socio Bosque in Ecuador, diminishing payments for each additional unit of land could be introduced in order to distribute the costs of and benefits from participation more fairly. In this way, participation by small landholders (who are often from ethnic minorities) is encouraged while ensuring that large landholders do not benefit disproportionately more from REDD+.

However, the rate of diminishing payment for each additional unit of land needs to be carefully determined. If the rate is too high, then many large landholders may not have the incentive to participate in the scheme. The rate should be just high enough to attract as many large landholders as possible and release more financial resources to be distributed to the smallholders or even landless members of the community.

**Lesson 3: The decision on whether to transfer benefits to communities or directly to households should be done through community consultation (careful assessment of their preferences)**

One of the most important issues in REDD+ benefit distribution is whether payments should be made directly to households or to communities as whole. Lessons from ICDPs and CBNRM highlight that community consultation and participation are key to the design of an effective benefit distribution system. Through community consultation, it is possible to assess the preferences of the participant communities for the amount and type of benefits, and thereby develop positive attitudes and promote a sense of ownership among local communities.

The higher costs associated with community consultation and participation – which are often required to get certified carbon credits under the Climate, Community & Biodiversity Standards and the Voluntary Carbon Standards – imply that there will then be fewer financial resources to be transferred to the recipient communities. In many ICDPs/CBNRM programmes, one of the factors determining the cost of community consultation and participation is the homogeneity or heterogeneity of the community. The more homogeneous the community, the easier and quicker it is to reach consensus and make decisions on benefit distribution mechanisms, and

the more likely interventions are to gain social acceptance if measures are taken to favour the 'needy'. This may in turn reduce the cost of participation and community consultation. Obviously, the more diverse the community, the more costly and time consuming this is.

In CTNP, some communes are quite uniform, inhabited by ethnic minorities such as the Chan Ma and X'Tieng, but other communes are more diverse, inhabited by communities of ex-soldiers of the dominant Kinh ethnic group, ethnic minorities, and migrants from the northern highlands such as the Tay. Therefore, the costs of participation and community consultation, and hence the transaction costs, will vary,.

**Lesson 4: The decision on whether to transfer benefits to communities as a whole or directly to households should be based on both economic feasibility and local institutional capacity and governance structures**

In addition to consultations with local people to best match community aspirations and benefit those in need, economic feasibility and local institutional capacity and governance structures are equally important. The demands of the local communities may not be economically feasible and/or implementation according to their needs and wants could be institutionally very challenging. It is argued that direct payments to households require less institutional capacity and no sustained flow of funds for maintenance. On the other hand, investing in community infrastructures through payments to communities is arguably less vulnerable to elite capture.

The amount of financial resources available in relation to the number of eligible and willing participants is also key to deciding whether benefits are provided directly to households or to the community as a whole, whether the decision is made by project developers or by communities. If there are too many participants, then direct payment to households might dilute the incentives provided and undermine the effectiveness of the scheme. In that case, investing in community infrastructures that can be enjoyed by all may be the second-best alternative. However, experiences from ICDPs/CBNRM indicate that strong governance structures are required to manage publicly owned goods. On the other hand, if sufficient funds are available and the participants prefer payments to households, then deciding whether to make transfers in cash or in kind is also crucial.

**Lesson 5: The decision on whether to transfer benefits in cash or in kind should 'in principle' be based on participants' preferences. If recipients are generally indifferent, then the advantages associated with cash and in-kind transfers should be carefully weighed and assessed**

- Participants in and around CTNP who are consulted on their preference for different payment types and modes often (if not always) lack experience of receiving payments in exchange for ecosystem services provision. Therefore, their responses are less likely to be accurate and thus may not enhance their well-being. To avoid such problems, periodic assessment of their preferences and permitting reasonable flexibility to change the payment type over time are needed. This would allow participants to learn from experience and reconsider their preferred payment types.
- Benefits associated with non-consumable and productive in-kind payments can trickle down to non-participant landless farmers, who can be hired as labour by the recipients. Thus, in addition to incentivizing participants in REDD+, the intervention may have a positive effect on local job creation. Even though this lesson is drawn from a single PES case – in Los Negros in Bolivia – the experience is relevant to CTNP. According to some existing and very recent studies from around CTNP (for example, Petheram and Campbell, 2010), it is apparent that many villagers are eager to see more jobs created in their villages. This also links back to one of the external criteria of pro-poor REDD intervention – making use of the primary asset of the poor, which is labour.

- Effects on the consumption bundle and the local economy should also be taken into consideration when deciding whether to provide cash or in-kind payments. It is often argued that cash payments would ease the budget constraints that the rural poor usually face and allow them to meet their basic needs. If cash payments are provided, the dependence of the poor on forests would be reduced. However, as was the case in many ICDPs/CBNRM projects, in-kind payments are more likely to be preferred in areas where the ecosystem service providers reside in a remote and not easily accessible area and cash is rarely used to buy consumable goods. The communes in and around CTNP are characterized by varying degrees of access to and functionality of markets. Thus, deciding whether to provide cash or in-kind payments in each commune should involve a clear understanding of the way the local market functions and whether cash is commonly and regularly used to buy basic necessities.
- Where cash payments are made, some degree of flexibility is also very important to address inflationary pressures. According to experiences from cash-for-work programmes, if the amount of cash transfer made today does not have the same value later in the project's lifespan, then it is very likely that participants will abandon the project and go back to their usual destructive natural resource use practices. In Costa Rica, the payment amounts for PES schemes are set annually, typically by adjusting the previous amounts for inflation; the annual payments per hectare for forest conservation gradually increased from US\$40 in 1997 to US\$43 in 2005 (Pagiola, 2007). To reduce the impact of inflation, contracts are now predominantly made in US dollars rather than in Costa Rican colones (Pagiola, 2007). Project developers should thus: (1) have contingency plans to make inflation-corrected payments at an early stage of project development; (2) save REDD+ funds in less inflation-prone currencies such as the US dollar; or (3) preferably make in-kind payments if it is not possible to make inflation-corrected payments owing to shortages in financial resources. Viet Nam is currently experiencing one of the highest inflation rates in Asia (more than 20 per cent according to some estimates). This indicates that continued inflationary pressures are going to limit the effectiveness of cash payments to incentivize communities to change their behaviour; in the worst-case scenario, participants may abandon the scheme and jeopardize the success of the project.
- Lessons from food/cash transfer programmes demonstrate that in-kind payments, if provided in excess, may distort the local economy by reducing the prices of consumable goods. If the in-kind payments are of locally produced goods, producers may be negatively affected by reduced commodity prices. On the other hand, if the ecosystem service sellers are consumers (not producers), they may benefit from the reduced prices. Such market distortions are very likely to happen in remote and semi-closed economies. Some communes in Lam Dong province are characterized as semi-closed economies. Even though some may win and others lose, such effects on the local economy are undesirable. Distortions are very likely going to be exacerbated by PES and REDD+ schemes by significantly reducing food production. To satisfy the commonly agreed 'do-no-harm' principle and to strengthen the legitimacy of schemes among both local communities and other interested parties at national and international level, the impact an intervention may have on the community as a whole – including non-participants has to be considered.

## 5.2 Summary and way forward

In order for the poor to benefit from REDD+ in relative or absolute terms, it is crucial to carefully assess the impact of calculating benefits on the basis of landholding size or of actual emissions reduced. It is very likely that, for the sake of simplicity, landholding size is going to be used for providing benefits. It is feared that this approach will disproportionately favour the relatively well-off large landholders in countries such as Viet Nam that are experiencing widening land disparities. This is going to exacerbate the widening disparity between the rich and the poor and threaten the success of the scheme. To overcome this problem, systematic discrimination in favour of the poor is needed. This can be achieved by providing diminishing benefits for each additional unit of land.

An equitable benefit distribution system is also going to be affected by whether benefits are provided to communities as a whole or directly to households, and by whether benefits are provided in cash or in kind. Decisions should be made by carefully weighing (a) the preferences of the participant communities; (b) vulnerability to elite capture and corruption or looting; (c) the transaction costs and logistical challenges involved; and (d) the potential direct or indirect impact on the livelihood of poor households in general and of disadvantaged members of households such as women and children in particular.

As in many (if not all) development interventions, pro-poor benefit-sharing in REDD+ faces many challenges, such as non-transparent governance structures, an uneven playing field for the different actors, including ecosystem buyers and sellers, and very high transaction costs involved in community consultation and targeting (for both inclusion and exclusion). These factors will force project developers to wrestle with decisive trade-offs between equity and cost-effectiveness or efficiency. They are crucial to the success of the REDD+ pilot project in CTNP and need to be addressed carefully. This will require substantial investments to:

- build effective governance structures to ensure the successful implementation of equitable benefit distribution in REDD+ projects; and
- empower local communities with the rights and skills to manage their resources to ensure that they do not lose out in negotiations involving ecosystem provisioning and rewards.

# References

- Ahmed, A. U., Quisumbing, A., Hoddino, J., Nasreen, M., Bryan, E. 2009. Comparing food and cash transfers to the ultrapoor in Bangladesh. Research Monograph 163. International Food Policy Research Institute, Washington, DC.
- Asquith, N. M., Vargas, M. T., Wunder, S. 2008. Selling two environmental services: In-kind payments for bird habitat and watershed protection in Los Negros, Bolivia. *Ecological Economics* 65, 675–684.
- Bennett, M. T. 2008. China's sloping land conversion program: Institutional innovation or business as usual? *Ecological Economics* 65, 699–711.
- Bleaney, A., B. Vickers, and L. Peskett. 2009. What could REDD look like in Vietnam? Available at: <http://redd-net.org/files/WhatcouldREDDlooklikeinvietnam.pdf>. Accessed on: 13 May 2010.
- Blom, B., Sunderland, T., Murdiyarsa, D. 2010. Getting REDD to work locally: Lessons learned from integrated conservation and development projects. *Environmental Science and Policy* 13(2), 164–172.
- Börner, J., Wunder, S., Wertz-Kanounnikoff, S., Rüginitz Tito, M., Pereira, L., Nascimento, N. 2010. Direct conservation payments in the Brazilian Amazon: Scope and equity implications. *Ecological Economics* 69(6), 1272–1282.
- CARE nd. CARE makes carbon finance work for poor and marginalised people. Available at <http://www.careclimatechange.org/files/carbon/CarbonFinance09.pdf>. Accessed on 22 June 2011.
- Carpenter, C. 2008. *The Bali Action Plan: Key Issues in the Climate Negotiations. Summary for Policy Makers*. An Environment and Energy Group Publication, UNDP.
- Chapin, M. 2004. A challenge to conservationists. *World Watch Magazine*, Nov/Dec 2004, 17–31.
- Cunha, J. M., De Giorgi, G., Jayachandran, S. 2010. The price effect of cash versus in-kind transfers. See <http://www.cepr.org/meets/wkcn/7/784/papers/Jayachandranfinal.pdf> (accessed 7 December 2011).
- Engel, S., Pagiola, S., Wunder, S. 2008. Designing payments for environmental services in theory and practice: An overview of the issues. *Ecological Economics* 65, 663–674.
- Faminow, M. 1995. Issues in valuing food aid: The cash or in-kind controversy. *Food Policy* 20(1), 3–10.
- FAO [Food and Agriculture Organization of the United Nations]. 2010. Payments for environmental services from agricultural landscapes – PESAL. See <http://www.fao.org/es/esa/pesal/PESdesign6.html> (accessed 7 December 2011).
- Ferraro, P. J., Kiss, A. 2002. Direct payments to conserve biodiversity. *Science* 298, 1718–1719.
- Fisher, R., Maginnis, S., Jackson, W., Barrow, E., Jeanrenaud, S. 2008. *Linking Conservation and Poverty Reduction: Landscapes, People and Power*. Earthscan, London.
- Frost, P. G. H., Bond, I. 2006. CAMPFIRE and payments for environmental services. Markets for Environmental Services Report Number 9. International Institute for Environment and Development, London.
- Garfinkel, I. 1970. Is in-kind redistribution efficient? Institute for Research on Poverty Discussion Paper 74-70, University of Wisconsin, Madison.
- González Guillen, M. 2004. Evaluación del Programme de Pago de Servicios Ambientales Hidrológicos (PSAH). Cited in: Porras, I., Grieg-Gran, M., Neves, N. 2008. *All That Glitters: A Review of Payments for Watershed Services in Developing Countries*. Natural Resource Issues No. 11. International Institute for Environment and Development, London.
- Groom, B., Palmer, C. 2008. Direct vs indirect payments for environmental services: The role of relaxing market constraints. Environmental Economy and Policy Research Working Paper No. 36/08, University of Cambridge.
- Guluma Y. 2004. Cash for work projects: A case study in the Democratic Republic of Congo. Save the Children UK, London.

- Heyman, J., Ariely, D. 2004. Effort for payment. A tale of two markets. Cited in: Asquith, N. M., Vargas, M. T., Wunder, S. 2008. Selling two environmental services: In-kind payments for bird habitat and watershed protection in Los Negros, Bolivia. *Ecological Economics* 65, 675–684.
- Hoang, M. H., Van Noordwijk, M., Pham T. T. (eds). 2008. Payment for environmental services in Vietnam – Lessons and experiences in Vietnam. World Agroforestry Center in Vietnam, Hanoi.
- Hughes, R., Flintan, F. 2001. *Integrating Conservation and Development Experience: A Review and Bibliography of the ICDP Literature*. International Institute for Environment and Development, London. See <http://www.iied.org/pubs/pdfs/9080IIED.pdf> (accessed 6 December 2011).
- Jayne, T. S., Yamano, T., Weber, M. T., Tschirley, D., Benfica, R., Chapoto, A., Zulu, B. 2003. Smallholder income and land distribution in Africa: Implications for poverty reduction strategies. *Food Policy* 28, 253–275.
- Johannesen, A.B. 2006. Designing integrated conservation and development projects (ICDPs): illegal hunting, wildlife conservation, and the welfare of the local people. *Environment and Development Economics*. 11, 247-267.
- Karousakis, K. 2009. Promoting biodiversity co-benefits in REDD., OECD Environment Working Papers, No. 11. OECD Publishing, Paris.
- Lindhjem, H., Skjelvik, J. M., Eriksson, A., Fitch, T., Hansen, L.-L.P. 2009. *The Use of Economic Instruments in Nordic Environmental Policy 2006–2009*. Nordic Council of Ministers, TemaNord 2009:578. See <http://www.norden.org/da/publikationer/publikationer/2009-578> (accessed 7 December 2011)
- Madeira, E. M. 2009. REDD in design: Assessment of planned first-generation activities in Indonesia. Resources for the Future DP09–49.
- Maiese, M. 2003. Distributive justice. In: Burgess, G. and Burgess, H. (eds). *Beyond Intractability*. Conflict Research Consortium, University of Colorado, Boulder. See [http://www.beyondintractability.org/essay/distributive\\_justice/](http://www.beyondintractability.org/essay/distributive_justice/) (accessed 7 December 2011).
- Nguyen, V., McGrath, T., White, P. 2006. Agricultural land distribution in Vietnam: Emerging issues and policy implications. Unpublished MPRA Paper. See <http://mpa.ub.uni-muenchen.de/25587/> (accessed 7 December 2011).
- Pagiola, S. 2007. Payments for environmental services in Costa Rica. *Ecological Economics* 65(4), 712–724.
- Parker, C., Cranford, M. 2010. *The Little Biodiversity Finance Book: A Guide to Proactive Investment in Natural Capital (PINC)*. Global Canopy Programme, Oxford.
- Pernia, E. M. 2003. Pro-poor growth: What is it and how is it important? ERD Policy Brief 17, Asian Development Bank.
- Peskett, L., Huberman, D., Bowen-Jones, E., Edwards, G., Brown, J. 2008. Making REDD work for the poor. IUCN/ODI for the Poverty and Environment Partnership, Gland.
- Petheram, L., Campbell, B. M. (2010) Listening to locals on payments for environmental services. *Journal of Environmental Management* 91(5): 1139–1149.
- Planet Action. n.d. REDD in Cat Tien National Park, Viet Nam. See <http://www.planet-action.org/web/85-project-detail.php?projectID=4453> (accessed 7 December 2011).
- Porras, I. 2010. Fair and green? Social impacts of payments for environmental services in Costa Rica. International Institute for Environment and Development, London.
- Porras, I., Grieg-Gran, M., Neves, N. 2008. *All That Glitters: A Review of Payments for Watershed Services in Developing Countries*. Natural Resource Issues No. 11. International Institute for Environment and Development, London.
- Preece, L. D., Cangas, B. H., Achdiawan, R., Sunderland, T. C. H., Ruiz Perez, M., Campbell, B., Stacey, N. 2009. Conservation in the Lower Mekong: Preliminary analysis. Personal communication received by B. Blom. Cited in: Blom, B., Sunderland, T., and Murdiyarto, D. 2010. Getting REDD to work locally: Lessons learned from integrated conservation and development projects. *Environmental Science and Policy* 13(2), 164–172.

- Robertson, N., Wunder, S. 2005. *Fresh Tracks in the Forest: Assessing Incipient Payments for Environmental Services Initiatives in Bolivia*. CIFOR, Bogor.
- Rogers, B. L., Coates, J. 2002. *Food-based Safety Nets and Related Programs*. World Bank, Washington.
- Schwarte, C., Mohammed, E. Y. 2011. Carbon righteousness: How to lever pro-poor benefits from REDD+. IIED Briefing.
- Scholz, I., Schmidt, L. 2008. Reducing emissions from deforestation and forest degradation in developing countries: meeting the main challenges ahead. German Development Institute. Briefing Paper 6.
- Skutsch, M., Vickers, B., Georgiadou, P. Y., McCall, M. K. 2011. Alternative models for carbon payments to communities under REDD+: A comparison using the Polis model of actor inducements. *Environmental Science and Policy* 14(4), 140–151.
- SNV [Netherlands Development Organisation]. n.d. Cat Tien Pro-Poor REDD Project. See <http://www.snvworld.org/en/regions/asia/ourwork/Pages/CatTien.aspx> (accessed 7 December 2011).
- Solomon, S., Qin, D., Manning, M., et al. (eds). 2007. *Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007*. Cambridge University Press, Cambridge and New York.
- Sommerville, M., Jones, J., Rahajaharison, M., Milner-Gulland, E. 2010. The role of fairness and benefit distribution in community-based payment for environmental services interventions: A case study from Menabe, Madagascar. *Ecological Economics* 69, 1262–1271.
- Struhsaker, T. T., Struhsaker, P. J., et al. 2005. Conserving Africa's rain forests: Problems in protected areas and possible solutions. Cited in: Sommerville, M., Jones, J., Rahajaharison, M. and Milner-Gulland, E. 2010. The role of fairness and benefit distribution in community-based payment for environmental services interventions: A case study from Menabe, Madagascar. *Ecological Economics* 69, 1262–1271.
- Tacconi, L. 2009. Compensated successful efforts for avoided deforestation vs compensated reductions. *Ecological Economics* 68(8–9), 2469–2472.
- Takahashi, K. 2007. Sources of regional income disparity in rural Vietnam: Oaxaca-Blinder decomposition. IDE Discussion Paper No. 95. Törnblom, K. Y., Vermunt, R. (eds). 2007. *Distributive and Procedural Justice: Research and Social Applications*. Ashgate Publishing, London.
- UN-REDD. n.d. About REDD+. <http://www.un-redd.org/AboutREDD/tabid/582/Default.aspx> (accessed 5 December 2011).
- UN-REDD Programme Vietnam. 2009. Consideration for designing of a REDD-compliant benefit distribution system for VietNam: Executive summary. See [http://www.theredddesk.org/sites/default/files/resources/pdf/2010/Benefit\\_Distribution\\_system\\_final\\_Executive\\_Summary2.pdf](http://www.theredddesk.org/sites/default/files/resources/pdf/2010/Benefit_Distribution_system_final_Executive_Summary2.pdf) (accessed 5 December 2011).
- Van der Jagt, C., Gujadhur, T., van Bussel, F. 2000. *Community Benefits through Community Based Natural Resources Management (CBNRM) in Botswana*. CBNRM Support Programme, Occasional Papers No. 2. IUCN – The World Conservation Union, Botswana.
- Wagstaff, G. F. 1994. Equity, equality, and need: Three principles of justice or one? An analysis of 'equity as desert'. *Current Psychology* 13(2), 138–152.
- Wunder, S. 2005. Payments for environmental services: Some nuts and bolts. CIFOR Occasional Paper No. 42.



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