



Sustainable Agriculture  
and Rural Development  
**MOUNTAIN POLICY PROJECT**

## **Project for Sustainable Agriculture and Rural Development in Mountain Regions (SARD-M)**

### **Valorisation of positive externalities within the framework of the SARD-M Project**

The overall purpose of the SARD-M Project is to support the rural livelihoods of mountain peoples by facilitating the design, review, implementation and evaluation of relevant **policy packages and institutional processes** promoting SARD in mountain regions at global, regional, national and local levels.

The Project Steering Committee set down three priorities for the project in 2005 and 2006, of which the second was to: **"Analyse positive and negative externalities of mountain regions through a comparative review of existing methods and tools** focusing on water, biodiversity, agricultural heritage, indigenous knowledge, demographic trends, tourism, livelihoods diversification, social and environmental services".

Positive externalities are the **positive effects that are not taken into account by the market**. By implementing new policies for sustainable agriculture and rural development, the SARD-M Project forms part of a process for **valorising the positive externalities of mountain regions**.

#### **The context**

Before formulating the project activities relating to this priority, it was felt, in early 2005, that more reflection was required; an essential prerequisite being the identification of the comparative advantage and specific benefits of the SARD-M Project in this respect.

The first step towards identifying this comparative advantage was taken with the contribution made by the project in 2005 to the following activities formulated by its partners:

- a seminar organised by EUROMONTANA on the positive externalities of mountain regions titled "Reaping the benefits of Europe's precious place - Policies releasing the potential of mountain and remoter rural areas" (Scotland, 10-11 November);
- a study conducted in Morocco by the FAO Roles of Agriculture (RoA) Project dealing with environmental services in mountain regions;
- a limited review carried out by PASOLAC at the regional workshop organised to evaluate the strengths and weaknesses of SARD-related mountain policies in two Central American countries.

A second approach, conducted in parallel to this, is the ongoing work of collecting publications, particularly case studies on the positive externalities of mountain regions, initiated in 2005<sup>1</sup>. This was done in order to first draw lessons from them from a policy, institutional and methodological view point, and secondly, to get an insight on the ways of valorising positive externalities.

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<sup>1</sup> Carbonel X., 2005, Valorisation of positive externalities within the framework of the SARD-M Project, Rome FAO <http://www.fao.org/sard/common/ecg/1671/en/externalitiesenfinal.pdf> .

## Objectives

One of the objectives of this document is to expand on the work initiated in 2005: i.e. collecting publications, in particular case studies, to draw lessons from a policy, institutional and methodological view point, and secondly, to get an insight on the ways of valorising positive externalities.

Another purpose, third step in the process, is to draw details from case studies on the **mechanisms implemented to compensate local people for the positive externalities they provide in mountain regions**, notably through the review of the documentation collected in 2005. This was done to have a better insight of the ways of valorising positive externalities, to compare the mechanisms implemented to do so and to draw recommendations.

## The approach adopted

The approach adopted comprises four consecutive phases, into which this document is structured:

- **Stage one: defining the scope of a documentary research**  
The basic purpose was to lay down a set of criteria to identify more specifically the potentially interesting documents for the mechanisms implemented to compensate local people for the services they provide; and to use the set of criteria defined in 2005, based on the fundamental principles of the SARD-M Project, in order to update the list of documents on or related to positive externalities, notably in mountain regions;
- **Stage two: updating the inventory initiated in 2005 and creating a new inventory of documentation on the mechanisms implemented** to compensate local people for the services they provide; and **classifying** and **selecting** documents of relevance to the SARD-M Project, based on the two specific lists of predetermined criteria.
- **Stage three: identifying the mechanisms implemented to compensate local people for the services they provide**  
For each selected case study, a **technical file** has been created to get an overview of the compensation process.
- **Stage four: updating the global list of lessons learned established in 2005 and identifying and grouping lessons learned on the focus selected for 2006** (i.e. mechanisms implemented to compensate local people for the services they provide)
- **Stage five: formulating recommendations for the compensation process to compensate local people for the positive externalities they provide**
- **Stage six: formulating recommendations for possible follow-up activities of the SARD-M Project.**

## I. Positive externalities within the framework of the SARD-M Project

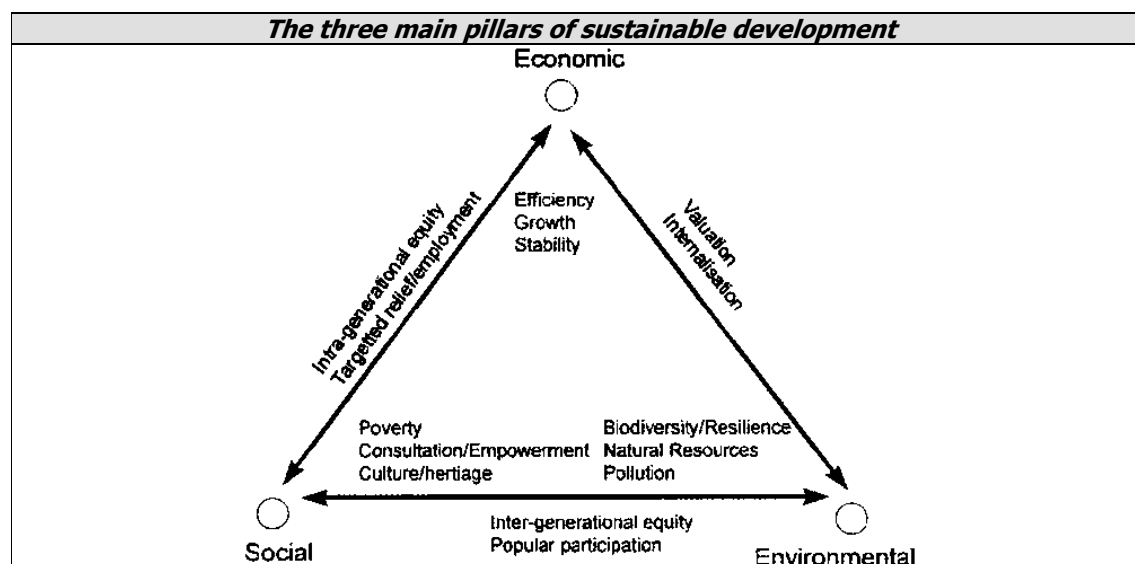
### 1. What is a positive externality?

Externalities exist when the results of a market affect the economic agents, other than the buyers and sellers, participating in the market. That is to say an individual, **through his/her activity, influences the well-being of other individuals, without the latter receiving or paying any remuneration for this effect.**

The existence of these externalities is a **shortcoming of the market**, which does not incorporate all the trade-related information. When this effect is beneficial to those affected by it in a given territory, it is called a positive externality.

### 2. The concept of sustainable agriculture and rural development (SARD)

The concept of sustainable development emerged in 1987 with the Brundtland Commission report on Environment and Development: it defined sustainable development as *"development that meets the needs of the present without compromising the ability of future generations to meet their own needs."* This entails a move away from narrow sector-based interests to an **approach** that comprehensively **embraces environmental, social and economic objectives in a given territory.**



The SARD concept, the subject of chapter 14 of Agenda 21, is a **framework** for focusing greater attention **on sustainability issues in agricultural and rural development processes** in both the developed and the developing countries alike. SARD provides an overall framework comprising the principles of sustainable development, including: economic viability, cultural appropriateness, social justice, environmental soundness and long-term productivity.

### 3. Positive externalities in mountain regions

Attempting to define the externalities of mountain regions is the first step in identifying the relevant documents in terms of the SARD-M project. The following list established in 2005 is still relevant and applicable for the new documents collected.

Main externalities of mountain regions	Examples of valorisation
<b>Water quality</b>	Payments for reforestation, sustainable agriculture practices
<b>Water resource management</b>	Payments for water management, good irrigation practices, choosing appropriate crops
<b>Air quality</b>	Payments for tree planting, sustainable forest management, agroforestry
<b>Biodiversity conservation</b>	Payments to respect pristine land creation, ecosystem conservation
<b>Landscape management</b>	Payments for reforestation of degraded zones, choice of practices
<b>Soil protection</b>	Payments for tree planting, sustainable agricultural practices
<b>Natural hazards prevention and protection</b>	Payments for tree planting
<b>Knowledge/expertise conservation</b>	Tourism, agritourism, sale of quality products
<b>Conservation of building heritage</b>	Tourism, agritourism
<b>Conservation of cultural heritage</b>	Tourism, agritourism, sale of quality products
<b>Preserving a social fabric</b>	Subsidising community projects

The list of the externalities proposed is neither fixed nor exhaustive. There are numerous positive externalities which often vary enormously between a mountain region and a valley region.

In addition, the concept of **community** may need to be specified since the SARD-M Project is interested in how local people and/or communities manage the services they provide and how they receive the compensation for it. Community refers to the locus where all members of a group of people having some form of collective claim over a territory and recognizing some form of collective governance can be given the opportunity to influence decisions in matters of public choice that affect their livelihood.

#### **4. Internalising positive externalities: can this contribute to SARD?**

The valorisation of positive externalities is an **opportunity** for sustainable agriculture and rural development, particularly **for the mountain regions**, because they are **a source of supplementary wealth** and can be a **driving force behind rural development**. This requires them to be incorporated into the market to pursue sustainable rural development.

The means used to internalise these externalities are economic tools:

- **Internalisation with the sold product:** selling products that stand above their competitors, thanks, for example, to certification (e.g. Bio-certification);
- **Non-sale internalisation:** taxes, subsidies, ICDPs (Integrated Conservation Development Projects), payments for services, particularly environmental services (in cash or kind). Unlike an externality, which is an unintended effect, a service is voluntary.

## II. Collection of documentation relevant to the two objectives

### *Step 1: Expanded research of documentation*

A previous set of documents was identified in 2005 through an expanded research:

- based on documents relating to the **valorisation of positive externalities** such as those described in point I.3 (case studies, research reports, working papers, etc., in English, Spanish or French);
- based on **field experiences**, in order to better identify the political and institutional implications;
- **not specifically focused on mountain regions**, based on the principle that certain experiences or lessons learned are relevant to different types of territories.

A new documentary research has been carried out:

- to **update the former list** of documents potentially interesting for the lessons learned on the valorisation of positive externalities;
- and to **create a list** of documents containing interesting information on the **mechanisms for compensating local people** for services they provide

### *Step 2: Classification*

Two classifications stages then became necessary to focus the analysis of documents that have great potential value for developing mechanisms on the ways of compensating local people on the one hand, and on the other hand, for drawing lessons, taking account of the available time.

#### **Selected criteria**

In order to classify **documents related to general ways of valorising positive externalities**, an analysis tool was needed. Annex 1 contains the list of criteria established in 2005 to select and classify pertinent documents.

**Another set** of criteria was also designed for the selection and classification of documents dealing with **compensation mechanisms**. Each document was assessed according to the criteria outlined in annex 2. Some of the pertinent criteria included:

#### **1) Criteria to describe contents of the document**

- **Nature of the compensation to local people:** the type of compensation local people receives for the services they provide. It can be payments made **in cash** through an income (Payment for Environmental Services - PES, other jobs); or **in kind** through a better access to the natural resources and a right to use it, or through the entrance to new markets and technical assistance, training, education, etc.
- **Emphasis on poverty alleviation.** A special interest was given when at least the document focuses on rural development or considers this issue.
- **Mountains:** is the document addressed specifically to mountains or not?
- **Population targeted:** who is the population receiving the compensation for the service provided?
- **Management body:** which institutions manage the project? It deals with the design, implementation, monitoring and evaluation stages.
- **Direct or indirect compensation:** is it a direct compensation through a direct payment in cash or an indirect one through employment, training, etc.?

## 2) Criteria for evaluating relevance of documents

Each document was also assessed for its relevance according to the amount of information it provided on the issues below (see annex 2 for more details on the scoring method utilized).

### *a) Details on the compensation of the positive externalities:*

- **Targeted services:** what are the positive externalities to be valorised (e.g. carbon storage) and which services provided by local people are targeted (e.g. tree plantation)?
- **How the service is compensated:** what are the compensations given to local people for the services they provide and the opportunities lost due to it?
- **Who pays:** who finances the project and provides payments in cash and/or in kind to compensate the services' providers?

### *b) Livelihood analysis*

A special interest was given to the documents which presented an analysis of the livelihood<sup>2</sup> of the people concerned as a preliminary step in the design of a compensation mechanism. Does the document deal with the five usual livelihood assets<sup>3</sup>: human, natural, financial, social and physical capitals? And how detailed is this information?

It is noteworthy to mention that **most documents only describe parts** of projects and do not give details on the overall project. Thus, it is quite difficult to get full information on the compensation process. A few documents recently published (8) have been added to the list established in 2005.

## Classification groups

Applying these criteria has made it possible to classify the **54 documents identified in 2005** and **8 new documents** being potentially relevant into three categories:

- "key documents", comprising those which deal most specifically with the SARD-M Project issues, and offer particularly interesting ideas. A document containing even one idea that is missing from other publications can justify its classification as a "key document";
- "interesting documents", comprising documents which are relevant and closely related to the project issues;
- "annexed documents", comprising a group of second-tier documents which can be consulted as a more general information source for the purposes of complementary research.

## List of documents

Annex 3 contains an **updated list** of documents related to **the valorisation of positive externalities**. This list contains information on documents collected during 2005 as well as 8 new documents collected in 2006.

For analysing **mechanisms on the ways of compensating local people**, the selection and classification process produced the following list of documents (annex 4): "key documents" (14 documents); "interesting documents" (28 documents); "annexed documents" (19 documents).

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<sup>2</sup> STEWART CARLONI A., 2005, Rapid guide for missions. Analysing local institutions and livelihoods, Rome FAO.

<sup>3</sup> Types of livelihood assets: (i) **Human capital:** household members, active labour, education, knowledge and skills, etc.; **Natural capital:** access to land, forests, water, grazing, fishing, wild products and biodiversity, etc.; **Financial capital:** savings/debt, gold/jewellery, income, credit, insurance, etc.; **Social capital:** kin networks, group membership, socio-political voice and influence, etc.; **Physical capital:** livestock, equipment, vehicles, houses, irrigation pumps, etc.

The case studies documented in the main publications collected (key and interesting documents, 42 documents) reveal that:

- few case studies are dedicated to mountains (15); the document collection phase has made it possible to highlight **the rarity of documents dealing specifically with mountains**. Documents on experiences in mountain regions have therefore been given priority;
- general **environmental problems** predominate/24; whereas in a few cases the focus is specific: carbon sequestration/9; biodiversity/4; water/4; soil protection/2; then the social and cultural values is dealt with in 13 documents;
- **international surveys** (14), or surveys dealing with **Latin America and Caribbean** (13) Africa (3), Asia (6), Europe (5) and North America (2).

### III. Identifying the mechanisms implemented to compensate local people for the services they provide

#### *The 16 selected case-studies*

From the more relevant case studies, **16 technical files** have been created (see annex 5). The externalities highlighted in bold refer to those that implicate social and cultural values.

	Country	Kind of externalities	Mountains	Region
1	<b>Bolivia</b>	biodiversity protection, carbon sequestration and storage		Latin America
2	<b>Brazil</b>	<b>biodiversity protection, carbon sequestration and storage, landscape beauty, watershed protection</b>		Latin America
3	<b>Costa Rica</b>	carbon sequestration, biodiversity protection and watershed protection		Latin America
4	<b>Ecuador</b> , ecotourism	<b>biodiversity conservation</b>		Latin America
5	<b>Ecuador</b> , Pimampiro municipality	carbon sequestration and storage, watershed protection	Yes	Latin America
6	<b>Ecuador</b> , PROFAFOR Programme	carbon sequestration and storage, watershed protection	Yes	Latin America
7	<b>Mexico</b>	<b>biodiversity protection, carbon sequestration and storage, landscape beauty, watershed protection</b>		Latin America
8	<b>Morocco</b> , ecotourism	<b>landscape beauty</b>	Yes	Africa
9	<b>Indonesia</b> , community based - conservation of biodiversity	biodiversity conservation		Asia
10	<b>Indonesia</b> , watershed services provision in an upland poor community	watershed protection	Yes	Asia
11	<b>The Philippines</b> , biodiversity conservation	biodiversity conservation		Asia
12	<b>The Philippines</b> , Maasin Watershed	watershed protection	Yes	Asia
13	<b>The Philippines</b> , Mt Kitanglad Range Natural Park	carbon sequestration	Yes	Asia
14	<b>The Philippines</b> , Mt Pulag National Park	landscape beauty	Yes	Asia
15	<b>Thailand</b>	biodiversity conservation and watershed protection		Asia
16	<b>Turkey</b> , ecotourism	<b>forest protection, biodiversity conservation and landscape beauty</b>		Middle East

These technical files (presented in annex 5) give an insight into the ways of compensating local people for the positive externalities they provide. The description of the compensation process is as detailed as possible, according to the information provided in the documents. However, it is noteworthy that **in many cases the entire process and actors involved are not described** and thus the compensating mechanism is only partly covered.

In addition to the criteria mentioned above, each technical file includes information on:

- Impacts and their nature: positive, negative, neutral impacts
- Lessons learned
- Recommendations

### *Lessons learned*

From these technical files, specific lessons learned (presented in annex 6) were drawn concerning the compensation process and its impacts on local people and the environment.

These lessons learned have been categorized according to the following typology. Those coming from case studies in mountain areas are written in italic.

<b>Part 1 – Process in general</b>	
	<b>1.1 Designing a project for the valorisation of positive externalities</b>
	<b>Analysing to be able to forecast</b>
	<b>Analysis of the stakeholders</b>
<b>3-6</b>	An econometric analysis was made to explain <b>non participation</b> . It reveals that the <b>main factors</b> are: <b>farm size, tenure, education, off-farm income and information access</b> .
<b>3-7</b>	The <b>incorporation of local-level perspectives, priorities, and visions</b> can empower local communities and promote participatory management.
<b>3-9</b>	Participants often <b>distrust the legal system</b> and believe that the possibility of future changes in the law would result in further restrictions or bind them to undesirable commitments.
<b>7-3</b>	When communities have broad access to the resource base, <b>organizational capacity</b> becomes the <b>crucial factor for</b> establishing agreements, complying with norms, managing conflicts, dealing with external actors, and applying <b>territorial management strategies</b> for environmental services provision.
	<b>1.2 Project implementation</b>
	<b>Laying down the coordination and decision-making rules</b>
	<b>Participation</b>
<b>1-3</b>	NGO initiatives should enhance initiatives with contracts detailing the communities' rights and responsibilities to avoid the paternalistic charity leading, in the end, to a <b>sharp decrease in communities' involvement</b> .
<b>3-7</b>	The <b>incorporation of local-level perspectives, priorities, and visions</b> can empower local communities and promote participatory management.
<b>10-3</b>	The involvement of all beneficiaries and actors in a <b>special forum formulating institutional arrangements and necessary agreements</b> is believed to target the poor and work to develop a fair and equitable mechanism for the identification of services, providers, and beneficiaries.
<b>12-3</b>	This project basically adopts an <b>Information, Education and Communication (IEC) and networking approach to mobilise community participation in environmental protection projects</b> within the watershed, including solid-waste management.

4-2	To <b>overcome the lack of ownership and tenure, community partnership</b> should be enhanced.
14-3	The introduction of <b>non-government personnel</b> in Protected Area Management Board brings more room for sustainability and continuity.
3-2	Participation increases land-tenure security.
5-1	<b>Access rules</b> should be set at the <b>local</b> rather than the national <b>level</b> to better involve the community in the scheme implementation.
<b>Balance/equality between stakeholders</b>	
12-1	<i>One big problem in working with recognised Pressure Groups is that membership <b>often represents only a small segment of the upland population</b>. In which case, a few families, often the more vocal and influential members of the community, largely appropriate the 'rewards' of participation in watershed-protection endeavours. This is a major reason why <b>activities</b> initiated by the project <b>are not sustained</b> once the project comes to an end.</i>
12-2	<b>Information</b> centres should become institutionalized in the local government and serve <b>as venues for initiating community actions</b> that benefit the environment and the <b>roles of young people, children, and women</b> should be encouraged.
14-2	It is advisable to have a <b>democratic composition of the manager institution</b> , involving the civil society or simply NGOs, to serve as a venue <b>for rationalising government programmes and it brings more room for sustainability and continuity</b> .
3-10	To <b>favour smallholders</b> , setting a <b>maximum area</b> that can receive PES may help to achieve <b>poverty and equity objectives</b> .
<b>Intermediary institutions</b>	
10-1	In the institutional arrangement, the <b>intermediary</b> is required to have capability in facilitating the needs of both sellers and buyers groups.
10-2	<b>Skills in business management</b> are required for the intermediary as this institution is being considered to be a joint business group.
12-4	The Iloilo Watershed Management Council as <b>social infrastructure</b> is very important in <b>sustaining and operationalising the watershed approach</b> of managing forest resources in this important area.
<b>Disseminating information and providing access to training</b>	
<b>Information/sensitisation and stakeholder training and skills</b>	
15-1	Through <b>exchanging information and experiences</b> , the villagers have learned from their successes and failures. Their collaboration has allowed them to initiate new ideas and practices that respond to community needs.
<b>Monitoring</b>	
10-4	To ensure that natural resources related to the watershed services are being sustainably managed and that payments are being made to upland communities, it is necessary to monitor the designed activities based on the benefits received by either sellers or buyers.

## Part 2. Ways of valorising positive externalities

<b>2.1 Payment for environmental services (PES)</b>	
<b>Bundled services</b>	
1-1	A "bundled" initiative combining carbon and biodiversity implies a more <b>comprehensive approach</b> and has <b>better results</b> .

3-8	<b>Monetary payments made directly to local communities</b> for a bundle of environmental services allow a global approach and positive interactions.
7-5	Rather than focusing on a single environmental service, <b>communities would benefit more from supplying integrated services</b> , and combining markets for environmental services with fair-trade markets or solidarity markets for products of peasants and indigenous people.

Project design	
<b>Analysis of the project's capacity to achieve its objectives</b>	
<b>Rural development and poverty alleviation objectives</b>	
2-1	When family-based agro-extractives production is critical for the livelihoods, local people should not be excluded from their land in a bid to create reserve because the <b>payment will never compensate the livelihoods lost</b> .
3-10	To <b>favour smallholders</b> , setting a <b>maximum area</b> that can receive PES may help to achieve <b>poverty and equity objectives</b> .
1-2	Communities should be assisted in order to compensate them for lost employment which may occur with environmental conservation in order to <b>reduce the threat of leakage through displacement of economic activities</b> to other areas.
<b>Environmental objective</b>	
7-4	<b>Existing production</b> strategies provide <b>the most convenient starting point</b> for meeting the demand for environmental services, through diversification.
9-1	The advancement of <b>charismatic or flagship species</b> is a recent trend to promote and open markets in biodiversity conservation at the global level. There is internally consistent willingness to pay for the purchase of property rights for the habitat required for the conservation of flagship species.
9-2	The strategy in biodiversity conservation also has shifted to principles that <b>recognize the concerns and needs of people</b> , who compete with the conservation activities for resources.
15-2	The villagers realized that the people of a <b>single community could not implement successful</b> and sustainable forest management, especially since boundaries were not demarcated and there were no regulations on forest use.
Project implementation	
3-4	<b>Broad participation in the early stages of PES schemes</b> is crucial to ensure their long-term legitimacy and sustainability.
3-11	The <b>global orientation, eligibility criteria, and operational rules</b> largely determine the capacity for inclusion in the PES schemes. In some settings, greater inclusion requires seeing beyond the forest to link up with other productive activities that are central to livelihoods.
14-1	<i>Having <b>representation from all stakeholders</b> directly connected with environmental management in the manager institution is <b>highly valuable in all the project stages</b>.</i>
3-5	An accelerated institutionalization of PES schemes, <b>without adequately including the interests of small producers and indigenous communities</b> , generates <b>restrictions</b> that are difficult to overcome later.
9-1	Since there is internally consistent <b>willingness to pay for</b> the purchase of property rights for the habitat required for the conservation of charismatic or <b>flagship species</b> , those schemes should be develop <b>in order to conserve biodiversity at the global level</b> .
3-3	Local-level PES schemes should be enhanced since small-scale producers participating in such initiatives generally consider the local benefits (improved water and landscapes) and the <b>technical assistance</b> associated with these schemes, to be <b>more valuable than the payments themselves</b> .

Project impacts	
3-1	Often <b>conservation</b> objectives are met but not <b>poverty</b> and <b>equity</b> ones.
2-2	A <b>traditional conservation</b> focus can have <b>negative impacts</b> on <b>extractive communities</b> dependent on access to the resource base and <b>more attention</b> should be paid to the expansion, innovation, and <b>defence of the rights of communities</b> .
5-2	The number of participants has decreased over time. It could indicate that the <b>financial incentives for service provision were insufficient</b> and/or that landowners did not think of being caught and expelled in violating the contract rules.

2.2 Sustainable tourism/pro-poor tourism	
<b>In general</b>	
16-2	<b>Ecotourism in suitable forest villages</b> may be the <b>best income-generating</b> activities that are also ecological.
16-3	Although <b>ecotourism</b> have some <b>advantages for rural development and conservation of natural or cultural heritages</b> , <b>lack of the experience on ecotourism planning and decision making, and funding problems</b> for research and model implementation are the significant constraints for ecotourism development.
16-5	<b>Reduction of pressures</b> on the natural resources, protection of the ecological balance, cooperation among regions and countries, and acceleration of <b>information and experience exchange</b> between rural and urban people can be ensured by ecotourism projects in forests villages.
7-1	<b>Ecotourism</b> can be a <b>promising activity</b> when integrated into other production strategies (handicrafts, natural and organic products, etc.), <b>especially when social organization and cohesion are strong</b> .
<b>Project design</b>	
16-4	It is essential to <b>interview the villagers</b> and investigate the village profile prior to the formulation of an ecotourism project.
16-1	<b>Villagers</b> can affect <b>decisions in ecotourism planning</b> and also the <b>results and implementation</b> of the plans by using their legal rights, lobbying activities etc.
4-3	TROPIC, a tour operator, was instrumental in <b>creating regulations for tourism operations</b> , which included the idea of a community fee for overnight stays, a territorial entrance fee paid to ONHAE, and guidelines for signing operational agreements with ONHAE.
7-6	The <b>different visions and approaches of NGOs and communities</b> can create <b>conflicts</b> .
<b>Project implementation</b>	
<b>The stakeholders' training and skills</b>	
8-2	<b>Low level of education and lack of training</b> constitute a constraint to tourism development.
16-3	Although ecotourism has some advantages for rural development and conservation of natural or cultural heritages, <b>lack of experience on ecotourism planning and decision making, and funding problems</b> for research and model implementation are the significant constraints for ecotourism development.
<b>Monitoring</b>	
4-1	Institutions working in eco-tourism should listen to any <b>suggestions and feedback</b> from the community, <b>to ensure quality control</b> , promote the community <b>to share their experiences</b> and to help train other communities.

Project impacts	
7-2	Economic success of ecotourism may lead to <b>environmental stresses</b> and the neglect of conservation.
8-1	Tourism, and more generally access to new markets, may bring about speculation for instance on the crop choice and impact negatively on people's livelihoods.

### Recommendations

From these technical files, specific recommendations related to policies, institutions and processes were drawn concerning the compensation mechanisms and its impacts on local people and the environment. Those coming from case studies in mountain areas are written in italic.

Recommendations	Case study
<b>Policies</b>	
<i>More <b>governmental concern</b> and support for building facilities.</i>	Morocco, ecotourism
<b>Public awareness</b> of the ecotourism is an important part of ecotourism application. This should be realized under defined strategy and policy.	Turkey, ecotourism
In these flagship species programs to conserve global biodiversity, improving <b>people's livelihoods</b> needs to be part of the strategy.	Indonesia conservation of biodiversity
Ecotourism projects should aim for <b>direct and indirect improvement of income levels and living standards</b> of the local people.	Turkey, ecotourism
<b>Local and national ecotourism development strategies and policy</b> (increasing investment on tourism facilities, creation of employment opportunities, enhancement of the public-stakeholders and experts' participation, etc.) should be developed.	Turkey, ecotourism
The prime lessons from Brazil would be to pay more attention to the expansion, innovation, and defence of the <b>rights of communities</b> .	Brazil
<i>A way to internalize positive externalities from agriculture into tourism activities is through <b>creating a label or a conversion to organic agriculture</b> which would allow the farmers to sell with higher prices their local products.</i>	Morocco, ecotourism
<b>A broad focus on a wide range of practices</b> for the provision of environmental services should be targeted for improving, diversifying, and strengthening the livelihood strategies of rural communities. The impact of PES schemes should be enhanced when they promote environmentally improved productive activities such as agro-forestry, agro-tourism, ecotourism, non-timber products, and sustainable agriculture.	Costa Rica
<i>In already inhabited areas, the concept of <b>'strictly no use' by people is politically unfeasible</b>. Hence, governments would accept that comprehensive and sustainable management of protected areas will need to include all stakeholders in decision-making.</i>	The Philippines, Mt Pulag National Park
<b>Institutions</b>	
Need of strong and representative <b>organizations of small producers and indigenous communities</b> to ensure participation in order to result in truly inclusive schemes.	Costa Rica
<i>The formulation of <b>agreements involving all beneficiaries and actors</b> in a special forum could avoid potential conflicts.</i>	Indonesia, watershed services provision

<i>In the institutional arrangement, the <b>intermediary</b> is required to have capability in facilitating the needs of both sellers and buyers groups.</i>	Indonesia, watershed services provision
<b>Processes</b>	
To overcome the <b>lack of social capital and organisational strength</b> , orientation and planning workshops should be designed.	Ecuador, ecotourism
To <b>overcome the lack of human capital of the poor</b> (i.e. skills), <b>workshops, training courses, and direct experience</b> should promote the transmission of tourism skills.	Ecuador, ecotourism
It is necessary to <b>develop participatory territorial planning and management instruments</b> at different scales: from the plot or farm level, up to the landscape level where it may be necessary to harmonize different land uses.	Mexico
To overcome gender norms and constraints, <b>efforts</b> should be made <b>to ensure that women's opinions are expressed in the meetings</b> and encourage the men to take them seriously.	Ecuador, ecotourism
It is essential to interview the villagers firstly and to <b>investigate the village profile</b> prior to the formulation of the ecotourism project.	Turkey, ecotourism
A <b>feasibility study</b> should be realized, which identifies potential ecotourism development areas, including mountain, forest, wetland, coastal and island environments. Classification of medium and high potential areas should be carried out to implement projects where it is the more favourable.	Turkey, ecotourism
<b>Extractive communities</b> should benefit from PES schemes designed to improve the productivity, profitability, and sustainability of their activities.	Brazil
Assistance is required when forestry activities are not eligible for credit from the National Bank System for Financing which is the main source of finance in Costa Rica. Indeed, this <b>restriction on bank credit was particularly hard for small landowners</b> as they have fewer alternatives for funding.	Costa Rica
As the PES do not cover the full costs of reforestation, some <b>additional finance and technical assistance</b> are necessary.	Costa Rica
Expanding access and usufruct rights, and <b>compensating communities for their stewardship role</b> can strengthen livelihoods while guaranteeing the flow of environmental services. It is crucial to <b>integrate environmental objectives with social and equity objectives</b> in the design and implementation of PES schemes, to ensure that they operate in favour of communities. Public discussion and decisions on rights, responsibilities, procedures, and rules can help in achieving equitable results.	Brazil
<b>Valuation of in-kind payments</b> shall be based on: acquisition cost of equipment/ infrastructure/ supplies; cost of training for formal training; cost of training in host country of trainer in case of technology transfer; and actual costs incurred (labour, infrastructure, IEC materials and similar expenses) for conservation and protection activities.	The Philippines, biodiversity conservation
Tourism revenues should be used <b>to ease the potential negative effects</b> .	Ecuador, ecotourism
<b>Transaction costs</b> should be reduced.	Costa Rica
The <b>transaction costs</b> are to be taken into account in legal procedures design (e.g. the need of travel to the capital especially for local people living in remote areas).	Ecuador, PROFAFOR

#### **IV. Some lessons learned on general ways of valorising positive externalities**

The purpose of this study was to produce a summary document giving a concise account of the lessons learned from various documents related to the valorisation of positive externalities and provide an overview of the main lessons learned, and gaps that exist in the documentation collected.

The **updated list** of lessons learned on general ways of valorising positive externalities **including the lessons drawn out from the new documents collected in 2006** (i.e. 8) can be found in **annex 7**.

The numbers in the left-hand column refer to the publications from which the information has been taken. The lessons drawn out from the new documents collected in 2006 (i.e. 8) are highlighted in grey and their reference begins from the number 40. The phrases in bold are taken from documents dealing with one or more mountain regions.

## Annexes

- 1. Criteria for describing and analyzing general ways of valorising positive externalities**
- 2. Criteria for describing and analyzing the mechanisms for compensating local people**
- 3. Updated list of documents related to the valorisation of positive externalities**
- 4. Document selection on the mechanisms for compensating local people**
- 5. 16 technical files on the mechanisms for compensating local people**
- 6. Set of specific lessons learned from the technical files selected on compensation mechanisms**
- 7. Updated list of lessons learned on general ways of valorising positive externalities**

**Criteria for describing and analyzing general ways of valorising positive externalities**

- **Document title:** the document title in the original language of the publication.
- **Publication date:** the year the document was published.
- **Author:** the name of the author.
- **Publisher:** the name of the publisher.
- **Document type:**
  - workshop reports: reports and conclusions of meetings of specialists and/or stakeholders,
  - substantive articles (by a specialist, university, international organisation): a document addressing the issues in more general and theoretical terms,
  - reports based on projects/case studies implemented,
  - case studies.

The word "Draft" is to be added where relevant.
- **Region:** the various regions dealt with in the publication: Africa, Asia Pacific, Central America and the Caribbean, South America, North America, Middle East, Europe and international.
- **Country:** the countries studied or participating in the programmes and projects examined in the document.
- **Document context:** the context in which the document was drafted (framework study, research, project, discussions).
- **Organisations involved:** the organisations (NGOs, International Organisations, Government) involved in the drafting of the document.
- **Subject matter:** the main subjects covered by the document (the original subject of the texts, even if it is not, at first sight, focused on externalities).
- **Externality/Service:** the type of externality or service addressed in the document.
- **Social aspects**

The document deals with the social aspects of externality valorisation projects. Notation: 0 (not addressed), 1 (little attention), 2 (considerable attention), 3 (very thoroughly addressed).
- **Economic aspects**

The document deals with the economic aspects of externality valorisation projects. Notation: 0 (not addressed), 1 (little attention), 2 (considerable attention), 3 (very thoroughly addressed).
- **Environmental aspects**

The document deals with the environmental aspects of externality valorisation projects. Notation: 0 (not addressed), 1 (little attention), 2 (considerable attention), 3 (very thoroughly addressed).
- **Policies**

The document deals with the policy aspects of externality valorisation projects. Notation: 0 (not addressed), 1 (little attention), 2 (considerable attention), 3 (very thoroughly addressed).
- **Institutions**

The document deals with the institutional aspects of externality valorisation projects. Notation: 0 (not addressed), 1 (little attention), 2 (considerable attention), 3 (very thoroughly addressed).

- **Governance**

The document deals with the governance aspects of externality valorisation projects. Notation: 0 (not addressed), 1 (little attention), 2 (considerable attention), 3 (very thoroughly addressed).

- **The main relevant features of the document**

The document's added-value in terms of SARD-M. What does this document offer compared with other documents? (Some documents offer the same information). This should not be a short summary.

- **Mountains:** is the document addressed specifically to mountains or not?
- **Case study:** the document is based on case studies, or refers to them.
- **Relevance/10:** the relevance of the document to SARD-M Project issues. This is a subjective indicator regarding the contribution of each document as input for our future work.
- **Criticisms:** criticisms of the document in terms of its usefulness to the SARD-M Project.

**Criteria for describing and analyzing mechanisms for compensating local people**

- **Document title:** the document title in the original language of the publication.
- **Publication date:** the year the document was published.
- **Author:** the name of the author.
- **Publisher:** the name of the publisher.
- **Document type:**
  - workshop reports: reports and conclusions of meetings of specialists and/or stakeholders,
  - substantive articles (by a specialist, university, international organisation): a document addressing the issues in more general and theoretical terms,
  - reports based on projects/case studies implemented,
  - case studies.

The word "Draft" is to be added where relevant.

- **Region:** the various regions dealt with in the publications: Africa, Asia Pacific, Central America and the Caribbean, South America, North America, Middle East, Europe and international.
- **Country:** the countries studied or participating in the programmes and projects examined in the document.
- **Case study:** the document contains case studies and provides enough details to get an insight of the project and outline the mechanisms for valorising positive externalities.
- **Document context:** the context in which the document was drafted (framework study, research, project, discussions).
- **Organisations involved:** the organisations (NGOs, International Organisations, Government) involved in the drafting of the document.
- **Kind of externalities:** the type of externality or service addressed in the document. Namely, environmental externalities such as biodiversity conservation, carbon sequestration, landscape beauty, watershed protection; or cultural and social values.
- **Nature of the compensation to local people:** the type of compensation local people receives for the services they provide. It can be payments made in cash through an income (PES, other jobs); or in kind through a better access to the natural resources and a right to use it, or through the entrance to new markets and technical assistance, training, education, etc.
- **Emphasis on poverty alleviation:** the document lays the emphasis on poverty alleviation.

The symbol " Yes\* " appears when the document focuses on rural development or considers this issue.

- **Mountains:** is the document addressed specifically to mountains or not?
- **Population targeted:** who is the population receiving the compensation for the service provided?
- **Management body:** which institutions manage the project? It deals with the design, implementation, monitoring and evaluation stages.
- **Direct or indirect compensation:** is it a direct compensation through a direct payment in cash or an indirect one through employment, training, etc.?

### **Details on the compensation of the positive externalities**

For each of the ways of valorising positive externalities, the amount of detail provided is assessed according to the following scale: 0 (not addressed) 1 (little attention) 2 (considerable attention) 3 (very thoroughly addressed).

- **Targeted services:** what are the positive externalities to be valorised (e.g. carbon storage) and which services provided by local people are targeted (e.g. tree plantation)?
- **How the service is compensated:** what are the compensations given to local people for the services they provide and the opportunities lost due to it?
- **Who pays:** who finances the project, and provides payments in cash and/or in kind to compensate the services' providers?

### **Livelihood analysis**

Does the document deal with the five livelihood assets and how detailed is the information?

*Types of livelihood asset:*

- **Human capital:** household members, active labour, education, knowledge and skills, etc.
- **Natural capital:** access to land, forests, water, grazing, fishing, wild products and biodiversity, etc.
- **Financial capital:** savings/debt, gold/jewellery, income, credit, insurance, etc.
- **Social capital:** kin networks, group membership, socio-political voice and influence, etc.
- **Physical capital:** livestock, equipment, vehicles, houses, irrigation pumps, etc.

For each aspect of the livelihood analysis the amount of detail provided is assessed according to the following scale: 0 (not addressed or little attention), 0.5 (considerable attention), 1 (very thoroughly addressed).

### **Evaluation of the document regarding SARD-M Project objectives**

- **Precision of the information provided/14.** 14 is the maximum score a document may reach if it substantially treats all these aspects.

### Annex 3: Updated list of documents related to the valorisation of positive externalities

#### Key Documents

List 1 - Document title	Date	Publisher	Region	Country	Themes addressed	Externality	Mountains
<a href="#">Can Payments for Environmental Services Help Reduce Poverty? An Exploration of the Issues and the Evidence to Date from Latin America (Ensuring that the Poor Benefit from Payments for Environmental Services - DRAFT)</a>	2004	World Bank	International	International	PES Poverty	Environmental externalities (biodiversity conservation, carbon sequestration, landscape management, water quality and quantity)	No
<a href="#">Silver bullet or fools' gold? A global review of markets for forest environmental services and their impact on the poor</a>	2002	IIED - International Institute for Environment and Development	International	International	PES Forests Poverty	Environmental externalities (biodiversity conservation, carbon sequestration, landscape management, water quality and quantity)	No
<a href="#">Developing pro-poor markets for environmental services in the Philippines</a>	2003	Regional Environmental Economics Program (REEP), Asia IUCN - The World Conservation Union	Asia	Phillipines	Poverty	Environmental externalities (biodiversity conservation, carbon sequestration, landscape management, water quality and quantity)	No
<a href="#">Lessons from the Americas and Key issues for Strengthening Community Strategies Compensation for Environmental Services and Rural Communities</a>	2003	DEVELOPMENT AND ENVIRONMENT RESEARCH PROGRAMME IN EL SALVADOR	Central America and Caribbean South America	Costa Rica, Salvador, Mexico, Brazil, New York	PES	Environmental externalities(biodiversity conservation, carbon sequestration, landscape management, water quality and quantity)	No
<a href="#">Environmental Goods and Services in Honduras - A Sustainable Development Alternative</a>	2004	PASOLAC-Honduras	Central America and the Caribbean	Honduras	PES	Environmental externalities (biodiversity conservation, carbon sequestration, landscape management, water quality and quantity)	No
<a href="#">Watershed Development, Environmental Services and Poverty Alleviation in India</a>	2002	World Development	Asie	India	PES watersheds poverty	Water quality and quantity	Yes

Note: Documents collected in 2006 are highlighted in grey

<a href="#">PPT Strategies for pro-poor tourism A review of experience</a>	2001	Practical strategies for pro-poor tourism	International	International	Sustainable Tourism	Culture Heritage Biodiversity/Environmental Conservation	No
<a href="#">Practical strategies for pro-poor tourism TROPIC Ecological Adventures - Ecuador</a>	2001	Practical strategies for pro-poor tourism	South America	Ecuador	Sustainable tourism	Culture Heritage Biodiversity/Environmental Conservation	No
When are Payments for Environmental Services Beneficial to the Poor?	2006	FAO	International	International	PES beneficiaries	Environmental externalities	No
<a href="#">Rural livelihoods and carbon management</a>	2000	DFID - Forest Research Programme Project	International	International	Carbon Management (Sequestration, conservation) and the rural way of life	Carbon sequestration	No
<a href="#">For sustainable agriculture in Valais</a>	2000	Institut d'économie rurale, Ecole polytechnique fédérale, Zürich	Europe	Switzerland	Agriculture	Conserving the Social Fabric, Conserving the Environment	No
<a href="#">Payments for environmental services: Some nuts and bolts</a>	2005	CIFOR - Center for International Forestry Research	International	International	PES	Environmental externalities (biodiversity conservation, carbon sequestration, landscape management, water quality and quantity)	No
<a href="#">How Can Market Mechanisms for Forest Environmental Services Help the Poor? Preliminary Lessons from Latin America</a>	2005	WORLD DEVELOPMENT	Central America and Caribbean South America	Central America and Caribbean South America	PES Poverty	Environmental externalities (biodiversity conservation, carbon sequestration, landscape management, water quality and quantity)	No
Localizing Demand and Supply of Environmental Services: Interactions with property rights, collective action and the welfare of the poor	2005	IFPRI	International	International	Inter-relationships between PES institutions and other rural institutions	Environmental externalities	No

Note: Documents collected in 2006 are highlighted in grey

## Interesting Documents

List 2 - Document Title	Date	Publisher	Region	Country	Themes Addressed	Externality	Montagne
<a href="#">Practical strategies for pro-poor tourism: case study of pro-poor tourism and SNV in Humla District, West Nepal</a>	2001	Practical strategies for pro-poor tourism	Asia	Nepal	Sustainable Tourism	Culture Heritage Biodiversity conservation	Yes
<a href="#">Payment schemes for environmental services in watersheds</a>	2003	FAO	Central America and Caribbean South America	Costa Rica Ecuador Honduras Dominican Republic	PES watersheds	Water Quality and Quantity	Yes
<a href="#">Who Benefits from Payments for Environmental Services Programs? An Analysis of Participation in and Performance of Costa Rica's PSA Program"</a>	2003	Cornell University Department of Applied Economics and Management	Central America and Caribbean South America	Costa Rica	PES PES Beneficiaries	Environmental externalities (biodiversity conservation, carbon sequestration, landscape management, water quality and quantity)	No
<a href="#">Smallholder agroforestry projects: potential for carbon sequestration and poverty alleviation</a>	2003	FAO	International	International	Poverty Carbon Sequestration Agroforestry	Biodiversity Conservation Carbon Sequestration	No
<a href="#">An Analysis of Institutional Supports for Community-Based Land Management Systems with Carbon Sequestration Potential in Mali</a>	2003	Sustainable Agriculture and Natural Resource Management CRSP	Africa	Mali	Carbon sequestration	Carbon sequestration	No
<a href="#">Poverty and Conservation, Landscapes, People and Power</a>	2005	IUCN – The World Conservation Union	International	International	Integrated Conservation and Development Projects (ICDPs) Forests	Biodiversity Conservation Carbon Sequestration	No
<a href="#">Electronic forum on payment schemes for environmental services in watersheds</a>	2004	FAO	Central America and Caribbean	Ecuador Brazil Chile Costa Rica Colombia Latin America	PES Watersheds	Water Quality and Quantity	Yes
<a href="#">Paying for Biodiversity Conservation Services in Agricultural Landscapes</a>	2004	World Bank	International	International	PES Biodiversity, Silvopastoral Practices	Biodiversity Conservation Carbon Sequestration	No

Note: Documents collected in 2006 are highlighted in grey

<a href="#">Carbon, Forests and People Towards the integrated management of carbon sequestration, the environment and sustainable livelihoods</a>	2002	IUCN – The World Conservation Union	International	International	Forest Management	Carbon Sequestration Biodiversity Conservation	No
Payments for Environmental Services: To whom, for what, and how much?	2004	University of California at Berkeley	Latin America and Caribbeans	Mexico	PES design, PES beneficiaries	Environmental externalities: forest conservation	No
Review of the Development Environmental Services Market in Indonesia	2005	World Agroforestry Centre (ICRAF)	Asia	Indonesia	Developing Mechanisms for Rewarding the Upland Poor in Asia for Environmental Services They Provide	Environmental externalities	No
<a href="#">Paying for Environmental Services at Municipal Level in Honduras, El Salvador and Nicaragua: "PASOLAC's contribution to developing and innovative approach which will contribute to sustainable mountain agriculture"</a>	2004	PASOLAC	Central America and Caribbean	Central America	PES agriculture	Water Quality and Quantity, Carbon Sequestration	No
<a href="#">A Shared Research Agenda for Landuse, Landuse Change, Forestry and the Clean Development Mechanism</a>	2001	Center for International Forestry Research	International	International	The use of lands, forests and sustainable development	Carbon Sequestration	No
<a href="#">Environment Module, Morocco</a>	2003	ROA/FAO	Africa	Morocco	Positive Externalities of Agriculture on Tourism	Cultural and Environmental Heritage	No
<a href="#">Linking farmers and researchers in China</a>	2004	Canada's International Development Research Centre (IDRC)	Asia	China	Biodiversity Participatory improvement	Food Security	No
The United Kingdom's Experience with Agri-environment Stewardship Schemes: Lessons and Issues for the United States and Europe	2001	University of Essex	Europe, North America	United Kingdom, United States	Multifunctionality of European and American agriculture, environmental stewardship	Environmental externalities	No

Note: Documents collected in 2006 are highlighted in grey

Auctions in an outcome-based payment scheme to reward ecological services in agriculture – Conception, implementation and results	2005	Georg-August-University Goettingen	International	International	Use of auctions to reward ecological services in agriculture	Environmental externalities	No
Rural Development Environmental Programming Guidelines		WWF European Policy Office	Europe	Europe	Rural Development Programme and Environment	Environmental externalities: forest conservation, biodiversity conservation, watershed management	No
<a href="#">Perception Analysis of Environmental Externalities of Coffee Farming System in Rio Limpio and Irrigated Farming System in San Juan de la Maguana, Dominican Republic</a>		ROA/FAO	Central America and Caribbean	Dominican Republic	Comparison of Externalities of 2 modes of production (bio and non-bio)	Biodiversity Carbon sequestration Soil conservation Landscape management	No
<a href="#">Genetic Diversity, Coffee and Soil Erosion in Ethiopia</a>	2003	ROA /FAO	Africa	Ethiopia	Biodiversity Food Security Erosion	Biodiversity Food security Soil conservation	No
<a href="#">Agriculture's Environmental Externalities Valuation: Agro-Tourism in the Dominican Republic</a>	2003	ROA /FAO	Central America and the Caribbean	Dominican Republic	Agri-Tourism	Cultural and Environmental Heritage	No
<a href="#">Compensation for Environmental Services and Rural Communities: Lessons from the Americas</a>	2004	POLITICAL ECONOMY RESEARCH INSTITUTE (University of Massachusetts Amherst)	Central America and the Caribbean South America	Costa Rica Mexico El Salvador Brazil	PES	Environmental externalities (biodiversity conservation, carbon sequestration, landscape management, water quality and quantity)	No
<a href="#">Payment for environmental services as a mechanism for promoting rural development in the upper watersheds of the tropics: Proposal for Andes Basin</a>	2004	GTZ-CONDESAN (Cuencas Andinas Project), CIAT, DIIS	Central America and the Caribbean	Central America and the Caribbean	PES	Water Quality and Quantity	No
<a href="#">Externalities and labor market linkages in a dynamic two-sector model of tropical agriculture (Version Power point)</a>	2003	Purdue University	International	International	PES Watersheds Agriculture	Water Quality and Quantity	No
<a href="#">Establishing the impact of forestry on the means of subsistence of the local population</a>	2000	Centre de recherche forestière internationale (CIFOR)	International	International	PES	Carbon Sequestration	No

Note: Documents collected in 2006 are highlighted in grey

## Annexed Documents

List 3 - Title		Publisher	Themes addressed	Focus of Interest
<a href="#">Multifunctionality: consequences for government action</a>	2003	OECD	Multifunctionality of Agriculture	Data on agricultural externalities
<a href="#">Getting it right: emerging markets for storing carbon in forests</a>	1999	World Bank	Forestry	The document raises the problem of carbon fixation
<a href="#">Solidarity-based tourism: innovation and networking France-Italy Comparative Analysis</a>	2004	Université Catholique de Lyon	Solidarity-based tourism	Institutional support for tourism: Italy-France compared
<a href="#">Forest ecosystems services; can they pay our way out of deforestation?</a>	2002	GEF	PES	Addresses the practical aspects of a PES The document studies the potential and comparative advantages of forestry for poor populations
<a href="#">Making markets work for forest communities</a>	2002	Forest trends	Forestry	The document addresses poverty in terms of combating climate change
<a href="#">Poverty Reduction, Equity and Climate Change: Global Governance Synergies or Contradictions?</a>	2003	ODI - Overseas Development Institute	Climate change	Analysis of different aspects of PES
<a href="#">"Marketing" Environmental Services: Lessons Learned in German Development Cooperation</a>	2004	German Development Co-operation - GTZ	PES	One of the rare analyses of territorial externalities
<a href="#">The territory and its heritage</a>	2004	Laboratoire d'Economie de la Production et de l'Intégration Internationale	Territory	Social aspects and rural development
<a href="#">Scenarios for reconciling biodiversity conservation with declining agricultural use in the mountains of Europe</a>	2002	BioScene	Conservation of biodiversity in mountain regions	The document indicates difficulties linked to internalising agricultural externalities (imputing positive effects, evaluation). It proposes a vision of specific (niches) markets
<a href="#">Multifunctionality and territories</a>	2002	CEMAGREF-CIRAD-INRA	Agriculture, externalities and valorisation difficulties	Interactions between developed/developing countries
<a href="#">Carbon projects in Brazil and the roles and functions of the "Brazilian Biofuels Programme"-BBP -</a>		IPGRI - International Plant Genetic Resources Institute	Biofuels	Multiple vision of mountain regions
<a href="#">Community Policies and Mountains</a>	2002	European Commission	Agro-environment Certification	

Note: Documents collected in 2006 are highlighted in grey

<a href="#">2003 Parc national de la Vanoise Activity Report</a>	2003	PNV			Rural development	Local Aspects and Governance
<a href="#">Mountain agrifood products in Europe: conclusions and specific project achievements</a>	2004	EUROMONTANA			Strategy for developing quality products	Addresses the valorisation of positive externalities by certification
<a href="#">Risks and stakes in family agriculture - Cases in mountain regions, arid and semiarid</a>	1997	CIHEAM			Family agriculture	Social Aspects and Rural Development The document correctly addresses the problems of positive and negative externalities of agriculture and rural development
<a href="#">Evaluation of economic benefits linked to achieving the objectives of the agro-environmental action plan 1998-2005</a>	2000	Union québécoise pour la conservation de la nature (UQCN)			Agro-environment Certification	
<a href="#">The role of services driving the structuring of rural areas</a>	2003	Université F. Rabelais - Tours et UMR CNRS 5045 Mutations des Territoires en Europe, Montpellier			Rural development and service	The document illustrates the new dynamic of rural development
<a href="#">Social competitiveness</a>	2000	European Commission			Rural development	The institutional aspect is soundly addressed in terms of rural development
<a href="#">Characterising environmental services in a landscape dimension produced in rural areas</a>	2002	Sustainable and territorial development			Landscape	A rare example of a PES on landscapes  This document describes the state of forests in the Navarra region. The externalities of this region were used as a basis for subsidising new forestry measures, with rather poor results.
<a href="#">Forestry measures in the rural development programme for Navarra - 2002</a>	2002	Comunidad foral de Navarra			Forestry	
<a href="#">The future of mountain regions in Europe</a>	2004	Euromontana			The future of mountain regions	Strengths and weaknesses of Mountain regions  The document proposes a method for evaluating the positive externalities of agriculture
<a href="#">Environment Module, China</a>		ROA/FAO			Reduction of agricultural pollution	
Ecotourism and Sustainable Development of Forests and Forest Villagers in Turkey	2003	Gülzade Kahveci, Kenan Ok and Ersin Yılmaz	Europe	Turkey		Cultural values Environmental externalities: forest conservation

Note: Documents collected in 2006 are highlighted in grey

**Annex 4: Document selection on the mechanisms for compensating local people**

**List 4. "Key documents"**

No	Classification in 2005	Title	Date of publication	Publisher	Region	Countries	Kind of externalities	Nature of the compensation to local people	Emphasis on poverty alleviation	Mountains	Population targeted	Management body	Direct or indirect compensation	Targeted services	How the service is compensated	Who pays	Human capital	Natural capital	Financial capital	Social capital /1	Physical capital	Overall score (max. 14)
1	Interesting documents 13	<a href="#">Who Benefits from Payments for Environmental Services Programs? An Analysis of Participation in and Performance of Costa Rica's PSA Program</a>	2003	Cornell University Department of Applied Economics and Management	Latin America and Caraibes	Costa Rica	Environmental externalities: biodiversity conservation, carbon sequestration and storage, landscape beauty, watershed protection	income(PES), technical assistance	No	Yes	landowners and forest owners	Governmental agencies, NGOs, communities	direct	2	3	3	1	0.5	0.5	0	1	11
2	Interesting documents 13	<a href="#">Compensation for Environmental Services and Rural Communities: Lessons from the Americas</a>	2004	Political Economy Research Institute (University of Massachusetts Amherst)	Latin America and Caraibes	Costa Rica Mexico Salvador Brazil	Environmental externalities: biodiversity conservation, carbon sequestration, landscape beauty, watershed protection	Income(PES), use of local resources, technical assistance	No	No	Large and medium size private land-owners, touristic actors(guide...)	State, international companies...	direct and indirect	2	3	3	0.5	0.5	0	0.5	0.5	10
3	Key document 12	<a href="#">How Can Market Mechanisms for Forest Environmental Services Help the Poor? Preliminary Lessons from Latin America</a>	2005	WORLD DEVELOPMENT	Latin America and Caraibes	Latin America and Caraibes	Environmental externalities: biodiversity protection, carbon sequestration and storage, landscape beauty, watershed protection	Income(PES), access to natural resources, technical assistance	Yes	No	Large and medium size land-owners, touristic actors...	State, international companies, NGOs, communities	direct and indirect	1	2	2	0.5	0.5	0.5	0.5	0	7

Note: Documents collected in 2006 are highlighted in grey

4	Interesting documents 13	<a href="#">Environment Module Morocco</a>	2003	RAO/FAO	Africa	Morocco	<ul style="list-style-type: none"> <li>•Cultural and social values</li> <li>•Environmental externalities</li> </ul>	income(extra-revenue from tourism added to agriculture)	Yes*	Yes	Local communities and individuals	Local communities and individuals	indirect	1	1	1	1	0.5	1	0.5	0.5	6.5
5	Interesting documents 13	<a href="#">Payment schemes for environmental services in watersheds</a>	2003	FAO	Latin America and Caraiibes	Costa Rica Ecuador Honduras Columbia	<ul style="list-style-type: none"> <li>•Cultural values</li> <li>•Environmental externalities: watershed protection</li> </ul>	income(PES), tools, knowledge	No	Yes	Farmers, indigenous people	State, NGOs, communities	direct and indirect	2	2	1	0.5	0.5	0	0.5	0	6.5
41	New document	Review of the Development Environmental Services Market in Indonesia	2005	World Agroforestry Centre (ICRAF)	Asia	Indonesia	Environmental externalities: biodiversity conservation	technical assistance, formation, facilities	Yes*	No	local farmers	Governmental agencies, local NGO and communities	indirect	2	2	1	0	0.5	0	0.5	0.5	6.5
6	Key document 3	<a href="#">Developing pro-poor markets for environmental services in the Philippines</a>	2003	Regional Environmental Economics Program (REEP), Asia IUCN - The World Conservation Union	Asia	Phillipines	Environmental externalities: biodiversity conservation, carbon sequestration, landscape beauty, watershed protection, waste disposal, elevation	PES, employment, assistance	Yes*	No	Local communities	State, University, NGOs	indirect	1	2	2	0	0.5	0	0.5	0	6
7	Key document 8	<a href="#">Practical strategies for pro-poor tourism TROPIC Ecological Adventures Ecuador</a>	2001	Practical strategies for pro-poor tourism	Latin America and Caraiibes	Ecuador	<ul style="list-style-type: none"> <li>•Cultural and social values</li> <li>•Environmental externalities</li> </ul>	Employment in tourism activities, training, capacity-building	Yes	Yes	Local people and particularly poor people	State, governmental agencies, local associations, NGOs, local control	indirect	1	2	1	0.5	0	0	0.5	0.5	5.5

Note: Documents collected in 2006 are highlighted in grey

8	Interesting documents 13	<a href="#">Agricuture's Environmental Externalities Valuation: Agro-Tourism in the Dominican Republic</a>	2003	ROA \FAO	Latin America and Caraibes	Dominican Republic	<ul style="list-style-type: none"> <li>•Cultural values</li> <li>•Environmental externalities: sustainable agriculture</li> </ul>	income( from tourists'consumption), employment	No	No	local farmers and people involved in tourism	Governmental agencies, NGOs, communities	indirect	2	1	1	0.5	0.5	0	0.5	0	5.5
9	Interesting documents 13	<a href="#">Externalities and labor market linkages in a dynamic two-sector model of tropical agriculture (Version Power point)</a>	2003	Purdue University	International	International	<ul style="list-style-type: none"> <li>•Social values</li> <li>•Environmental externalities: erosion prevention from uplands and sedimentation mitigation on lowlands</li> </ul>	income(labor of upland farmers on lowlands),	Yes	Yes	upland and lowland farmers in the tropics	State, NGOs, communities	indirect	1	1	1	0.5	0.5	0.5	0.5	0.5	5.5
10	Key document 4	<a href="#">LESSONS FROM THE AMERICAS AND KEY ISSUES FOR STRENGTHENING COMMUNITY STRATEGIES COMPENSATION FOR ENVIRONMENTAL SERVICES AND RURAL COMMUNITIES</a>	2003	PROGRAMA SALVADOREÑO DE INVESTIGACIÓN SOBRE DESARROLLO Y MEDIO AMBIENTE	Latin America and Caraibes	Costa Rica, Salvador, Mexico, Brazil, New York	Environmental externalities: biodiversity conservation, carbon sequestration, landscape beauty, watershed protection	Income(PES), use of local resources, technical assistance	No	No	Large and medium size private land-owners, touristic actors(guide...)	State, international companies...	direct and indirect	1	2	1	0.5	0.5	0	0.5	0	5.5
42	New document	<a href="#">Ecotourism and Sustainable Development of Forests and Forest Villagers in Turkey</a>	2003		Europe	Turkey	<ul style="list-style-type: none"> <li>•Cultural values</li> <li>•Environmental externalities: forest conservation</li> </ul>	technical assistance, formation, facilities	Yes	No	local farmers	Environment Ministry	indirect	1	2	1	0.5	0.5	0	0	0.5	5.5
11	Key document 10	<a href="#">Vers une agriculture valaisanne durable</a>	2000	Institut d'économie rurale, Ecole polytechnique fédérale, Zürich	Europe	Switzerland	<ul style="list-style-type: none"> <li>•Cultural and social values</li> <li>•Environmental externalities</li> </ul>	income(PES), new markets, technical support and assistance	No	Yes	Swiss farmers	State, Associations of producers, the farmer	direct and indirect	0	1	1	0.5	1	0.5	1	0.5	5.5

Note: Documents collected in 2006 are highlighted in grey

12	Interesting documents 13	<a href="#">Payment for environmental services as a mechanism for promoting rural development in the upper watersheds of the tropics: Proposal for Andes Basin</a>	2004	GTZ- CONDESAN (Cuencas Andinas Project), CIAT, DIIS	Latin America and Caraibes	Latin America and Caraibes	Environmental externalities: biodiversity conservation, carbon sequestration, landscape beauty, watershed protection	income(PES, increasing yields), technical assistance	Yes	Yes	20 watershed municipalities	National, international and private institutions (more than 20)	direct and indirect	1	1	1	0.5	0.5	0.5	0.5	0.5	5.5
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#### List 5. "Interesting documents"

Nº	Classification in 2005	Title	Date of publication	Publisher	Region	Countries	Kind of externalities	Nature of the compensation to local people	Emphasis on poverty alleviation	Mountains	Population targeted	Management body	Direct or indirect compensation	Targeted services	How the service is compensated	Who pays	Human capital	Natural capital	Financial capital	Social capital / 1	Physical capital	Overall score (max. 14)
13	Key document 11	<a href="#">Payments for environmental services: Some nuts and bolts</a>	2005	CIFOR Center for International Forestry Research	Asia, Latin America	Bolivia, Brazil, Indonesia	Environmental externalities: biodiversity protection, carbon sequestration and storage, landscape beauty, watershed protection	PES	Yes	Yes	Farmers, indigenous people	State, international agencies, associations	direct and indirect	0	1	1	1	0.5	0.5	0.5	0.5	5
14	Key document 5	<a href="#">Bienes y Servicios Ambientales en Honduras Una Alternativa para el Desarrollo Sostenible</a>	2004	PASOLAC-Honduras	Latin America and Caraibes	Honduras	Environmental externalities: biodiversity conservation, landscape beauty, watershed protection, carbon sequestration	PES, new market, diversification, technical assistance	Yes*	Yes	Local communities	State, national institutions, NGOs, village control	direct and indirect	1	2	1	0.5	0.5	0	0	0	5

Note: Documents collected in 2006 are highlighted in grey

15	Interesting documents 13	<a href="#">Poverty and Conservation Landscapes, People and Power</a>	2005	IUCN – The World Conservation Union	International	Thailand, Tanzania, Lao	<ul style="list-style-type: none"> <li>•Cultural and social values</li> <li>•Environmental externalities</li> </ul>	employment, training, technical assistance, ICDPs, material (seedlings...)	Yes	No	Poor people, communities	International agencies (World Bank, GEF, IUCN...), governmental agencies, NGOs, communities	indirect	1	1	0	0.5	0.5	0.5	0.5	0.5	4.5
16	Interesting documents 13	<a href="#">Paying for Biodiversity Conservation Services in Agricultural Landscapes</a>	2004	World Bank	International	International	Environmental externalities: biodiversity conservation, carbon sequestration	PES for biodiversity	No	No	communities living on watersheds	International agencies (World Bank, GEF, IUCN...), governmental agencies, NGOs, communities	direct	1	1	1	0	1	0	0	0	4
17	Interesting documents 13	<a href="#">An Analysis of Institutional Supports for Community-Based Land Management Systems with Carbon Sequestration Potential in Mali</a>	2003	Sustainable Agriculture and Natural Resource Management CRSP	Africa	Mali	<ul style="list-style-type: none"> <li>•Cultural and social values</li> <li>•Environmental externalities</li> </ul>	income(through increasing productivity and thus benefits), training, technical services	Yes*	No	Communities	Governmental agencies, NGOs, communities	indirect	1	0	0	0.5	1	0.5	0.5	0.5	4
43	New document	Localizing Demand and Supply of Environmental Services: Interactions with property rights, collective action and the welfare of the poor	2005	IFPRI	International	International	•Environmental externalities	PES	Yes	No	local people		direct	0	1	1	0.5	0.5	0	0.5	0.5	4
18	Key document 6	<a href="#">Watershed Development, Environmental Services, and Poverty Alleviation in India</a>	2002	World Development	Asia	India	<ul style="list-style-type: none"> <li>•Cultural values</li> <li>•Environmental externalities: watershed protection</li> </ul>	income (employment for water captation), development of agricultural practices, training, access to resources	Yes	Yes	Poor people	State, national institutions, NGOs, village control	indirect	1	0	1	0.5	0	0.5	0.5	0	3.5

Note: Documents collected in 2006 are highlighted in grey

19	Interesting documents 13	<a href="#">Définir l'impact forestier sur le moyen de subsistance des populations locales</a>	2000	CIFOR Center for International Forestry Research	International	International	<ul style="list-style-type: none"> <li>•Social values</li> <li>•Environmental externalities: reduction of carbon emissions</li> </ul>	income(PES for carbon sequestration), training, technical assistance	Yes*	No	Local communities	International and local NGOs, big companies in energy, governmental agencies	direct and indirect	1	0	1	0.5	0.5	0	0.5	0	3.5
20	Key document 7	<a href="#">PPT Strategies for pro-poor tourism A review of experience</a>	2001	Practical strategies for pro-poor tourism	Asia	Nepal	<ul style="list-style-type: none"> <li>•Cultural values</li> <li>•Environmental externalities</li> </ul>	Employment in tourism activities, training	Yes	Yes	Local people and particularly poor people	State, governmental agencies, Ministry of Tourism, local District Councils, Field-based local NGOs	indirect	0	1	0	0.5	0.5	1	0	0.5	3.5
21	Interesting documents 13	<a href="#">SMALLHOLDER AGROFORESTRY PROJECTS: POTENTIAL FOR CARBON SEQUESTRATION AND POVERTY ALLEVIATION</a>	2003	FAO	International (Tropical developing countries)	Costa Rica Ecuador Mexico, Chile	Environmental externalities: carbon sequestration	income(selling of carbon sequestration services), training	Yes	Yes	Small holder of farm and forest lands	Governmental agencies, NGOs, communities	direct and indirect	0	1	0	0.5	0.5	0.5	0.5	0.5	3.5
22	Key document 1	<a href="#">Can Payments for Environmental Services Help Reduce Poverty? An Exploration of the Issues and the Evidence to Date from Latin America (Ensuring that the Poor Benefit from Payments for Environmental Services DRAFT)</a>	2004	World Bank	International	International	Environmental externalities: biodiversity conservation, carbon sequestration, landscape beauty, watershed protection	PES	No	No	Local communities	State, NGOs, communities	direct and indirect	1	1	0	0.5	0.5	0	0.5	0	3.5
44	New document	When are Payments for Environmental Services Beneficial to the Poor?	2006	FAO	International	International	<ul style="list-style-type: none"> <li>•Environmental externalities</li> </ul>	PES	Yes	No	urban poor, landless, and poor landowners		direct	0	1	0	0.5	0.5	0.5	0.5	0	3

Note: Documents collected in 2006 are highlighted in grey

23	Interesting documents 13	<a href="#">ELECTRONIC FORUM ON PAYMENT SCHEMES FOR ENVIRONMENTAL SERVICES IN WATERSHEDS</a>	2004	Food and Agriculture Organization of the United Nations (FAO)	Latin America and Caraibes	Ecuador Brazil Chile Costa Rica Colombia	Environmental externalities: biodiversity conservation, carbon sequestration and storage, watershed protection	PES	No	Yes	communities living on watersheds	Governmental agencies, NGOs, communities	direct	1	1	0	0.5	0.5	0	0	0	0	3
24	Key document 2	<a href="#">Silver bullet or fools' gold? A global review of markets for forest environmental services and their impact on the poor</a>	2002	IIED International Institute for Environment and Development	International	International	Environmental externalities (biodiversity conservation, carbon sequestration, landscape beauty, watershed protection)	PES	No	No	Local communities	State, NGOs, communities	direct and indirect	1	0	1	0.5	0.5	0	0	0	0	3
25	Interesting documents 13	<a href="#">A Shared Research Agenda for Landuse, Landuse Change, Forestry and the Clean Development Mechanism</a>	2001	Center for International Forestry Research	International	International	Environmental externalities: carbon sequestration and storage, watershed protection	PES	No	No		International organizations, governmental agencies, NGOs	direct	1	0	1	0.5	0.5	0	0	0	0	3
26	Interesting documents 13	<a href="#">Carbon, Forests and People Towards the integrated management of carbon sequestration, the environment and sustainable livelihoods</a>	2002	IUCN – The World Conservation Union	International	International	Environmental externalities: biodiversity conservation, carbon sequestration and storage	income(PES, employment)	No	No	Local communities and individuals	International and local NGOs, forestry companies or working in energy, governmental agencies	direct and indirect	1	0	1	0	0.5	0	0.5	0	0	3
27	Key document 9	<a href="#">Rural livelihoods and carbon management</a>	2000	DFID Forest Research Programme Project	International	International	Environmental externalities: carbon sequestration	PES, technical assistance for agroforestry and sustainable agricultural practices, ecotourism	No	No	people of the forest, farmers	State, NGOs, communities	direct and indirect	1	0	0	0.5	1	0	0.5	0	0	3

Note: Documents collected in 2006 are highlighted in grey

28	Interesting documents 13	<a href="#">Lier agriculteurs et chercheurs en Chine</a>	2004	Canada's International Development Research Centre (IDRC, the Centre)	Asia	China	<ul style="list-style-type: none"> <li>•Cultural and social values</li> <li>•Environmental externalities: biodiversity conservation</li> </ul>	income(through more adapted and yield-productive maize varieties), technical assistance from the researchers	Yes*	Yes	Local communities and individuals	International and local NGOs, national research agencies	indirect	1	0	0	0.5	0.5	0.5	0	0	2.5
45	New document	Payments for Environmental Services: To whom, for what, and how much?	2004	University of California at Berkeley	Latin America and Caribbeans	Mexico	<ul style="list-style-type: none"> <li>•Environmental externalities: forest conservation</li> </ul>	PES	Yes*	No	local owners	State, NGOs, Communities	direct	0	1	0	0	0.5	0	0.5	0.5	2.5
46	New document	The United Kingdom's Experience with Agri-environment Stewardship Schemes: Lessons and Issues for the United States and Europe	2001	University of Essex	Europe, North America	United Kingdom, United States	<ul style="list-style-type: none"> <li>•Environmental externalities</li> </ul>	PES, subsidies...	No	No	farmers	State	direct and indirect	1	1	0	0	0.5	0	0	0	2.5
47	New document	Auctions in an outcome-based payment scheme to reward ecological services in agriculture – Conception, implementation and results	2005	Georg-August-University Goettingen	International	International	<ul style="list-style-type: none"> <li>•Environmental externalities</li> </ul>	PES	No	No	farmers	European Commission	direct	1	1	0	0	0.5	0	0	0	2.5

Note: Documents collected in 2006 are highlighted in grey

29	Interesting documents 13	<a href="#">Pagos por Servicios Ambientales al Nivel Municipal en Honduras, El Salvador y Nicaragua: "La contribución del PASOLAC al desarrollo de un enfoque innovador que contribuye a la agricultura sostenible en laderas"</a>	2004	PASOLAC	Latin America and Caraiibes	Honduras, Nicaragua, El Salvador	Environmental externalities: carbon sequestration and storage, watershed protection	income(PES for watershed protection), training, technical assistance, material	No	No	people living on watershed: private landowners or not	Governmental agencies, NGOs, communities	direct and indirect	0	0	0	0.5	0.5	0	0.5	0.5	2
30		<a href="#">GETTING IT RIGHT: EMERGING MARKETS FOR STORING CARBON IN FORESTS</a>	1999	World Bank	International	International	Environmental externalities: carbon sequestration		No	No	communities, State		direct and indirect	1	0	0	0.5	0.5	0	0	0	2
31		<a href="#">PRODUITS AGROALIMENTAIRES DE MONTAGNE EN EUROPE : RESULTATS, CONCLUSIONS ET REALISATIONS CONCRETES DU PROJET</a>	2004	EUROMONTAN A	Europe	Europe			Yes*	Yes	upland farmers	Governments, European comission, associations	direct and indirect	0	1	0	0.5	0	0	0.5	0	2
32	Interesting documents 12	<a href="#">Genetic Diversity, Coffee and Soil Erosion in Ethiopia</a>	2003	ROA /FAO	Africa	Ethiopia	Environmental externalities: biodiversity conservation, erosion prevention	income(through increasing productivity)	No	No	local farmers	communities	indirect	0	0	0	0.5	0.5	0	0.5	0	1.5
33	Interesting documents 13	<a href="#">Perception Analysis of Environmental Externalities of Coffee Farming System in Rio Limpio and Irrigated Farming System in San Juan de la Maguana, Dominican Republic</a>		RAO/FAO	Latin America and Caraiibes	Dominican Republic	Environmental externalities: biodiversity conservation, carbon sequestration and storage, watershed protection	income(through increasing productivity and thus benefits for organic production compared to irrigated one)	No	No	local communities	communities	indirect	0	0	1	0	0.5	0	0	0	1.5

Note: Documents collected in 2006 are highlighted in grey

48		Rural Development Environmental Programming Guidelines	DG Agriculture and Rural Development	Europe	Europe	Environmental externalities: forest conservation, biodiversity conservation, watershed management	PES	NO	No	farmers		direct	0	1	0	0	0.5	0	0	0	1.5
34		<a href="#">ÉVALUATION DES BÉNÉFICES ÉCONOMIQUES LIÉS À L'ATTEINTE DES OBJECTIFS DU PLAN D'ACTION 1998-2005 EN AGROENVIRONNEMENT</a>	Union québécoise pour la conservation de la nature (UQCN)	North America	North America			No	No	farmers and everybody suffering from agriculture negative externalities	Government, associations, OCDE	direct and indirect	0	1	0	0	0.5	0	0	0	1.5

#### List 6. "Annexed documents"

		Title	Date of publication	Editor	Region	Countries	Kind of externalities
1		<a href="#">Multifonctionnalité: conséquences pour l'action publique</a>	2003	OCDE			Données sur les externalités agricoles
2		<a href="#">Tourisme solidaire : innovation et réseau Analyse comparée France-Italie</a>	2004	Université Catholique de Lyon			Support institutionnel du tourisme comparé France Italie

Note: Documents collected in 2006 are highlighted in grey

3	<a href="#">"FOREST ECOSYSTEM SERVICES: CAN THEY PAY OUR WAY OUT OF DEFORESTATION?"</a>	2002	GEF			Evoque les aspects pratiques d'un PES
4	<a href="#">Making markets work for forest communities</a>	2002	Forest trends			Le document étudie les potentialités et avantages comparatifs qu'offre la forêt aux populations
5	<a href="#">Poverty Reduction, Equity and Climate Change: Global Governance Synergies or Contradictions?</a>	2003	ODI Overseas Development Institute			Evoque la pauvreté dans la perspective d'une lutte contre le changement climatique
6	<a href="#">"Marketing" Environmental Services: Lessons Learned in German Development Cooperation</a>	2004	German Development Co-operation GTZ			Analyse des différents aspects des PES
7	<a href="#">Le territoire et son patrimoine</a>	2004	Laboratoire d'Economie de la Production et de l'Intégration Internationale			Un des rares analyses des externalités du territoire
8	<a href="#">Scenarios for reconciling biodiversity conservation with declining agricultural use in the mountains of Europe</a>	2002	BioScene			Aspect social et développement rural
9	<a href="#">Multifonctionnalité et territoires</a>	2002	CEMAGREF-CIRAD-INRA			Le document pointe les difficultés liées à l'internalisation des externalités de l'agriculture (imputabilité des effets positifs, évaluation). Par ailleurs, une vision des marchés spécifiques

Note: Documents collected in 2006 are highlighted in grey

10	<a href="#">Carbon projects in Brazil and the roles and functions of the "Brazilian Biofuels Programme"-BBP -</a>		IPGRI - International Plant Genetic Resources Institute		Interactions pays développés/ en développement
11	<a href="#">Les Politiques Communautaires et la Montagne</a>	2002	Commission européenne		Multiple vision des régions de montagne
12	<a href="#">RAPPORT D'ACTIVITE 2003 du Parc national de la Vanoise</a>	2003	PNV		Aspect local et gouvernance
13	<a href="#">Risques et enjeux dans les agricultures familiales Cas des zones montagneuses, arides et semi-arides</a>	1997	CIHEAM		Aspect social et développement rural
14	<a href="#">Le rôle des services moteurs dans la structuration de l'espace rural</a>	2003	Université F. Rabelais de Tours et UMR CNRS 5045 Mutations des Territoires en Europe, Montpellier TOURS		Le document illustre les nouvelles dynamiques du développement rural.
15	<a href="#">La compétitivité sociale</a>	2000	Commission européenne		Aspect institutionnel bien traité dans le sens du développement rural
16	<a href="#">Une caractérisation des services environnementaux à dimension paysagère produits dans les espaces ruraux</a>	2002	Développement durable et territoire (revue)		Une rares PES dédiés aux paysages

17		<a href="#">Les mesures forestières du programme de développement rural pour la Navarre</a>	2002	Comunidad foral de Navarra			LE document montre la situation des forêt dans la région de Navarre. Les externalités de cette région sont un argument pour subventionner de nouvelles mesures forestières, avec un résultat peu probant.
18		<a href="#">L'AVENIR DES ZONES DE MONTAGNE EN EUROPE</a>	2004	Euromontana			Fait le point sur atout faiblesses des zones de montagne.
19		<a href="#">Environment Module China</a>	2003	RAO/FAO			Ce doument propose une méthode d'évalutaion des externalités positives de l'agriculture.

**16 technical files on the mechanisms for compensating local people**

	<b>Country</b>	<b>Kind of externalities<sup>1</sup></b>	<b>Mountains</b>	<b>Region</b>
<b>1</b>	<b>Bolivia</b>	biodiversity protection, carbon sequestration and storage		Latin America
<b>2</b>	<b>Brazil</b>	<b>biodiversity protection, carbon sequestration and storage, landscape beauty, watershed protection</b>		Latin America
<b>3</b>	<b>Costa Rica</b>	carbon sequestration, biodiversity protection and watershed protection		Latin America
<b>4</b>	<b>Ecuador</b> , ecotourism	<b>biodiversity conservation</b>		Latin America
<b>5</b>	<b>Ecuador</b> , Pimampiro municipality	carbon sequestration and storage, watershed protection	Yes	Latin America
<b>6</b>	<b>Ecuador</b> , PROFAFOR Programme	carbon sequestration and storage, watershed protection	Yes	Latin America
<b>7</b>	<b>Mexico</b>	<b>biodiversity protection, carbon sequestration and storage, landscape beauty, watershed protection</b>		Latin America
<b>8</b>	<b>Morocco</b> , ecotourism	<b>landscape beauty</b>	Yes	Africa
<b>9</b>	<b>Indonesia</b> , community based - conservation of biodiversity	biodiversity conservation		Asia
<b>10</b>	<b>Indonesia</b> , watershed services provision in an upland poor community	watershed protection	Yes	Asia
<b>11</b>	<b>The Philippines</b> , biodiversity conservation	biodiversity conservation		Asia
<b>12</b>	<b>The Philippines</b> , Maasin Watershed	watershed protection	Yes	Asia
<b>13</b>	<b>The Philippines</b> , Mt Kitanglad Range Natural Park	carbon sequestration	Yes	Asia
<b>14</b>	<b>The Philippines</b> , Mt Pulag National Park	landscape beauty	Yes	Asia
<b>15</b>	<b>Thailand</b>	biodiversity conservation and watershed protection		Asia
<b>16</b>	<b>Turkey</b> , ecotourism	<b>forest protection, biodiversity conservation and landscape beauty</b>		Middle East

Note: 1 - The externalities highlighted in bold refer to those that implicate social and cultural values.

## 1. BOLIVIA

### **Title: How Can Market Mechanisms for Forest Environmental Services Help the Poor? Preliminary Lessons from Latin America**

**Region/country:** Region of the Noel Kempff Mercado National Park (1.5 million acres), northeastern Bolivia

**Scope of the project:** National programme

**When did it begin and what is the lifespan:** The Noel Kempff Mercado Climate Action (NGO) was established in 1997 as part of the US Initiative on Joint Implementation Project. It is, at least, a 30-year project.

**Livelihood assets analysis:** No

**Kind of externality:** Environmental externalities: biodiversity protection, carbon sequestration and storage.

**Population targeted:** **Communities** living around the national park Noel Kempff Mercado.

**Management institutions:**

- the government,
- the NGO Noel Kempff, which has prioritized community development

**Targeted services:**

To test carbon mitigation activities through emission avoidance project:

- stopping deforestation in the national park
- curbing deforestation in neighbouring areas of the national park
- increasing the area of the national park

**How the service is compensated:** direct and indirect compensations

- Payments in exchange of the protection of areas around the national park
- Assistance to development of communities thanks to the creation of a **revolving fund to promote alternative income-generating activities:**
  - to gain land title,
  - to establish a micro-credit scheme
  - to provide agricultural and forestry extension

**Who pays:**

- An international NGO: The Nature Conservancy (TNC)
- A consortium of US companies, including American Electric Power
- The Bolivian Government

## Impacts:

### *Positive impacts*

- **Diversification of income sources:** community members are employed as park guards, tourist guides or assistants for carbon monitoring. However, some losses of employment for communities in the timber industry and the holders of pre-existing logging concessions were bought out to increase the area of a national park.
- There is also an organization, representing several communities, which has established a heart of palm business.
- **Land-tenure security:** move to secure the land title of some 400,000 hectares for the local communities.
- **Social assets:** social organization has been improved, for example each community now has a functioning village council with statutes.

## Lessons learned:

- A **“bundled” initiative** combining carbon and biodiversity implies a more comprehensive approach and has better results.
- The carbon services are sold by a company or NGOs.
- Communities were assisted in order to compensate them for lost employment in the timber industry and **to reduce the threat of carbon leakage through displacement of economic activities** to other areas. They **benefit indirectly through community development** activities.
- The NGO involves communities in ways where the service buyer “is viewed not as a development partner, but as a paternalistic charity. There was no contract, either implicit or explicit, detailing the communities’ rights and responsibilities”. Some of these initiatives are thus **much closer to traditional Integrated Conservation and Development Projects (ICDPs)** than to quid pro quo initiatives. It led to a sharp decrease in communities’ involvement: during 1998–2001, 93 community micro-projects in agriculture, livestock, ecotourism, and small businesses were funded, but only six of these were still functioning in 2001.

## For more information:

- Date of publication: 2005
- Author: Maryanne Grieg-Gran, Ina Porras, Sven Wunder
- Editor: World Development
- Website: <http://edcintl.cr.usgs.gov/SEMSOC/uploads/File/Grieg-Gran%20et%20al%202005.pdf>

## 2. BRAZIL

### Title: Compensation for Environmental Services and Rural Communities: Lessons from the Americas

**Region/country:** Brazil, municipality of Vale do Ribeira (State of São Paulo), municipality of Barra do Turvo (State of Acre)

**Scope of the project:** Local projects

**Livelihood assets analysis:**

- **Physical assets:** low secure access to natural resources, which generates more precarious social conditions
- **Natural assets:** in Vale do Ribeira, more than 50% of the valley is being protected in an effort to preserve the Mata Atlântica coastal forest

**Kind of externality:**

- Environmental externalities: biodiversity protection, carbon sequestration and storage, landscape beauty, watershed protection
- Social and cultural values

**Population targeted:**

- **Municipalities** of Vale do Ribeira, the poorest region in the state of São Paulo
- **Municipality** of Barra do Turvo which now almost entirely belongs to the Park

**Management institutions:** The Brazilian Government

**Targeted services:**

- Protection of land through expulsion of local people from Vale do Ribeira
- In the State of Acre, stewardship of the forest and role in guaranteeing environmental services

**How the service is compensated:** direct and indirect compensations

Payments in exchange of the non-use of the protected land:

- US\$50,000 dollars per month for the municipality of Barra do Turvo, and US\$0.20 per kilogram of rubber collected is paid to rubber-taper associations
- In 2001, Vale do Ribeira received 37% of the Ecological ICMS collected in the state

**Who pays:**

The Government through:

- The Ecological Tax on the Circulation of Markets and Services (ICMS). It distributes a fraction of state sales tax revenues to municipalities in proportion to the area under conservation
- A compensation payment in recognition of rubber-taper role in forest management due to the Chico Mendes Law

## Impacts:

### *Negative impacts*

- **Diversification of income sources:** It is worse than before
- **Land tenure:** Expulsion of local people from their land for reserve creation

## Lessons learned:

- The municipalities in the valley consider the **compensation insufficient for the livelihoods that were lost** in a bid to create reserves. Small producers would prefer to use degraded areas of the park than to receive any payment.
- Family-based agro-extractives production is critical for the livelihoods of many communities in rural Brazil.
- A **traditional conservation** focus can have **negative impacts** on **communities dependent on access to the resource base**.

## Recommendations:

- The prime lessons from Brazil would be to pay more attention to the expansion, innovation, and defence of the **rights of communities**.
- **Extractive communities** should benefit from PES schemes designed to improve the productivity, profitability, and sustainability of their activities.
- Expanding access and usufruct rights, and **compensating communities for their stewardship role** can **strengthen livelihoods** while guaranteeing the flow of **environmental services**. It is crucial to **integrate environmental objectives with social and equity objectives** in the design and implementation of PES schemes, to ensure that they operate in favour of communities. Public discussion and decisions on rights, responsibilities, procedures, and rules can help in achieving equitable results.

## For more information:

- Date of publication: 2004
- Author: Herman Rosa, Deborah Barry, Susan Kandel, and Leopoldo Dimas
- Editor: Political Economy Research Institute (University of Massachusetts Amherst)
- Website: <http://www.atypon-link.com/CFA/doi/pdf/10.1505/ifor.6.2.187.38401?cookieSet=1>

### 3. COSTA RICA

**Title: Who Benefits from Payments for Environmental Services Programs? An Analysis of Participation in and Performance of Costa Rica's PSA Program**

and

**Title: How Can Market Mechanisms for Forest Environmental Services Help the Poor? Preliminary Lessons from Latin America**

and

**Title: Compensation for Environmental Services and Rural Communities: Lessons from the Americas**

**Region/country:** Costa Rica, particularly Huetar Norte and the Virilla watershed

**Scope of the project:** National PES programme

**When did it begin and what is the lifespan:** Costa Rica's PSA Program began in 1996 after amendments to the Forestry Law (Ley Forestal No. 7575)

**Livelihood analysis:** Studies on human, physical, natural, financial assets. This project grew out of prior experience with direct subsidies for the forestry sector.

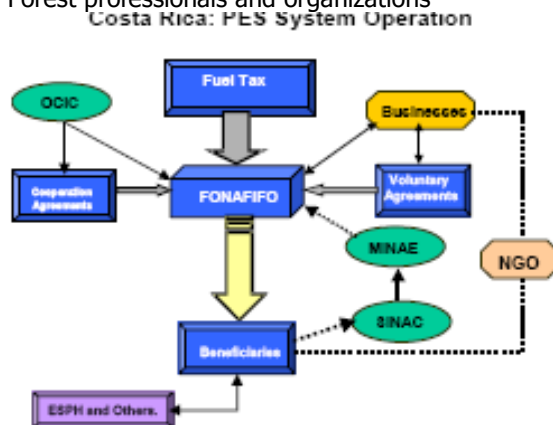
**Kind of externality:** Environmental externalities: carbon sequestration, biodiversity protection and watershed protection

**Population targeted: Land and forest owners**

- Between 1997 and 2002, large and medium-sized property owners were the main recipients of these payments, an outcome favoured by the emphasis on conservation, the forestry orientation of the scheme, the requirement of property titles, and the use of stringent technical criteria (more than 300,000 hectares).
- From 2002, the participation of indigenous reserves increased, agro-forestry systems were made eligible for compensation.

**Management institutions:**

- The Ministry of Environment and Energy (MINAE) of Costa Rica, namely:
  - the National Forestry Financing Fund (FONAFIFO)
  - the National System of Conservation Areas (SINAC)
- Forest professionals and organizations



SOURCE: Adapted from Camacho, et al. (2002)

**Targeted services:**

- reforestation
- forest conservation
- and sustainable management

**How the service is compensated:** direct and indirect compensations

The 3 payment schemes:

- For reforestation: US\$623/ha, with a minimum contract period of 15 years and for a minimum area of 1 hectare. The payment is made during the 5 first years as follows: 50% of the total amount the 1st year, then 20%, 15%, 10% and 5% for the last year.
- For forest conservation: US\$384/ha, with a minimum contract period of 10 years and for a minimum area of 2 hectares and a maximum of 300 hectares. The payment is made during the 5 first years as follows: 20% of the total amount the 1st year, then 20%, 20%, 20% and 20% for the last year.
- For sustainable management: US\$241/ha, with a minimum contract period of 5 years and for a minimum area of 2 hectares and a maximum of 300 hectares. The payment is made as follows: 50% of the total amount the 1st year, then 20%, 10%, 10% and 10% for the last year.

Technical assistance, which permits production diversification and entry into new markets.

*For the Huerta Norte:*

- Between 1997 and 2001, US\$63.2 million was disbursed as follows: 84.66% for forest conservation, 8.63% for sustainable practices, 6.38% for reforestation and the rest for others.
- Land must remain idle while the application is processed (up to 12 months).
- The main financial benefit to farmers will come from timber sale. The full benefits are realized only when mature timber is sold.
- The Costa Rican Government heavily regulates access and sets prices. It does it in a manner that bears some resemblance to the forest subsidy scheme it succeeded.

*For the Virilla watershed:*

- US\$225 given per hectare/year for forest protection (92% of landowners). It corresponds on average to 16% of household income, but only 4% for small landowners (<30 hectares).
- The full benefits are realized only when mature timber is sold.

**Who pays:**

- FONAFIFO which gets funds from different sources depending on the environmental service aimed at:
  - for water services, biodiversity and scenic beauty: Costa Rican citizens pay through a 3.5% domestic tax on fossil fuel; for the Virilla watershed, some financial contributions come from water users: a brewery and two utility companies.
  - for carbon sequestration: carbon buyers contribute to the OCIC (Oficina Costarricense de Implementación Conjunta) Joint Implementation.
  - for biodiversity, carbon sequestration: the Global Environmental Facility (GEF) allocates money to the community.
  - for water services: local hydro-power plants directly give money to the FONAFIFO.
- Forest professionals and organizations.

## **Impacts:**

**For the Huerta Norte:** Conservation objectives are met but not poverty and equity ones

Between 1997 and 2001, this project has concerned 284,422 ha, which is equivalent to 5.7% of the national territory, with 4,461 beneficiaries.

### *Positive impacts*

- **Diversification of income sources:** Enables diversification at farm level through incorporation of forestry.
- **Social assets:** Encouraged the creation and strengthening of community associations.
- **Human assets:** Increased local knowledge on reforestation, but acquired mainly through experience rather than formal training. Losses for early participants. Population has kept increasing steadily.
- **Natural assets:** Recovery of forest landscapes in the region has improved soils and has provided a side benefit of promoting tourism. Forest area has increased from 1,300 ha in 1997 to 2,100 ha in 2001, as well as the protected area but less in comparison.

### *Negative impacts*

- **Opportunity costs:** Participants lose eligibility for subsidized housing and bank credit. Once households become participants in the PES scheme, they are barred from accessing some other public benefits such as housing subsidies.
- **Physical assets:** Deterioration in roads due to increased use for forestry and wood-processing industry.

### *Neutral impacts*

- **Land-tenure security:** No major impact, land-reform effects predate the initiative.

## **For the Virilla watershed:**

Landowners are relatively well off, with 75% of the sample earning more than US\$820 per month, and a high proportion not being dependent on land cultivation for their livelihood. 110 landowners receiving payments shows that:

- 6% of total payments in 2001 were going to properties in which 30 hectares or less were incorporated in the PES scheme,
- and over 80% was going to properties of 70 hectares or more enrolled.

A survey of 32 landowners receiving payments in the watershed revealed that they were relatively wealthy, with an average income of US\$22,000 per year and with more than half having their main occupation outside the farm.

Between 1997 and 2002, total payments exceeded US\$80 million with 70% going for forest protection. In 2003, payments for agro-forestry systems began on a basis of US\$0.60 per tree.

### *Positive impacts*

- **Land-tenure security:** Participation increases security against land invasion
- **Social assets:** Promotion of community organization and networking
- **Human assets:** Training in forest management and agro-conservation
- **Natural assets:** Participants perceive reduced soil erosion and protection of water sources
- The financial payments have made a **clear contribution to local incomes**, but most recipients may not have been poor from the start.

### *Negative impacts*

- **Opportunity costs:** Average per hectare returns from alternative land uses (dairy farming, export agriculture) is higher than the service payments. Opportunity costs of retaining land as forest are high, given that the main alternative land uses are export-oriented dairy farming, and coffee and ornamental plant cultivation.
- **Transaction costs:** Of the participants surveyed, 80% used intermediaries charging 12–18% of the payments.

### *Neutral impacts*

- **Diversification of income sources:** Minimal impact
- **Physical assets:** No major effects

### **Lessons learned:**

- Unlike the official PES scheme that emphasizes global services, **local initiatives** focus on protecting water resources for human consumption and energy generation. They also use **more flexible criteria than the national system**. For instance, those eligible for payments usually include those who work and live on the land, not just landowners. Small-scale producers participating in such initiatives generally consider the local benefits (improved water and landscapes) and the **technical assistance** associated with the schemes, to be **more valuable than the payments themselves**. Sometimes, however, conflicting visions with regard to natural resource use make it difficult or impossible to establish local-level PES schemes.
- This project shows the **importance of broad participation in the early stages of PES schemes** to ensure their long-term legitimacy and sustainability.
- An accelerated institutionalization of PES schemes, **without adequately including the interests of small producers and indigenous communities**, generates **restrictions** that are difficult to overcome later.
- An econometric analysis was made to explain **non participation**. It reveals that the main factors are: **farm size, tenure, education, off-farm income and information access**.
- The **global orientation, eligibility criteria, and operational rules** largely determine the capacity for inclusion in the PES schemes. In some settings, greater inclusion requires seeing beyond the forest to link up with other productive activities that are central to livelihoods.
- The **incorporation of local-level perspectives, priorities, and visions** can empower local communities and promote participatory management.
- **Difficulties of separating forest from other activities** on the farm, in particular the PES scheme restrictions on using forests as a temporary shelter for cattle.
- Often **conservation** objectives are met but not **poverty** and **equity** ones.
- Participation increases **land-tenure security**.

### ***For the Huerta Norte:***

- **Monetary payments are made directly to local communities** for a bundle of four environmental services (carbon, watershed protection, biodiversity, and landscape beauty) which allow a global approach and positive interactions.
- Payment for reforestation in Huetar Norte did not examine distribution of payments by size of landholding. Land reform beneficiaries are not eligible for PES, even if their land contains forest for is suitable for forestry activities.

### ***For the Virilla watershed:***

- Participants often **distrust the legal system** and believe that the possibility of future changes in the law would result in further restrictions or bind them to undesirable commitments.

- Landowners that have a minimum of one hectare can receive payments for reforestation and two hectares in the case of forest protection. It also **sets a maximum area** that can receive PES of 300 hectares (600 hectares for indigenous people's reserves). This appears **favourable to smallholders**.

#### **Recommendations:**

- Need of strong and **representative organizations of small producers and indigenous communities** to ensure participation in order to result in truly inclusive schemes.
- **A broad focus on a wide range of practices** for the provision of environmental services should be targeted for improving, diversifying, and strengthening the livelihood strategies of rural communities. The impact of PES schemes should be enhanced when they promote environmentally improved productive activities such as agro-forestry, agro-tourism, ecotourism, non-timber products, and sustainable agriculture.
- As the PES do not cover the full costs of reforestation, some **additional finance and technical assistance** are necessary.
- Assistance is required when forestry activities are not eligible for credit from the National Bank System for Financing which is the main source of finance in Costa Rica. Indeed, this **restriction on bank credit was particularly hard for small landowners** as they have fewer alternatives for funding.
- Transaction costs should be reduced.

#### **For more information:**

***Title: Who Benefits from Payments for Environmental Services Programs? An Analysis of Participation in and Performance of Costa Rica's PSA Program:***

- Date of publication: 2003
- Author: Simon Zbinden and David R. Lee S
- Editor: Cornell University Department of Applied Economics and Management
- Website: <http://edcintl.cr.usgs.gov/SEMSOC/uploads/File/ZbindenLee.pdf>

***Title: How Can Market Mechanisms for Forest Environmental Services Help the Poor? Preliminary Lessons from Latin America:***

- Date of publication: 2005
- Author: MARYANNE GRIEG-GRAN, INA PORRAS, SVEN WUNDER
- Editor: World Development
- Website: <http://edcintl.cr.usgs.gov/SEMSOC/uploads/File/Grieg-Gran%20et%20al%202005.pdf>

***Title: Compensation for Environmental Services and Rural Communities: Lessons from the Americas:***

- Date of publication: 2004
- Author: Herman Rosa, Deborah Barry, Susan Kandel, and Leopoldo Dimas
- Editor: Political Economy Research Institute (University of Massachusetts Amherst)
- Website: <http://www.atypon-link.com/CFA/doi/pdf/10.1505/ifor.6.2.187.38401?cookieSet=1>

***Title: Payment schemes for environmental services in watersheds***

- Date of publication: 2003
- Editor: FAO
- Website: <ftp://ftp.fao.org/docrep/fao/006/y5305b/y5305b00.pdf>

#### 4. ECUADOR, ecotourism

**Title:** Practical strategies for pro-poor tourism TROPIC Ecological Adventures - Ecuador

**Region/country:** Ecuador, Amazon region

**Scope of the project:** A community tourism project in the Amazon run independently with TROPIC markets.

**Livelihood analysis:**

- **Human assets:** Indigenous communities, and in particular the Cofans, are increasingly threatened by oil industry expansion and other environmentally destructive and culturally insensitive activities throughout their traditional territory.
- **Social assets:** Randy Borman is the Cofan leader. He is the son of American missionaries who grew up with the Cofan. With some Cofans, they helped found the community of Zabalo far down river near Ecuador's border with Peru on the Rio Aguarico.
- **Cultural assets:** In their brochure, the Cofan boasts about being the 'oldest community operated tourism program in Amazonia, with over twenty years of experience.'
- **Physical assets:** The large gateway and oil boom-town of Lago Agrio, was built in the heart of their traditional territory in the early 1970s.

**Kind of externality:**

- **Cultural and social values:** conservation of the traditional way of living and indigenous cultures as well as cultural empowerment for indigenous communities
- **Environmental externalities:** biodiversity conservation

**Population targeted:** The **Cofan community** of Zabalo, a nation of over 700 people

**Targeted services:**

The community currently operates two kinds of tourism operations:

- Boats from the luxury Flotel Orellana of Transturi (a subsidiary of Metropolitan Touring, Ecuador's largest tourism company) visit the community weekly for short visits.
- Multi-day community tours operated by the community where tourists are lodged in community cabañas, accompany Cofan guides on walks through the forest, and are able to learn about the daily life of the community and the Cofan culture.

**How the service is compensated:** indirect compensation

The community-run tourism programme could provide them with critical economic and cultural benefits. TROPIC has marketed and sold the Cofan Tourism Project in Zabalo more consistently than any of the other Amazon community projects offered in its brochures or website.

- Partnership with Transturi: The community charges the company \$3 per tourist and sells a wide-variety of handicrafts to tourists through a carefully managed craft cooperative. The Cofan's partnership with Transturi is the mainstay of the community bringing in an estimated \$12,000 to \$15,000 per year.
- While Randy and the Cofan do their own limited marketing, they also retain active partnerships with a number of tour operators, including TROPIC. In addition to wages earned by community members, the Cofan earns money through an \$8 per person per night community fee for lodging and handicraft sales. The Cofan's leader estimates that each household in Zabalo earns on average \$100 per month selling handicrafts.

- TROPIC lent logistical and marketing support to the Cofan by bringing their ecotourism product to a wider audience through TROPIC's own marketing strategies, and through its contacts with universities and tourism organisations.

**Who pays:** The tourists

The community has numerous partnerships to get more tourists and to maintain a more constant flow of tour groups:

- with Transturi
- with many tour operators

The TROPIC association provides them with markets and thus indirect cash compensation.

**Management institutions:**

- Zabalo's ecotourism programme was spearheaded by the Cofan leader, Randy Borman.
- The community has privileged relations with TROPIC.

**Impacts:**

*Positive impacts*

- **Human assets:** Employment and business opportunities are constantly expanding, as more and more Cofan become trained and experienced as guides, tourism cooks, and administrators.
- **Social assets:** In Zabalo, the majority of households, especially those whose men work as either guides or cook-administrators have been able to move up from a classification of 'poor' into a more stable economic condition.
- **Economic assets:** The community has established an effective cooperative for handicraft sales estimated up to \$100 per household per month. The artisan sales go to items such as soap, toothpaste, aspirin, rice, sardines, pasta, and flour. Other alternatives to employment such as work on Zabalo's turtle conservation project, which pays eight workers monthly salaries.
- **Environmental aspect:** Establishment of complex hunting regulations and restrictions that complement existing environmental monitoring practices.
- **Physical assets:** Self-sustenance comes mainly from their forest gardens where they grow manioc, banana, and other staples.
- **Financial assets:** Money earned is also used to buy clothes, more expensive items such as radios, and, more commonly, gasoline to fuel many of the motor boats owned by community members for transportation purposes. Community funds, especially the fees collected through the cabanas, are seen as bulk funds that can be applied to particular community items.
- **National and international consideration:** In 1992, the Cofan were able to use national and international attention, partly generated by their ongoing tourism project, to successfully confront and halt illegal oil prospecting operations on their lands, and within the Cuyabeno Wildlife Production Reserve

**Lessons learned:**

- TROPIC has talked with the Cofan about issues of group management, photography, and guide training in order to listen to any **suggestions and feedback** from the community, **to ensure quality control**. TROPIC appreciates the Cofan's extensive experience in operating community tourism and has promoted the community **to share their experiences and to help train** other Amazonian communities.
- **Pro-poor objectives are implicit** in the Cofan's community tourism programme in Zabalo, described in their brochure as a '**conservation ecotourism community**'.
- To **overcome the lack of ownership, tenure, community partnerships should be enhanced**. TROPIC designed community partnerships to strengthen Huaorani rights to their

territory by offering support on issues of environmental protection and control of exploitative tourism practices.

- In regards to the overcoming of problems concerning regulations and red tape, the situation that TROPIC found was completely open, without any regulation and many communities were being exploited by irresponsible tour operators. TROPIC was instrumental in **creating regulations for tourism operations**, which included the idea of a community fee for overnight stays, a territorial entrance fee paid to ONHAE, and guidelines for signing operational agreements with ONHAE.
- To **overcome the inadequate access to the tourist market**, TROPIC markets and sells trips using its website, brochures, and recommendations through publications produced by its clients, many of whom are conservation and ecotourism professionals. TROPIC has worked to highlight the impacts of oil development.
- There was low capacity to meet tourist expectations. TROPIC has worked with the community **to establish a dynamic itinerary** that includes discussions with elders, and has helped to create balanced intercultural exchanges.

#### **Recommendations on specific actions to involve the poor in tourism:**

- To **overcome the lack of human capital of the poor** (i.e. skills), **workshops, training courses, and direct experience** should promote the transmission of tourism skills.
- To overcome the **lack of social capital and organisational strength**, orientation and planning workshops should be designed.
- To overcome gender norms and constraints, **efforts** should be made **to ensure that women's opinions are expressed in the meetings** and encourage the men to take them seriously.
- To overcome location problem, we should **invest in facilities for the community**, such as boats, and help pay for repairs, such as the community's outboard motor.
- Tourism revenues should be used to ease the potential negative effects.

#### **For more information:**

- Date of publication: 2001
- Author: Scott Braman and Fundación Acción Amazonia
- Editor: Practical strategies for pro-poor tourism
- Website:  
[http://www.retour.net/Resourcecenter/WebDocuments/documents/pro%20poor%20tourism\\_files/ProPoorTourism/Case%20study%20Ecuador.pdf](http://www.retour.net/Resourcecenter/WebDocuments/documents/pro%20poor%20tourism_files/ProPoorTourism/Case%20study%20Ecuador.pdf)

## 5. ECUADOR, Pimampiro municipality

### Title: How Can Market Mechanisms for Forest Environmental Services Help the Poor? Preliminary Lessons from Latin America

**Region/country:** Ecuador, Pimampiro municipality (Imbabura Province)

**Scope of the project:** Programme from the municipal government

**When did it begin:** This local project started in 2001.

**Livelihood analysis:**

The landowners can be characterized as smallholders (2–3 hectares of agricultural land per family).

**Kind of externality:** Environmental externalities: carbon sequestration and storage, watershed protection

**Population targeted:**

**Group of smallholders** in the upper part of the watershed of the Andean municipality of Pimampiro (1,600–4,000 m above the sea level) having jointly 638 hectares.

A **small community of landowners** has been targeted, primarily because of its strategic location near the headwaters of the river supplying water to the town of Pimampiro.

**Management institutions:** The Pimampiro watershed-service payment scheme is run by the municipal government.

**Targeted services:**

To maintain natural vegetation instead of clearing it, in order to address problems of irregular and insufficient water supply:

- To prevent rapid deforestation
- To prevent other land-use change by farmers in the upper watershed

**How the service is compensated:** direct and indirect compensations

- A pilot payment scheme: US\$6–12 per hectare/year, depending on vegetation type
- Technical assistance in social conservation, organic agriculture, and forest management

**Who pays:** Consumers through domestic water tariffs and through charges for irrigation water

**Impacts:**

The scheme started off with 27 families in January 2001; by the end of 2002, only 15 were left.

### *Positive impacts*

- **Diversification of income sources:** Alternative activities, for example ecotourism, through conservation and development projects.
- **Land-tenure security:** The initiative helped secure individual land titles.
- **Human assets:** Assistance for soil conservation, organic farming, and forest management.
- **Financial assets:** Payments make an important contribution to the household budget, accounting on average for 30% of the household expenditure on food, medicines, and schooling.
- **Poverty alleviation:** The scheme provided clear financial benefits for a poor rural community, but only for a small number of families.

### *Negative impacts*

- **Participatory costs:** Service payments for protection are lower than alternative land yields.
- **Transaction costs:** Carried mainly by the municipality.
- **Social assets:** Farmer's association was weakened.

### **Lessons learned:**

- Access rules are set at **the local** rather than the national **level** to better involve the community in the scheme implementation.
- To enter the payment scheme, members of this community must sign an agreement with the municipality. There were **no additional constraints on access** within the scheme, and entailed a high percentage of the members of the community to participate, at least initially.
- Several families were removed from participation in the scheme because of **contract violations**. They were caught extracting timber or converting enrolled land to agricultural uses.
- The number of participants has decreased over time. It could indicate that the **financial incentives for service provision were insufficient** and/or that landowners did not think of being caught and expelled in violating the contract rules.

### **Recommendations:**

- Expansion of the Pimampiro pilot scheme to other communities in the watershed will depend on higher domestic water tariffs and charges for irrigation water. It is not yet clear whether either of these measures would be politically feasible.

### **For more information:**

- Date of publication: 2005
- Author: MARYANNE GRIEG-GRAN, INA PORRAS, SVEN WUNDER
- Editor: World Development
- Website: <http://edcintl.cr.usgs.gov/SEMSOC/uploads/File/Grieg-Gran%20et%20al%202005.pdf>  
and

### **Title: Payment schemes for environmental services in watersheds**

- Date of publication: 2003
- Editor: FAO
- Website: <ftp://ftp.fao.org/docrep/fao/006/y5305b/y5305b00.pdf>

## 6. ECUADOR, PROFAFOR Programme

### Title: How Can Market Mechanisms for Forest Environmental Services Help the Poor? Preliminary Lessons from Latin America

**Region/country:** Ecuador

**Scope of the project:** National programme

**When did it begin:** The PROFAFOR Project began in 1994

**Livelihood assets analysis:** No

**Kind of externality:** Environmental externalities: carbon sequestration and storage, watershed protection

**Population targeted: Private forestlands,** mainly belonging to 5 communities.

The eligibility criteria explicitly encourage the access of communities and small landowners by placing a limit on the area (300 hectares) for which private landowners can be funded.

**Management institutions:**

- PROFAFOR (Programa FACE de Forestación para el Ecuador), main management body, at the national level
- FACE (Forests Absorbing Carbon Dioxide Emissions) as international advisory body

**Targeted services:**

The PES beneficiaries:

- cede their carbon rights to FACE
- commit themselves to manage the plantations according to standards set by PROFAFOR

**How the service is compensated:** direct compensation

FACE finances

- Up-front payments per hectare in US\$68–119 range, covering full costs of plantation establishment: 70% of the start-up plantation costs and 30% in the third year provided that an 80% tree survival rate has been achieved.

Average internal rate of return is expected to be in the 12–27% range over 30 years.

**Who pays:**

- FACE
- PROFAFOR
- A foreign economic partnership: a Dutch consortium of electricity companies which is interested in collecting carbon rights

## Impacts:

So far in 2004: 154 contracts with communities and private landowners, covering an area of 24,075 hectares. At the end of 2002, nearly 30% of PROFAFOR's contracts in the highland region of Ecuador were with communities, accounting for 40% of the 23,722 hectares of land covered by these contracts.

### *Positive impacts*

- **Diversification of income sources:** Adds forestry to the livelihood basket, but long-run land-use contracts also reduce land-use flexibility
- **Land-tenure security:** The plantation helped to secure land tenure
- **Human assets:** Some training in forest management, though probably too little
- **Physical assets:** Community fund created, which has helped purchase a tractor and land for a school
- **Natural assets:** General increase in game supply. Plantations serve as important windbreaks.

### *Negative impacts*

- **Transaction costs:** Local people have to travel several times to Quito to undertake necessary legal procedures.
- **Natural assets:** One of five communities had its water quality reduced.

## Lessons learned:

- PROFAFOR in Ecuador has been obliged to rethink its scope and not sign further contracts, as a result of reduced financial backing.

## Recommendation:

- The **transaction costs** are to be taken into account in legal procedures design (e.g. the need of travel to the capital especially for local people living in remote areas).

### **For more information:**

- Date of publication: 2005
- Author: Maryanne Grieg-Gran, Ina Porras, Sven Wunder
- Editor: World Development
- Website: <http://edcintl.cr.usgs.gov/SEMSOC/uploads/File/Grieg-Gran%20et%20al%202005.pdf> and

### **Title: Payment schemes for environmental services in watersheds**

- Date of publication: 2003
- Editor: FAO
- Website: <ftp://ftp.fao.org/docrep/fao/006/y5305b/y5305b00.pdf>

## 7. MEXICO

### **Title: Compensation for Environmental Services and Rural Communities: Lessons from the Americas**

**Region/country:** The southern state of Chiapas, Oaxaca and Mazunte (Mexico)

**Scope of the project:** Local projects

**When did it begin:** In Mazunte, the community established a 14,000-hectare Peasant Ecological Reserve and a Joint Owners Association in 1992.

#### **Livelihood assets analysis:**

- **Human assets:** Peasant and indigenous communities
- **Physical assets:** They have access to and control over natural resources. They control half the country's land and 80% of the forests
- **Social assets:** Community-based initiatives are fostered by this resource base

#### **Kind of externality:**

- Environmental externalities (biodiversity protection, carbon sequestration and storage, landscape beauty, watershed protection)
- Social and cultural values

#### **Population targeted: Various indigenous communities**

- Peasant and indigenous communities of southern state of Chiapas: more than 300 farmers participate in the Scolel Té project
- A union of indigenous communities known as UZACHI in Oaxaca
- Communities of Mazunte where the government issued a ban on capturing turtles

#### **Management institutions:**

- The Paris-based International Automobile Federation, the organizer of Formula One racing events in the southern state of Chiapas.
- Indigenous communities and supporting NGOs in Oaxaca

#### **Targeted services:**

For the Scolel Té project in the southern state of Chiapas:

- To store 5,500 tons of carbon through the plantation of, on average, one hectare of each peasant 4-5 hectare parcels with trees, in exchange of direct payments
- To define a territorial planning of areas for:
  - subsistence farming of corn and wheat
  - income generation products like timber
  - the protection of biological diversity, soils, and water

For the UZACHI project in Oaxaca:

- A carbon sequestration proposal for fixing 836,000 tons of carbon through silviculture and agro-silviculture systems
- To design a management plan to favour:
  - biodiversity protection, carbon sequestration
  - ecotourism
  - environmentally friendly production
- To support crop diversification through growing of mushrooms, orchids, and other ornamental plants

For the community of Mazunte:

- Biodiversity protection

**How the service is compensated:** direct and indirect compensations

For the Scolel Té project in the southern state of Chiapas:

- Payment at a price of US\$10 per ton (later raised to US\$12)
- Subsistence farming
- Income generation through sales of timber, organic coffee, other agro-ecological products

For the UZACHI project in Oaxaca:

- Sales of timber, organic coffee, other agro-ecological products with other indigenous communities

For Mazunte:

- Income generation through tourists' accommodation, restoration, excursions

**Who pays:**

For the Scolel Té project in the southern state of Chiapas:

- International Automobile Federation

For the UZACHI project in Oaxaca:

- Supporting NGOs

For Mazunte:

- Individuals, the local community and NGOs for the initial investments, and then eco-tourists

**Impacts:**

*Positive impacts*

- **Diversification of income sources:** Important incentives to integrate carbon sequestration into organic coffee production, other agro-ecological initiatives or eco-tourism.
- **Physical assets:** Seven years after the turtle ban instauration, Mazunte had tourist accommodations, restaurants, businesses on the beach, and four taxis. Most of the local population lived off tourism, and there was a natural cosmetics factory and a Turtle Museum.
- **Social assets:** Sustainable community forestry has made efforts to add environmental services to their production and management strategies.

**Lessons learned:**

- **Cash payments** represent **modest additional income** for the farmers.
- This very success of ecotourism led to **environmental stresses** and the neglect of conservation.

- Ecotourism can be a **promising activity when integrated into other production strategies** (handicrafts, natural and organic products, etc.), especially when social organization and cohesion are strong.
- When communities have broad access to the resource base, **organizational capacity** becomes the **crucial factor for** establishing agreements, complying with norms, managing conflicts, dealing with external actors, and applying **territorial management strategies** for environmental services provision.
- Peasant and indigenous communities rely heavily on the support of NGOs that assist with research, technical assistance, certification, seeking financial support, promotion, and marketing. Yet the **different visions and approaches of NGOs and communities** can create **conflicts**.
- **Existing production** strategies provide **the most convenient starting point** for meeting the demand for environmental services, through diversification (as in the case of farmers who expand their agro-forestry activities for carbon sequestration or water regulation), or by means of marketing environmental services associated with their existing crops (as in the case of biodiversity-friendly shade-grown coffee).
- Rather than focusing on a single environmental service, **communities can supply integrated services**, and combine markets for environmental services with fair-trade markets or solidarity markets for products of peasants and indigenous people.

#### **Recommendations:**

- It is necessary to **develop participatory territorial planning and management instruments at different scales**: from the plot or farm level, up to the landscape level where it may be necessary to harmonize different land uses.

#### **For more information:**

- Date of publication: 2004
- Author: Herman Rosa, Deborah Barry, Susan Kandel, and Leopoldo Dimas
- Editor: Political Economy Research Institute (University of Massachusetts Amherst)
- Website: <http://www.atypon-link.com/CFA/doi/pdf/10.1505/ifor.6.2.187.38401?cookieSet=1>

## AFRICA

### 8. MOROCCO, ecotourism

#### **Title: Externalités pécuniaires positives de l'agriculture sur le tourisme de montagne au Maroc**

**Region/country:** Morocco; 2 valleys of the high western Atlas (Northern side), namely the Rherhaya and Imnane valleys

**Scope of the project:** Local study from international cooperation institutions

**Livelihood analysis:** chronic food insecurity

- **Human assets:** High demographical density and large families (average of 5 persons per family), characteristics of the familiar house owner such as: age, level of education, size of the family and main activity.
- **Physical assets:** Poly-culture on small plots (average of 1/5 hectare per family) built in terrace, irrigated. Husbandry: average of 9 goats, 3 sheep, 1 cow and less than 1 donkey per family. Cropping of cereals, vegetables and fruit orchards: apple, cherry, walnuts. It prevents erosion and enhances biodiversity. As well, forest favours sylvo-pastoral activities.
- **Natural assets:** Poor soil and steep slopes.

#### **Kind of externality:**

- Cultural and social values: conservation of the traditional way of living and ancestral cultures
- Environmental externalities: management and maintenance of landscape amenity

#### **Population targeted: Local farmers**

Sample of 107 houses for tourist accommodation: 75% from the Rherhaya Valley and 25% from the Imnane Valley.

**When did it begin:** Study in 2003

**Targeted services:** To maintain and develop agriculture in the Atlas

- Cultural and social values: Cropping for subsistence and sale, husbandry for woollen hand-craft. Besides, conservation of the ethnological patrimony.
- Environmental externalities: Cropping provides a green cover, orchards provide shadow, and domestic animals are pleasant to look at. Local people act in favour of environmental protection and landscape beauty.

**How the service is compensated:** indirect compensation

- Farmers get money from tourists' accommodation, restoration, sales of local products, and guided visits in the area, etc.
- Family members get jobs in tourist activities (average of 2 per family) which compensate the low rate of employment throughout the year in agricultural activities, at least during the high tourist season.

#### **Who pays:**

- Tourism brings substantial revenue for each family complementing the low income from agriculture.
- Money for investment comes from other family members living abroad.

**Management institutions:**

Nobody. The Office of Rural Tourism Development is not very much interested in that informal tourism.

**Impacts:***Positive impacts*

- Replacement of traditional building material and houses by modern ones.
- Change of land occupation: less cereal and more orchards, to provide a better landscape amenity for tourists.

*Negative impacts*

- Tourism may bring about speculation on the crop choice by favouring fruit cropping for tourists instead of subsistence crops for the family.

**Lessons learned:**

- Low **level of education and lack of training** constitute a constraint to tourism development.
- Tourism may bring about speculation on the crop choice by favouring fruit cropping for tourists instead of subsistence crops for the family.

**Recommendations:**

- More **governmental concern** and support for building facilities.
- Internalize positive externalities from agriculture on tourism activities. Efforts to transform them into monetary estimation through the **method of hedonistic prices. Creating a label or a conversion to organic agriculture** would allow the farmers to sell their local products at higher prices.

**For more information:**

- Date of publication: 2003
- Author: Khalil Allali
- Editor: ROA/FAO
- Website: [ftp://ftp.fao.org/es/ESA/Roa/pdf/2\\_Environment/Environment\\_Morocco1.pdf](ftp://ftp.fao.org/es/ESA/Roa/pdf/2_Environment/Environment_Morocco1.pdf)

## 9. INDONESIA, community based - conservation of biodiversity

### Title: Review of the Development Environmental Services Market in Indonesia

**Region/country:** The buffer zone of Meru Betiri National Park in Indonesia

**Scope of the project:** Pilot project

**When did it begin and what is the lifespan:** The project is running from 1993, till present.

#### Livelihood analysis:

- **Natural assets:** The Park is known as an important source of local medicinal plants (331 species).
- **Financial assets:** The total economic value of Meru Betiri National Park is about US\$300 million and its tangible value (40% of the total value) contributes 31.67% yearly to the income of two sub-districts (Pesanggaran and Tempurejo).
- **Social assets:** Meru Betiri National Park is an important asset, especially for the local community. Local community groups intensively harvest these medicinal plants from the forest and sell them to increase their daily income. Combined with other activities such as illegal logging and land encroachment, this activity can add negative pressure on the sustainability of the national park.

**Kind of externality:** Environmental externalities: biodiversity conservation.

**Population targeted: Farmer groups** as sellers of the environmental services. It was planned to include 600-ha of critical land involving 2,400 households.

#### Management institutions:

- Lembaga Alam Tropika Nusantara (LATIN) (Indonesian NGO dealing with community forestry)
- Bogor Agricultural University (IPB)
- Local Community Organizer from LATIN
- KAIL (local NGO)
- Management staff of Meru Betiri National Park

**Targeted services:** Using medicinal plant agro-forestry in a rehabilitation area

- During the first four years, they grow recommended agricultural plants and fruit trees (and also medicinal plants, if they intend to).
- From the fourth to the eighth year, they do enrichment planting with high-value medicinal plant existing in the national park area.
- Starting from the eighth year the community will grow shade resistance medicinal plant and be able to harvest fruits, bamboo, rattan and also the medicinal plants.

The community gets continuous incentives from each of the growing stages through additional income.

**How the service is compensated:** indirect compensation

- Land use rights in the buffer zone of the national park are rewarded to the farmer groups.
- Jember Local Government supports these activities through supplying seedlings and the equipment for herbal medicine processing.

- The Local Government Health Service assists them in analyzing the quality of the products and promoting the usefulness of herbal medicine to the paramedic. It is expected that the paramedics can include these herbal medicines into their prescriptions.

**Who pays:** Consortium of LATIN and IPB, KAIL (Local NGO) and Local Government.

- The buyer of the environmental services is the management of the National Park, Perum Perhutani (State owned enterprise on timber plantation).
- And the intermediaries are:
  - At district level, Coordination Forum of Meru Betiri National Park Management (Forum Koordinasi Pengelolaan Kawasan Penyangga Taman Nasional Meru Betiri).
  - At sub-district level, Coordination Forum of Buffer Zone Community in each sub-district.

**Impacts:**

*Positive impacts*

- **Diversification of income:** The medicinal plant agro-forestry impacts on other activities such as home industry processing of the medicinal plants into herbal medicine.
- **Social assets:** The home industries are supported by the housewife organization on planting herbal medicine at home gardens (TOGA).
- **Natural assets:** This pilot project will be scaled-up until all the critical land in the buffer zone area (about 4,730 ha) is rehabilitated.
- **Land tenure:** Land use rights in buffer zone of national park were rewarded to the farmer groups.

**Lessons learned:**

- This project was facilitated intensively by a Local Community Organizer from LATIN.
- To advance charismatic or flagship species is a recent trend to promote and open markets in biodiversity conservation at the global level. There is internally consistent willingness to pay for the purchase of property rights for the habitat required to conserve flagship species.
- The strategy in biodiversity conservation also has shifted to principles that recognize the concerns and needs of people, who compete with the conservation activities for resources.

**Recommendation:**

In these flagship species programs aiming to conserve global biodiversity, improving people's livelihoods needs to be part of the strategy.

**For more information:**

- Date of publication: 2005
- Author: S. Suyanto, Beria Leimona, Rizki Pandu Permana and F.J.C. Chandler
- Editor: World Agroforestry Centre (ICRAF)
- Website:  
[http://www.worldagroforestry.org/sea/Networks/RUPES/download/Working%20Paper/ReviewMarketESIndonesia\\_Final.pdf](http://www.worldagroforestry.org/sea/Networks/RUPES/download/Working%20Paper/ReviewMarketESIndonesia_Final.pdf)

## 10. INDONESIA, watershed services provision in an upland poor community

### Title: Review of the Development Environmental Services Market in Indonesia

**Region/country:** Indonesia, South Sulawesi, Maros, the Mamappang watershed of Barugae

**Scope of the project:** It is a local project on a 50-hectare-pilot site which aims at supporting and building the capacity of local communities, institutions, and government agencies in the Mamappang watershed. Through reward mechanisms, its goal is to promote sustainable natural resource management and poverty alleviation among poor upland communities.

**When did it begin and what is the lifespan:** It began in 2004 and its lifespan is two years, renegotiable up to five years.

**Kind of externality:** Environmental externalities: watershed protection

#### Population targeted: Communities

- The community in Barugae, which is involved in the community forestry programs and traditionally owned the land, as producer and seller of watershed function.
- The community group in Mamappang and Matajang, which takes advantage of the environmental service for either their daily needs or agricultural activities, as consumer and buyer.

#### Management institutions:

- A local NGO which is expected to be able to synchronize and maintain the needs of both producer and consumer groups in the designed rewarding transfer mechanism.
- The government of Maros District.

#### Targeted services:

Sellers are responsible for maintaining and increasing the availability and quality of water sources. Indeed, water supply provided to buyers has to be of suitable quantity and quality for daily needs and agricultural land production without any other additional cost as per the established agreement.

Objectives of the programme:

- In the first year they identify the range of watershed services, sellers, buyers and transfer payment mechanisms possible, including new methods and approaches, and determine what preconditions are necessary and constraints to consider in implementing these services.
- In Year 2 and 3, strengthening of the capacity of local institutions to implement transfer payments through appropriate institutional arrangements, agreements, and monitoring and enforcement mechanisms will be done.
- At the end, they will compile and disseminate best practices and lessons learned from these projects to raise awareness at all levels on how the transfer of payments in delivering environmental services can benefit upland communities.

**How the service is compensated:** through direct payments to the service providers.

#### Who pays:

- Buyers of the watershed function directly pay the sellers thanks to the incentive of the local NGO. They are morally, rationally motivated by the intermediary to pay for water used for their daily needs and agricultural purposes.
- The District government pays the providers of the watershed function partly from taxes imposed for agricultural purposes that the water consumers pay.

**Lessons learned:**

- In the institutional arrangement, the intermediary is required to have capability in facilitating the needs of both sellers and buyers.
- In addition, skills in business management are required for the intermediary as this institution is considered to be a joint business group.
- The involvement of all beneficiaries and actors in a special forum formulating institutional arrangements and necessary agreements is believed to target the poor and work to develop a fair and equitable mechanism for the identification of services, providers, and beneficiaries.
- To ensure that natural resources related to the watershed services are being sustainably managed and that payments are being made to upland communities, it is necessary to monitor the designed activities based on the benefits received by either sellers or buyers.
- For the sellers, the rewards for the environmental services they provide can compensate for the opportunities lost in changing land use to agriculture or mining.

**Recommendations**

- Given that the intermediary must facilitate relationships between sellers and buyers to establish and manage joint business groups, the enforcement mechanism should aim at stabilizing the sellers-intermediaries-buyers' relation.
- The formulation of agreements involving all beneficiaries and actors in a special forum could avoid potential conflicts, e.g. governmental requirement to increase district earnings from the mining sector.

**For more information:**

- Date of publication: 2005
- Author: S. Suyanto, Beria Leimona, Rizki Pandu Permana and F.J.C. Chandler
- Editor: World Agroforestry Centre (ICRAF)
- Website:  
[http://www.worldagroforestry.org/sea/Networks/RUPES/download/Working%20Paper/ReviewMarketESIndonesia\\_Final.pdf](http://www.worldagroforestry.org/sea/Networks/RUPES/download/Working%20Paper/ReviewMarketESIndonesia_Final.pdf)

## 11. THE PHILIPPINES, biodiversity conservation

### Title: Developing pro-poor markets for environmental services in the Philippines

**Region/country:** The Philippines

**Scope of the project:** It is a project aiming to collect and monitor the prospecting of biological and genetic materials, and prescribes a royalties and benefit-sharing scheme.

**Kind of externality:** Environmental externalities: biodiversity conservation

**Population targeted: Individuals and communities**

**Management institutions:** The Inter-Agency on the Collection of Biological and Genetic Resources (IACBGR).

**Targeted services:**

The IACBGR negotiates **bio-prospecting** fees to be charged for an area, whether marine or terrestrial, at the initial review and evaluation of the commercial research proposal, taking into consideration, among others, the following:

- the nature of the applicant, whether individual or corporation;
- the diversity of biological resources in the area of collection;
- the budget of the research;
- the quantity of specimen to be collected;
- the nature of the specimen to be collected;
- the method of collection; and,
- the duration of the collection phase.

**How the service is compensated:** direct and indirect compensations

*Payments made in cash:*

- The minimum bio-prospecting fee shall be US\$3,000 or \$3.00 per hectare of area over which the applicant shall have commercial bio-prospecting rights. Should the applicant desire to have sole commercial bio-prospecting rights in a specific area, the minimum bio-prospecting fee shall be \$5,000 or \$5.00 per hectare.
- Rehabilitation/Performance Bond: the applicant shall post a rehabilitation/performance bond in an amount equivalent to 25% of the negotiated bio-prospecting fee.

Benefits from bio-prospecting that are to be shared with local stakeholders are as follows:

- Fees and Royalties: subject to the rules on prior informed consent from the concerned local community, and where applicable, from the concerned Protected Area Management Board and Indigenous Peoples, any Commercial Research Agreement (CRA) holder shall pay to the foregoing the milestone payments mentioned in the following bullets.
- Annual User's Fee: upon signing of the research agreement, the CRA holder shall pay the amount of \$100 for every hectare under its use for sourcing genetic materials each year during the term of the CRA. However, if the area covered shall be for the exclusive bio-prospecting use barring other commercial researchers of whatever purpose, the CRA-holder shall pay the amount of \$1,000 annually for every hectare under its exclusive access.
- Patent Application Payment: upon filing of and for each application for patent for any product derived from or by reason of any biological or genetic resources from any area under the research agreement, the CRA holder shall pay the amount of \$15,000.
- Provided that any Filipino individual or local organisation shall pay the amount of only \$1,500, while local Small and Medium Enterprises (SMEs) and local non-profit organisations shall pay an amount of only \$150 for each application for patent.

- Patent Processing Payment: during the pendency of each patent application, the CRA holder shall pay the amount of \$100,000 every year until patent is approved, with the remaining balance from \$485,000 to be settled upon patent approval. Payments of \$100,000 will commence a year after the patent application is filed. If payments for this milestone exceed \$485,000, the difference will not be refunded to the CRA holder. If, at any point in time thereafter, the CRA holder decides to discontinue the patent application, then the payment of \$100,000 every year shall cease. Any amount paid prior to the discontinuation of the patent application shall be non-refundable.
- Provided during the pendency of each patent application, any Filipino individual or local organisation applicant shall pay only the non-refundable amount of \$10,000 every year until the approval of the patent, with the remaining balance from \$48,500 to be settled upon patent approval.
- Provided further that for local Small and Medium Enterprises (SMEs) and local non-profit organisations, during the pendency of each patent application, they shall only pay the non-refundable amount of \$1,000 every year until the approval of the patent, with the remaining balance from \$4,850 to be settled upon patent approval.
- Royalties: the amount of 1% of Gross Sales earned from the product by the CRA holder, parent company, or subsidiary, throughout the duration of the patent, in the event of any commercial use shall be paid. All earlier payments referred to in the preceding section shall be credited against the computed royalties determined in this Section to each appropriate stakeholder group.

*Payments made in kind:*

The CRA holder may enter into special written agreements with the concerned stakeholder for the payment of the latter's share in non-monetary forms:

- Equipment for inventory and monitoring; supplies and equipment for resource-conservation activities; technology transfer.
- Formal training including educational facilities; infrastructure directly related to the management of the area; and health care.

**Who pays:** The Inter-Agency on the Collection of Biological and Genetic Resources (IACBGR)

**Recommendations:**

- **Valuation of in-kind payments** shall be based on: acquisition cost of equipment/ infrastructure/ supplies; cost of formal training; cost of training in host country of trainer in case of technology transfer; and actual costs incurred (labour, infrastructure, IEC materials and similar expenses) for conservation and protection activities.
- Other non-monetary benefits such as sharing and transfer of knowledge, capacity building, support for conservation, and in-situ development are likewise recognised within the Administrative Order.
- However, for this purpose, the amount to be credited against royalties and fees due from the CRA holder shall be limited to the proportionate share of the actual recipient-payee. The **in-kind payments may be given earlier** but not later than the period specified for each milestone payment in the preceding.

**For more information:**

- Date of publication: 2003
- Author: Rina Maria P Rosales
- Editor: Regional Environmental Economics Program (REEP), Asia IUCN - The World Conservation Union
- Website: <http://www.poptel.org.uk/iied/eep/pubs/documents/MES3.pdf>

## 12. THE PHILIPPINES, Maasin Watershed

**Title:** Developing pro-poor markets for environmental services in the Philippines

**Region/country:** The Philippines, Maasin Watershed, Metro Iloilo district

**Scope of the project:** National project: Watershed Rehabilitation Project

### **Livelihood analysis:**

- **Natural assets:** About 64% of the watershed is already open or cultivated. The loss of forest cover resulted in the reduction of the watershed resource potential of the area. As a consequence, only 35% of the household water requirements of Iloilo City can be met by the resource. As well, the water quality is worsening. Intermittent faucet flow from service pipes of the Metro Iloilo water district.
- **Physical assets:** The Maasin Watershed covering 6,738 hectares was declared a watershed reservation as early as 1923. It covers three municipalities, 16 *barangays*, and 80 *sitio*.
- **Agricultural data:** It also provides irrigation water to 2,900 hectares belonging to 1,276 farmers. Shortage of irrigation water during the dry season reduces cropping intensity in the place.
- **Social assets:** 88% of respondents belonged to one or more organisations, mostly to sports-related groups and environmental groups.

**Kind of externality:** Environmental externalities: watershed protection

**Population targeted:** The **watershed communities** which are partners in this project and live in the area. The Maasin Watershed is the source of water for 500,000 residents of Iloilo City and about 2,000 households in that vicinity.

### **Management institutions:**

The management is spearheaded by the Local Government Unit (LGU) with multiple funding sources:

- The Governor of Iloilo. It has created and chaired the Maasin multi-sectoral task force.
- The task force, which asks the Department of Environment and Natural Resources (DENR) to undertake the feasibility study of the planned Watershed Rehabilitation Project. It is responsible of the campaign implementation.

### **Targeted services:**

- Organised communities were contracted to undertake Comprehensive Site Development (CSD) with full funding for various activities such as reforestation, assisted natural regeneration, timber-stand improvement, agro-forestry, rattan and bamboo enhancement, and others.

**How the service is compensated:** indirect compensation

- The task force implemented a massive Information, Education and Communication (IEC) campaign in print, radio, and television to generate public awareness and support to the watershed protection.
- Technical assistance was also provided through the assisting organisation and the DENR. The upland communities were also provided with training in various aspects of forest management, both technical and organisational/management.

## Who pays:

The task force was able to raise funds from the following sources:

- PhP0.5M donations from various groups of civil societies (with a currency exchange rate US\$/PhP of 0.19/10 at that time). The provincial government has provided a counterpart fund of PhP0.5M as well.
- DENR has allocated the following funds from various sources:
  - The Asian Development Bank (ADB) Fund of PhP1,778,450 for survey, mapping and planning
  - The Overseas Economic Cooperation Fund (OECF) fund of PhP44,269,143 for community-site-development activities in 2,685 ha and PhP4,833,000 for community organising, and PhP2,610,635 for monitoring and evaluation
  - National government provided PhP9,473,936 for rehabilitation of 1,070 hectares and PhP2,479,000 for community organising
  - OECF loan of PhP1,884,294 covering 100 hectares and PhP41,000 for the establishment of 20,000m<sup>2</sup> of vegetative strips
- Metro Iloilo Water District provided P1M contribution for watershed-protection activities. The National Economic Development Authority (NEDA) has also allocated PhP3.7M for the construction of 2,850 m<sup>3</sup> of structural measures (gabions) and provided PhP1.4M to undertake three research studies. It has also provided PhP573,000 for the establishment of 53,900m<sup>2</sup> of vegetative erosion-control measures.

The Ford Foundation created the funding of 'Watersheds' Learning Communities' in mid-1999 to 2001, to make communities protect their watershed.

## Impacts:

The efforts made can be considered a success.

### *Positive impacts*

- **Natural assets:** The area's old growth forest was protected and open cultivated areas were reduced significantly in exchange for various watershed protection initiatives mentioned earlier.
- **Social assets:** 16 pressure groups (PG) were organised into a federation, and assistance was provided to PGs who were contracted to do site development. Conducted series of IEC activities. Numerous trainings provided for team building, leadership, preparation of feasibility studies, and others. Assisted PG in establishment of 17 livelihood projects. The creation of the Iloilo Watershed Management Council was enhanced through a Provincial Ordinance.
- **Physical assets:** Physical accomplishments of the OECF loan as of December 1999 comprise of: re-afforested 1,050ha; agro-forestry (749 out of 884 ha target); bamboo (249 ha) and riverbank stabilisation (60 ha) and rattan (94 of the 111 ha target). The GOP funding accomplished the following: riverbank rehabilitation of 270 ha, agro-forestry development in 300 ha, ANR in 300 ha, and vegetative measures in 20,000 m<sup>2</sup>. The following protective infrastructures were also put in place: 85 km trails, 700m fire lines, 77 units of nursery, look-out tower of seven units, 14 gabions, and six units of concrete dams.
- **Economic assets:** Completion of socio-economic baseline surveys in upland communities.
- **Land-tenure security:** Tenure security embodied in the community-based forest management agreement (CB4FMA) that allows 25 years of stewardship renewable for another 25 years.

## Lessons learned:

- One big problem in working with recognised PGs is that membership **often represents only a small segment of the upland population**. In which case, a few families, often the more vocal and influential members of the community, largely appropriate the 'rewards' of

participation in watershed-protection endeavours. This is a major reason why **activities** initiated by the project **are not sustained** once the project comes to an end.

- This project basically adopts an **Information, Education, Communication (IEC) and networking approach** to mobilise **community participation** in environmental protection projects within the watershed, including solid-waste management.
- The project supported the school-on-air: 'Ugat Sang Tubig' that was launched in 1998 and has formed 70 *barangay* **information centres**. These centres become institutionalized in the local government and serve **as venues for initiating community actions** that benefit the environment – termed 'People's Initiatives'. In these initiatives, the **roles of young people, children, and women** are encouraged.
- The Iloilo Watershed Management Council as **social infrastructure** is very important in **sustaining and operationalising the watershed approach** of managing forest resources in this important area.

**For more information:**

- Date of publication: 2003
- Author: Rina Maria P Rosales
- Editor: Regional Environmental Economics Program (REEP), Asia IUCN - The World Conservation Union
- Website: <http://www.poptel.org.uk/iied/eep/pubs/documents/MES3.pdf>

### 13. THE PHILIPPINES, Mt. Kitanglad Range Natural Park

#### Title: Developing pro-poor markets for environmental services in the Philippines

**Region/country:** The Philippines, Mt. Kitanglad Range Natural Park (MKNRP), Bukidnon, Mindanao

**Scope of the project:** National programme aiming at a development fee scheme

**When did it begin:** The pilot-testing activity to Protected Area Management Board (PAMB) began in May 1998.

Copies procured of the individual Memorandum of Agreement (MOA) to the stakeholders (telecom and broadcast companies) from the PAMB. Secondary data is gathered from relevant government offices and is then analysed. A report is written between March and July 1999. The results are presented to PAMB in August 1999 and to the stakeholders in October 1999. Final negotiations are on hold between PAMB and the stakeholders in November 1999.

#### Livelihood analysis:

- **Natural assets:** Area of 30,642ha which includes the second-highest peak in the country.
- **Physical assets:** This place makes it an ideal location for telecom/broadcast towers as their gateway to Mindanao.
- **Economic assets:** Telecommunication and broadcast companies are beneficiaries of this mountain.
- **Financial assets:** Current fee structure: individual Memorandum of Agreement (MOA) between PAMB and the companies with one-time payment of an administrative fee, on average PhP5, 000 (with a currency exchange rate US\$/PhP of 0.19/10 at that time), and other non-cash terms and conditions, e.g. reforestation.

**Kind of externality:** Environmental externalities: carbon sequestration.

**Population targeted:** Community

**Management institutions:** Protected Area Management Board (PAMB).

It is a multi-sectoral body chaired by the Department of Environment and Natural Resources (DENR) with representation from the local government units, non-governmental (NGO) or civic organizations, people's organizations, indigenous peoples through their Council of Elders and national government agencies.

**Targeted services:** To oversee conservation activities in the area.

**How the service is compensated:** direct and indirect compensations

#### *Payments in cash:*

From companies' tax to the PAMB which manages the Protected Area.

#### *Payments in kind:*

Through reforestation activities in areas specified in the PAMB's management plan.

#### Who pays:

Companies with towers located at the top of the mountain range pay user fees to PAMB which distributes it within the community. PAMB has started collecting revenues from most of the companies located within the Protected Area. For one particular government-controlled company, corporation, payments are made in kind to the community.

- PAMB can charge at least PhP30, 239 per firm per year based on CA 141, or PhP90, 356 per firm per year based on 10% of excess profit.
- Foregone revenues amount to:
  - PhP23, 367 to PhP83, 483 per firm per year.
  - PhP116, 836 to PhP417, 417 per firm for duration of MOA.
  - PhP701, 014 to PhP2, 504,503 for all firms for duration of MOAs.

**Impacts:**

Valuation of the terms and conditions of the MOA:

- Five out of seven private companies have MOAs with PAMB, one with DENR.
- Five out of six MOAs require reforestation, one requires rehabilitation of visitors' quarters.
- Five companies were required to pay administrative fees of PhP5, 000 for duration of MOA.
- Average value of MOAs is PhP6, 872 per firm per year.
- None of the companies has complied with all the requirements.

MOA contributions at PhP6, 872 per firm are minimal.

**Lessons learned:**

- Computation of rent using land code as basis states that rent can be computed based on 3% of re-appraised value of land plus 1% value of improvements. Average value of improvements was PhP3, 023,929 per firm. Based on 1% value of improvements, average annual rent that can be collected is PhP30, 239 per firm.
- Government involvement has been key in this case since the market is made up of arrangements that were created through national government policies and initiatives.
- Government is still at the helm of the 'market exchange' because private-property rights have not been established.
- It is through the establishment of economic instruments, in which government influences supply and demand through the pricing mechanism, whereby such quasi-markets for environmental services come into being.

**For more information:**

- Date of publication: 2003
- Author: Rina Maria P Rosales
- Editor: Regional Environmental Economics Program (REEP), Asia IUCN - The World Conservation Union
- Website: <http://www.poptel.org.uk/iied/eep/pubs/documents/MES3.pdf>

## 14. THE PHILIPPINES, Mt. Pulag National Park

### Title: Developing pro-poor markets for environmental services in the Philippines

**Region/country:** The Philippines, Cordillera Region, covering the provinces of Benguet, Ifugao, and Nueva Vizcaya. Area of 11,550 hectares.

**Scope of the project:** Local tourism project

**When did it begin:** The project began in 1998.

Chronology of activities:

- Presented pilot-testing activity to the Department of Environment and Natural Resources (DENR)-Cordillera Administrative Region (CAR) on 2 April 1998
- Developed survey questionnaire
- Hired and trained Protected Area and Wildlife Bureau (PAWB) and park rangers as enumerators
- On-site survey from April 3 to 11, 1998 (by team) continued by PA staff thereafter, covering a total of 130 visitors
- Mail-in survey from May to September 1998, covering 200 questionnaires. This was necessary due to insufficient number of visitors covered on-site
- Data analyzed and report written between November 1998 and February 1999
- PAMB action: formation of a committee to study the recommendations for future implementation

**Livelihood analysis:**

- **Natural assets:** Highest peak in Luzon, third-highest in Philippines. The area consists of three mountains: Mt. Pulag, Mt. Tabayoc, and Mt. Panatoan. Concerning the flora, a succession of pine, mossy and natural grassland at highest level.
- **Human assets:** Most respondents were male, single and young, with average age of 28 years. A quarter was still enrolled in school, most of who were in college. For those who had graduated, most had college degrees mostly in engineering and accounting while 10% had postgraduate degrees. For those employed, many were employees, followed by licensed professionals.
- **Social assets:** 88% of respondents belonged to one or more organisations, mostly to sports-related groups and environmental groups.
- **Financial assets:** Average gross own income was PhP15, 125 (with a currency exchange rate US\$/PhP of 0.19/10 at that time) per month, while average gross household income reaches PhP36, 315 per month. Up until the late 1990s, entrance fees for protected areas being managed by the Department of Environment and Natural Resources were fixed at a rate of PhP8 or US\$0.152 per local adult per visit, and US\$2 per foreigner per visit.
- **Economic aspects:** Number of visitors for 1997 and 1998 is approximately 1,000. The peak months are from November to May.

**Travelling tourist profile analysis:**

- 82.2% of respondents first heard about Mt. Pulag National Park (MPNP) from their friends and/or relatives experience.
- Respondents were on average second-time visitors, who had intentions of going back at least twice within the next two years.
- Average stay of visitors at the park is three days, with one day for travel time.
- Most came from their residence (79.8%), travelling an average of 376 km using bus and hired vehicles after a one-day layover at Baguio Cit.
- Average number of people in a group is 15, most of whom were friends.
- Primary reasons for choosing MPNP: scenery, climate, challenge of climb.

**Kind of externality:** Environmental externalities: landscape beauty

**Population targeted:** Local people living in these mountains

**Management institutions:** Protected Area Management Board (PAMB)

It is a multi-sectoral body chaired by the Department of Environment and Natural Resources (DENR) with representation from the local government units, non-governmental (NGO) or civic organizations, people's organizations, indigenous peoples through their Council of Elders and national government agencies.

**Targeted services:**

- To provide a nice and as natural as possible landscape in the national park through a sustainable management plan.
- To provide tourists with the facilities required: accommodations, camping areas, etc.
- To provide tourists with activities conducted at the site: mountain climbing, sightseeing, camping, photography, picnicking.

**How the service is compensated:** indirect compensation

Investments in road/trail conditions, maps and information.

**Who pays:** The visitors of the Park

*Entrance fee structure:*

- PhP50 entrance for PAMB
- PhP25 green fee for municipality of Kabayan

*Tourists' expenses:* Amount % of total trip expenses (PhP2, 499)

- On-site expenses: food, film, etc.: PhP378, which accounts for 15%
- Entrance fee: PhP46, which accounts for 2%

**Tourists' assessment:**

From the tourists' point of view:

- Satisfaction level with services:
  - Excellent: Peace and quiet
  - Good: Access to the park, availability of water for drinking/ refill, personal safety
  - Fair: Road/trail conditions, cleanliness, comfort rooms, camping areas, park amenities.
- One-third of respondents **did not want any further development** in the area.
- For those who preferred development, the following types were stated: comfort rooms, first aid stations, campsites, hikers' rest areas, signal stations, and better roads to rangers' station.

**Lessons learned:**

- Having representation from all stakeholders directly connected with environmental management in the manager institution (PAMB) was highly valuable in all the project stages.
- Civil society (or simply NGOs) was given a role in directly managing Protected Areas thanks to the democratic composition of the PAMBs.
- The PAMB served as a venue for rationalising government programmes in the area and coordinating their own development programmes.

The introduction of non-government personnel in Protected Area Management Board brings more room for sustainability and continuity.

**Recommendations:**

- In already inhabited areas, the concept of 'strictly no use' by people is politically unfeasible. Hence, governments would accept that comprehensive and sustainable management of protected areas will need to include all stakeholders in decision-making.
- The study recommends that entrance fees be increased to PhP125, with PhP25 going to the Local Government Unit and PhP100 to the PAMB. MPNP visitors are relatively well-off and have both the **ability and willingness to pay higher entrance fees**. Moreover, entrance fees are a small part of their total budget when visiting MPNP. Thus, increasing entrance fees will not adversely affect decisions to visit the park.
- The suggested improvements in park management and services may merit serious consideration by the PAMB as visitors are willing to pay for these services.

**For more information:**

- Date of publication: 2003
- Author: Rina Maria P Rosales
- Editor: Regional Environmental Economics Program (REEP), Asia IUCN - The World Conservation Union
- Website: <http://www.poptel.org.uk/iied/eep/pubs/documents/MES3.pdf>

## 15. THAILAND

### Title: Poverty and Conservation Landscapes, People and Power

**Region/country:** Thailand, Trad Province, village of Pred Nai, near the Cambodia border

**Scope of the project:** Local projects

**When did it begin:** In 1997

#### Livelihood analysis:

- **Natural assets:** It is a degraded mangrove forest. As well there is a degradation of marine resources.
- **Human assets:** The poorest villagers and fishers, whose livelihoods depended on the mangroves, were the more affected by the limited access to the resources. Crab collecting is mainly carried out by relatively poor members of the community because it is very important for income and livelihood security.
- **Social assets:** Although the mangrove forest is technically under the authority of the Royal Forest Department (now part of the Ministry of the Environment), this has not prevented community action. In 1986 the villagers formed a group to stop the logging and shrimp farming and they succeed.
- **Previous land management:** From 1985, logging concessions over-harvested the mangrove and prohibited villagers from harvesting crabs, shellfish, fish and other resources in the concession areas. Moreover, shrimp farms built a gate to block seawater which worsened the forest ecology. It is still difficult to prevent outsiders, from both nearby villages and farther away, from harvesting or destroying resources within the mangrove area.

**Kind of externality:** Environmental externalities: biodiversity conservation and watershed protection.

#### Management institutions: Pred Nai Community Forestry Group

#### Targeted services:

To sustainably manage the mangrove forest according to the following **management plan** set by the community:

- resource mapping
- forest patrols
- contribution to a village savings fund that provided a base for their efforts
- trees plantation in the denuded mangrove area
- some stands natural regeneration under strict village protection
- thinning the dense natural stands of Ceriops in a sustainable way
- creation of a "crab bank" in order to protect the mud crab (*Scylla serra*), which is an economically important specie
- to develop harvesting regulations for the grapsoid crab (*Metopograpus* sp.): ban on the harvest during the breeding period in October
- exchange ideas between villagers and fishery researchers to help with monitoring methods and collecting relevant data. It is a conscious learning process

**How the service is compensated:** direct and indirect compensations

- The poorer villagers engaged in crab collection could earn 600-700 baht (USD 15-18) per day.
- A savings management group, formed in 1995, had more than 600 members and a fund totalling nearly six million Baht (about USD 72,000) in 2004.

### Who pays:

- Pred Nai villagers drew upon the strengths of local traditions and village elders and, with the support of a respected monk.
- The Asia-Pacific Economic Community (APEC) sponsored a group of school children from various countries to attend an environmental camp and carry out fieldwork at Pred Nai in July 2003.

### Impacts:

#### *Positive impacts*

- **Social assets:** Mangrove network developed among a number of other local villages: all became members of the Community Coastal Resource Management Network of the Trad Province. Other community organisations were established, such as a women's group, a youth group and a network of people from various villages.
- **Physical assets:** Collectors can now collect the crabs much more quickly as a result of greater availability, particularly in the low season; this provides opportunities for additional economic activity. In this way the increased availability of crabs has enhanced livelihood security and has participated in poverty reduction. The Pred Nai community is now developing a marketing system, processing crackers made from mangrove plants and producing local wine.
- **Financial assets:** For some of the villagers the mangrove ecosystem is a valuable source of income; for the village as a whole it is the basis of a way of life.
- **Natural assets:** The increase in mud crab harvests is largely resulting from the innovative introduction of crab banks. In 2004, the average daily harvest of grapsoid crab has increased since 1998 from 8 to 15 kg per collector per day. Pred Nai villagers are now trying to restore the seacoast within a 3000-metre conservation zone and protect it from destructive fishing practices such as the use of push nets and trawlers.
- **Human assets:** Villagers have collaborated with the schools and village elders to teach school children about mangrove ecology and coastal resources, using the mangrove community forest as a learning laboratory.

### Lessons learned:

- The villagers realized that the people of a **single community could not implement successful** and sustainable forest management, especially since boundaries were not demarcated and there were no regulations on forest use.
- Through **exchanging information and experiences**, the villagers have learned from their successes and failures. Their collaboration has allowed them to initiate new ideas and practices that respond to community needs.

### For more information:

- Date of publication: 2005
- Author: R.J. Fisher, Stewart Maginnis, W.J. Jackson, Edmund Barrow and Sally Jeanrenaud
- Editor: IUCN – The World Conservation Union
- Website: <http://www.rightsandresources.org/publications/global/povertyconservation-book.pdf>

## **16. TURKEY, ecotourism**

### **Title: Ecotourism and Sustainable Development of Forests and Forest Villagers in Turkey**

**Region/country:** Turkey, forested areas

- The Cehennemdere Valley: Participatory Activity Selection of Ecotourism Planning
- Villages located in the south part of Turkey: Daran, Kocaslý, Dumlugöze: Pilot Project for Ecotourism in Forest Villages
- On four different sites: Ecotourism in Biodiversity and Natural Resource Management Project

**Scope of the project:** It belongs to the national programme of conserving forest and developing poor regions. Then, different local projects, internationally supported, are implemented.

#### **When did it begin and what is the lifespan:**

- Participatory Activity Selection of Ecotourism Planning: The duration of this research project is 2 years.
- Ecotourism in Biodiversity and Natural Resource Management Project: from 2000 to 2006.

#### **Livelihood analysis:**

- **Human assets:** in 2003, 7.6 million forest villagers live in 20,104 villages located inside or nearby the forests
- **Economic assets:** Forest villagers are the poorest community and have traditionally been heavily dependent on utilizations from the forest areas due to their limited land resources as well as lack of alternative sources of income.
- **Natural assets:** Forest area in Turkey covers 20,199,256 hectares.

#### **Kind of externality:**

- Environmental externalities: Forest protection, biodiversity conservation and landscape beauty
- Social, historical and cultural values

#### **Population targeted: Forest villagers**

#### **Management institutions:**

At the national scale it is the General Directorate of Forest-Rural Relation (ORKOY) and the General Directorate of Forestry (GDF) under Ministry of Forestry.

ORKÖY was founded in order to develop the forest villages, and hence, prevent pressures on forests and rural migrations. It deals with all the projects.

In addition, other institutions are involved in each project:

- For the Pilot Project for Ecotourism in Forest Villages: OR-KOOP
- Participatory Activity Selection of Ecotourism Planning: The project owner Institutes are Eastern Mediterranean Forestry Research Institute-Tarsus and Istanbul University, Faculty of Forestry, Department of Forest Economics-Istanbul.
- Ecotourism in Biodiversity and Natural Resource Management Project: GEF II.

**Targeted services:** Ecotourism, sustainable forest management and rural development through the accommodation, the restoration of tourists and the activities and excursions proposed.

**How the service is compensated:** direct and indirect compensations

According to Turkish Forest Law, villagers who live within or near forest areas have legal status as forest villagers and can get financial and technical support concerning that status by ORKOY and GDF.

ORKÖY provides incentive credit facilities and technical support services to expand various income-creating activities such as breeding, poultry, beekeeping, fishing, green houses, carpet weaving, medical and aromatic plant cultures, etc. in the forest villages. However, the governmental subsidies remain short, as the resources are scarce and limited.

Example:

- For the Pilot Project for Ecotourism in Forest Villages: OR-KOOP has introduced a home stay business by restoring the village houses and promoting and marketing regional homes and handicrafts to tourists. This makes it possible to offer the beauties of natural environment and rural life and various sport facilities to urban tourists, so that the living standards of regional people could be improved while protecting the natural environment.

**Who pays:** ORKOY and GDF

Example:

- For the Pilot Project for Ecotourism in Forest Villages:
  - For the project implementation: financial support of European Community.
  - For the plan realization: OR-KOOP, in collaboration with the private sector and public administration.
- Ecotourism in Biodiversity and Natural Resource Management Project: GEF.

**Impacts:**

*Positive impacts*

Villagers who have legal status are defined as forest villagers. Thus, they can affect decisions in ecotourism planning and also the results and implementation of the plans by using their legal rights, lobbying activities, etc.

**Lessons learned:**

- **Villagers** can affect decisions in **ecotourism planning** and also the **results and implementation** of the plans by using their legal rights, lobbying activities, etc.
- **Ecotourism** implementations in **suitable forest villages** may be the **best income-generating** activities that are also ecological.
- **Reduction of pressures** on the natural resources, protection of the ecological balance, cooperation among regions and countries, and acceleration of **information and experience exchange** between rural and urban people can be ensured by ecotourism project in forests villages.
- Although ecotourism have some advantages for rural development and conservation of natural or cultural heritages, **lack of the experience** on ecotourism planning and decision making, and funding problems for research and model implementation are the significant constraints for ecotourism development.
- It is essential to **interview the villagers** and investigate the village profile prior to the formulation of an ecotourism project.

**Recommendations:**

- Ecotourism projects should aim for direct and indirect improvement of income levels and living standards of the local people.
- It is essential to interview the villagers and investigate the village profile prior to the formulation of an ecotourism project.
- A feasibility study should be realized, which identifies potential ecotourism development areas, including mountain, forest, wetland, coastal and island environments. Classification of medium and high potential areas should be carried out to implement projects where it is the more favourable.
- Public awareness of the ecotourism is an important part of ecotourism application. This should be realized under defined strategy and policy.
- Local and national ecotourism development strategies and policy (increasing investment on tourism facilities, creation of employment opportunities, enhancement of the public-stakeholders and experts' participation, etc.) should be developed.

**For more information:**

- Date of publication: 2003
- Author: Gülzade Kahveci, Kenan Ok and Ersin Yılmaz
- Website: <http://www.fao.org/DOCREP/ARTICLE/WFC/XII/0708-A1.HTM>



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### Set of specific lessons learned from the selected technical files on compensation mechanisms

### Annex 6

Reference	Lessons learned	Case study
1-1	A “ <b>bundled</b> ” initiative combining carbon and biodiversity implies a more comprehensive approach and has better results.	Bolivia
1-2	Communities should be assisted in order to compensate them for lost employment which may occur with environmental conservation in order <b>to reduce the threat of leakage through displacement of economic activities</b> to other areas.	Bolivia
1-3	NGO initiatives should enhance quid pro quo initiatives with contracts detailing the communities’ rights and responsibilities to avoid the paternalistic charity leading, in the end, to a <b>sharp decrease in communities’ involvement</b> .	Bolivia
2-1	The municipalities in the valley consider the <b>compensation insufficient for the livelihoods that were lost</b> in a bid to create reserves. Small producers would prefer to use degraded areas of the park than to receive any payment.	Brazil
2-2	A <b>traditional conservation</b> focus can have <b>negative impacts</b> on <b>extractive communities</b> dependent on access to the resource base.	Brazil
3-1	Often <b>conservation</b> objectives are met but not <b>poverty</b> and <b>equity</b> ones	Costa Rica
3-2	Participation increases land-tenure security.	Costa Rica
3-3	Small-scale producers participating in PES schemes generally consider the local benefits (improved water and landscapes) and the <b>technical assistance</b> associated with these schemes, to be <b>more valuable than the payments themselves</b> .	Costa Rica
3-4	<b>Broad participation in the early stages of PES schemes</b> is crucial to ensure their long-term legitimacy and sustainability.	Costa Rica
3-5	An accelerated institutionalization of PES schemes, without adequately including the interests of small producers and indigenous communities, generates restrictions that are difficult to overcome later.	Costa Rica
3-6	An econometric analysis was made to explain <b>non participation</b> . It reveals that the <b>main factors</b> are: <b>farm size, tenure, education, off-farm income and information access</b> .	Costa Rica
3-7	The <b>incorporation of local-level perspectives, priorities, and visions</b> can empower local communities and promote participatory management.	Costa Rica
3-8	<b>Monetary payments made directly to local communities</b> for a bundle of environmental services allow a global approach and positive interactions.	Costa Rica

3-9	Participants often <b>distrust the legal system</b> and believe that the possibility of future changes in the law would result in further restrictions or bind them to undesirable commitments.	Costa Rica
3-10	<b>To favour smallholders</b> , setting a <b>maximum area</b> that can receive PES may help to achieve <b>poverty and equity objectives</b> .	Costa Rica
3-11	The <b>global orientation, eligibility criteria, and operational rules</b> largely determine the capacity for inclusion in the PES schemes. In some settings, greater inclusion requires seeing beyond the forest to link up with other productive activities that are central to livelihoods.	Costa Rica
4-1	Institutions working in eco-tourism should listen to any <b>suggestions and feedback</b> from the community, <b>to ensure quality control</b> , promote the community <b>to share their experiences and to help train</b> other communities.	Ecuador, ecotourism
4-2	To <b>overcome the lack of ownership and tenure, community partnership</b> should be enhanced.	Ecuador, ecotourism
4-3	TROPIC, a tour operator was instrumental in <b>creating regulations for tourism operations</b> , which included the idea of a community fee for overnight stays, a territorial entrance fee paid to ONHAE, and guidelines for signing operational agreements with ONHAE.	Ecuador, ecotourism
5-1	<b>Access rules</b> were set at the <b>local</b> rather than the national <b>level</b> to better involve the community in the scheme implementation.	Ecuador, Pimampiro municipality
5-2	The number of participants has decreased over time. It could indicate that the <b>financial incentives for service provision were insufficient</b> and/or that landowners did not think of being caught and expelled in violating the contract rules.	Ecuador, Pimampiro municipality
7-1	<b>Ecotourism</b> can be a <b>promising activity</b> when integrated into other production strategies (handicrafts, natural and organic products, etc.), <b>especially when social organization and cohesion are strong</b> .	Mexico
7-2	Economic success of ecotourism may lead to <b>environmental stresses</b> and the neglect of conservation.	Mexico
7-3	When communities have broad access to the resource base, <b>organizational capacity</b> becomes the <b>crucial factor for</b> establishing agreements, complying with norms, managing conflicts, dealing with external actors, and applying <b>territorial management strategies</b> for environmental services provision.	Mexico
7-4	<b>Existing production</b> strategies provide <b>the most convenient starting point</b> for meeting the demand for environmental services, through diversification.	Mexico
7-5	Rather than focusing on a single environmental service, <b>communities would benefit more from supplying integrated services</b> , and combining markets for environmental services with fair-trade markets or solidarity markets for products of peasants and indigenous people.	Mexico
7-6	Peasant and indigenous communities rely heavily on the support of NGOs that assist with research, technical assistance, certification, seeking financial support, promotion, and marketing. Yet the <b>different visions and approaches of NGOs and communities</b> can create <b>conflicts</b> .	Mexico

<b>8-1</b>	Tourism, and more generally access to new markets, may bring about speculation for instance on the crop choice and impact negatively on people's livelihoods.	Morocco
<b>8-2</b>	Low <b>level of education and lack of training</b> constitute a constraint to tourism development.	Morocco
<b>9-1</b>	The advancement of <b>charismatic or flagship species</b> is a recent trend to promote and open markets in biodiversity conservation at the global level. There is internally consistent willingness to pay for the purchase of property rights for the habitat required for the conservation of flagship species.	Indonesia, conservation of biodiversity
<b>9-2</b>	The strategy in biodiversity conservation also has shifted to principles that <b>recognize the concerns and needs of people</b> , who compete with the conservation activities for resources.	Indonesia, conservation of biodiversity
<b>10-1</b>	In the institutional arrangement, the <b>intermediary</b> is required to have capability in facilitating the needs of both sellers and buyers groups.	Indonesia, watershed services
<b>10-2</b>	<b>Skills in business management</b> are required for the intermediary as this institution is being considered to be a joint business group.	Indonesia, watershed services
<b>10-3</b>	The involvement of all beneficiaries and actors in a <b>special forum</b> formulating institutional arrangements and necessary agreements is believed to target the poor and work to develop a fair and equitable mechanism for the identification of services, providers, and beneficiaries.	Indonesia, watershed services
<b>10-4</b>	To ensure that natural resources related to the watershed services are being sustainably managed and that payments are being made to upland communities, it is necessary to <b>monitor the designed activities</b> based on the benefits received by either sellers or buyers.	Indonesia, watershed services
<b>12-1</b>	One big problem in working with recognised Pressure Groups is that membership <b>often represents only a small segment of the upland population</b> . In which case, a few families, often the more vocal and influential members of the community, largely appropriate the 'rewards' of participation in watershed-protection endeavours. This is a major reason why <b>activities</b> initiated by the project <b>are not sustained</b> once the project comes to an end.	The Philippines Maasin Watershed
<b>12-2</b>	<b>Information</b> centres should become institutionalized in the local government and serve <b>as venues for initiating community actions</b> that benefit the environment and the <b>roles of young people, children, and women</b> should be encouraged.	The Philippines Maasin Watershed
<b>12-3</b>	This project basically adopts an <b>Information, Education, and Communication (IEC) and networking approach</b> to mobilise <b>community participation</b> in environmental protection projects within the watershed, including solid-waste management.	The Philippines Maasin Watershed
<b>12-4</b>	The Iloilo Watershed Management Council as <b>social infrastructure</b> is very important in <b>sustaining and operationalising the watershed approach</b> of managing forest resources in this important area.	The Philippines Maasin Watershed

<b>13-1</b>	Where private-property rights have not been established, <b>government</b> has still a <b>key role in the 'market exchange'</b> .	The Philippines, Mt Kitanglad Range Natural Park
<b>13-2</b>	<b>Government</b> could help to <b>create quasi-markets for environmental services</b> through the establishment of <b>economic instruments</b> , in which it influences supply and demand through the <b>pricing mechanism</b> .	The Philippines, Mt Kitanglad Range Natural Park
<b>14-1</b>	Having <b>representation from all stakeholders</b> directly connected with environmental management in the manager institution is <b>highly valuable in all the project stages</b> .	The Philippines, Mt Pulag National Park
<b>14-2</b>	It is advisable to have a <b>democratic composition of the manager institution</b> , involving the civil society or simply NGOs, to serve as a venue <b>for rationalising government programmes and it brings more room for sustainability and continuity</b> .	The Philippines, Mt Pulag National Park
<b>14-3</b>	The introduction of <b>non-government personnel</b> in Protected Area Management Board brings more room for sustainability and continuity.	The Philippines, Mt Pulag National Park
<b>15-1</b>	Through <b>exchanging information and experiences</b> , the villagers have learned from their successes and failures. Their collaboration has allowed them to initiate new ideas and practices that respond to community needs.	Thailand
<b>15-2</b>	The villagers realized that the people of a <b>single community could not implement successful</b> and sustainable forest management, especially since boundaries were not demarcated and there were no regulations on forest use.	Thailand
<b>16-1</b>	<b>Villagers</b> can affect <b>decisions in ecotourism planning</b> and also the <b>results and implementation</b> of the plans by using their legal rights, lobbying activities etc.	Turkey, ecotourism
<b>16-2</b>	<b>Ecotourism</b> implementations <b>in suitable forest villages</b> may be the <b>best income-generating</b> activities that are also ecological.	Turkey, ecotourism
<b>16-3</b>	Although <b>ecotourism</b> has some <b>advantages for rural development and conservation of natural or cultural heritages</b> , <b>lack of experience in ecotourism planning and decision making, and funding problems</b> for research and model implementation are the significant constraints for ecotourism development.	Turkey, ecotourism
<b>16-4</b>	It is essential to <b>interview the villagers</b> and investigate the village profile prior to the formulation of an ecotourism project.	Turkey, ecotourism
<b>16-5</b>	<b>Reduction of pressures</b> on the natural resources, protection of the ecological balance, cooperation among regions and countries, and acceleration of <b>information and experience exchange</b> between rural and urban people can be ensured by ecotourism projects in forest villages.	Turkey, ecotourism



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## Annex 7

### Update list of lessons learned on general ways of valorising positive externalities

The valorisation of positive externalities: lessons learned	
<b>Part 1 - Policies and institutions</b>	
<b>1.1 Institutions, decentralisation and governance</b>	
<b>Local partnerships</b>	
<b>22-4</b>	Relating the public and private sectors is essential to make the activities viable.
<b>22-1</b>	The difficulties caused by scattered populations, services and enterprises in the rural environment can only be overcome by linking them together into one sector or across sectors (linking agricultural producers, local processors, crafts persons, hoteliers, restaurants, tour operators etc).
<b>Local institutions</b>	
<b>3-11</b>	The internal organisation of the authority responsible for the project jointly with other institutions must be thought out and made official beforehand.
<b>22-5</b>	Coordination is essential between the public institutions having responsibility for policies, most often of a sectoral character.
<b>3-9</b>	Dialogue and continuity in any organisation also depends on having policymakers stably in place.
<b>11-3</b>	<b>Involving local authorities in the process is often based on the assumption that the local political forces share the stakes.</b>
<b>Decentralisation</b>	
<b>3-10</b>	Decentralising decision-making powers and capital permits flexibility and rapidity.
<b>6-1</b>	The "top-down" approach by environmental services, in which policies approved nationwide are applied to local cases, is replaced by a flexible and participatory approach.
<b>15-8</b>	All the intermediaries that might create a bureaucracy should be reduced, because they hamper the process and prepare the ground for corruption.
<b>15-7</b>	The PES can be a useful tool for consolidating a decentralisation policy.
<b>44-8</b>	One of the greatest benefits of environmental service reward systems may consist in stimulating a shift from the state as protector to the smallholder as steward in environmentally sensitive areas.
<b>1.2 Policies</b>	
<b>National policy</b>	
<b>7-5</b>	The government must encourage regulation that will foster employment for the poor.
<b>7-7</b>	Promoting pro-poor products and enterprises using marketing methods at the national level.
<b>7-6</b>	Encouraging private investors.
<b>14-2</b>	It is not necessary to involve government when interest is shown by the Community.

14-3	The lack of policies and legal bases is a real handicap for environmental conservation projects.
15-9	<b>A framework for action (regulation) is needed to facilitate PES implementation.</b>
12-2	<b>It is not necessary to have a legal framework and government commitment to ensure the success of a PES. It can have a positive effect if these types of support do not create excessive rigidity.</b>
14-3	The lack of policies and legal bases is a real handicap for environmental conservation projects.
<b>Sectoral policy</b>	
7-4	A policy should be put in place to regulate property ownership.
11-2	<b>Access to financing or lending is a major obstacle for communities. This applies in particular to the poor and illiterate.</b>
47-4	Policies should place emphasis on stewardship for conserving biodiversity, enhancing carbon sequestration and watershed protection, while natural capital and guardianship are more important for landscape beauty functions.
<b>Inter-sectoral policy</b>	
4-6	There is a need for a general policy with improved inter-regional and inter-sectoral coordination.
4-5	A fragmented PES approach weakens the potential of environmental services. The main obstacles are laws covering only part of the projects, a sector-based approach (agriculture, tourism, energy etc) and a lack of general policy to improve the communities' capacities.
42-6	Governments should attempt to broaden the emphasis on stewardship payment programs within a multi-functionality policy framework.
43-2	In developing PES programs, there is a need to take into account the close links between environmental sustainability and poverty reduction.
43-1	Payment for environmental services has become an important topic in the context of economic development and poverty reduction in developed countries.

<b>Part 2 - Processes</b>	
<b>2.1 Designing a project for the valorisation of positive externalities</b>	
<b><i>Sine qua non conditions</i></b>	
13-4	The process of implementing a project that valorises externalities must be simple, standardised and flexible.
4-2	An institutional framework and a financing fund are two basic conditions for launching a PES.
14-3	The lack of policies and legal bases is a real handicap for environmental conservation projects.
10-6	The PES should be avoided under three conditions: when the source of financing (buyers) is not stably in place, when work with the local communities is an excessively large obstacle to giving priority to participatory implementation, and when other approaches produce the same result at a lower transaction cost.
10-7	The PES should not create a situation in which the service suppliers threaten acts of destruction and/or pollution. It is not a basis for environmental blackmail. These are not "paying victims".
10-4	One essential condition for an environmental services market is the value added by that service: there is no point in paying for something which will be delivered even without payment.

<b>10-5</b>	The effect will be positive for suppliers of environmental services if they have an adequate negotiating capacity with the buyers.
<b>16-1</b>	The farmers' financial security is a prerequisite for all agro-environmental projects.
<b>15-5</b>	<b>Funds collected thanks to the natural resources must be reinvested in the natural resources.</b>
<b>41-1</b>	Liberating win-win solutions, which involves getting rid of policies that contradict personal incentives to conserve, is the first step in this process. The second is to develop local markets for environmental services.
<b>42-8</b>	Long-range agri-environmental planning must be based on a collective vision of which environmental conditions or outputs should be obtained through regulations and which ones should be 'purchased' from farmers through stewardship payments.
	<b>Analysing to be able to forecast</b>
	<b>Analysis of the stakeholders</b>
<b>2-1</b>	The status of the poorest people must be considered when decisions are taken, since they are affected the most by any indirect consequences of the measures adopted.
<b>9-2</b>	Expectations regarding externalities vary according to the group considered (tourists, ecological sensitivity, agronomists, residents).
<b>12-4</b>	<b>The users and suppliers of environmental services are often poorly identified.</b>
<b>6-2</b>	<b>The beneficiaries of a resource, including those who do not own it, must be identified when reflecting on a PES project. The economy linked to the informal use of resources must not be neglected.</b>
<b>4-1</b>	Before examining an environmental service, relations between the local people and their resources must be thoroughly studied.
<b>45-2</b>	The design of payment schemes should be outcome-based and consider the interests of the local people and the relevant stakeholders and their demand for botanical diversity.
	<b>Analysis of the project implementation costs</b>
<b>12-5</b>	<b>The socio-economic evaluation may be a problem if its cost makes the project too costly.</b>
<b>15-1</b>	<b>A cost/benefit analysis must precede the project.</b>
<b>47-1</b>	In many cases, strong intermediaries and willingness-to-pay studies often stimulate the emergence of the markets, in particular the water protection markets.
<b>2-2</b>	The relevance of a procedure for valorising positive externalities must take into account the associated transaction costs.
<b>44-3</b>	Collective action also offers the potential to reduce the costs of monitoring and certification is usually required to obtain payments for the services.
<b>42-2</b>	Transactions costs' are key in thinking about the best mix of top-down guidelines and bottom-up processes for agri-environmental schemes. These include the public and private costs associated with (a) gathering and providing information needed by both the implementing agencies and farmers, (b) negotiating agreements, and (c) ensuring compliance.
<b>45-3</b>	The use of auctions has a practical potential for a more efficient use of public funds.
<b>44-6</b>	Greater consideration of the linkages between PES and other rural institutions can lead to more equitable outcomes: overcoming transaction costs and barriers to participation by smallholders and identifying mechanisms to reward managers of small private parcels or areas of common property through PES.
	<b>Estimate of the project's contribution to sustainable rural development</b>
<b>15-1</b>	<b>A cost/benefit analysis must precede the project.</b>
<b>3-7</b>	The condition of the poorest people and women must be considered during decision-making. They are sometimes the most affected by the indirect consequences of measures adopted.

<b>14-5</b>	Environmental conservation and poverty reduction are not always reconcilable goals. A comprehensive solution is not always possible. A viable but less successful solution is sometimes the only one available.
<b>18-2</b>	Considering aspects other than the environment when designing PESs (social effects etc) can quickly weaken the economic effectiveness (cost-effectiveness) of the PES.
<b>1-3</b>	The short-term and long-term effects of implementing the PES must be taken into account: if the long-term effects are positive, the short-term transition phase can be dramatic.
	<b>Facilitate access to the project</b>
	<b>Financial capacity</b>
<b>10-3</b>	<b>Two obstacles to participation by the poor: transaction costs in relation to the potential gain and the lack of property ownership in the case of the poorest people.</b>
<b>11-2</b>	<b>Access to financing and borrowing is a major obstacle to the communities. This is particularly true of the poor and the illiterate.</b>
<b>7-1</b>	Access to the tourism market depends on the level of knowledge, place of residence, and living standards. The "economic elites" often block access, and the poorest people often live far away from the attractive zones.
<b>1-2</b>	Three conditions are needed to accede to a PES programme: property ownership, the capacity to advance investment costs, and the possession of the necessary technical skills (equipment and/or training).
<b>44-2</b>	The international and national institutions that govern PES are often designed in ways that entail transaction costs that cannot be feasibly met by individual smallholders.

	<b>Technical skills and expertise</b>
<b>1-2</b>	Three conditions are needed to accede to a PES programme: property ownership, the capacity to advance investment costs and the possession of the necessary technical skills (equipment and/or training).
<b>7-1</b>	Access to the tourism market depends on the level of knowledge, place of residence, and living standards. The "economic elites" often block access, and the poorest people often live far away from the attractive zones.
<b>16-2</b>	Farmers often lack the skills they need to negotiate with tourism professionals
	<b>Questions relating to property ownership</b>
<b>11-5</b>	<b>Property ownership issues must be considered when implementing the project.</b>
<b>13-3</b>	A sound approach to property ownership issues is a success factor, particularly with regard to the security of ownership.
<b>3-8</b>	Property ownership issues must be considered when taking decisions, particularly when the property is not legally registered (the informal economy).
	<b>Choosing a mode of payment</b>
<b>15-4</b>	<b>Payment may be collective or individual.</b>
<b>18-1</b>	<b>The mode of payment must be suited to the local traditions; individual payments can disorganise a society based on a cooperative system.</b>
<b>41-2</b>	The most egalitarian approach is to pay the rental rate every year but to cap the number of allowable hectares. This is also the least efficient in terms of environmental benefits per dollar paid. Payments that incorporate the risk of forest loss – whether the price paid is the opportunity cost or the environmental benefits – are also considerably more efficient than the capped payments. The difference between these two programs is the recipient of the rent – the government in the first case and the participant in the second.
<b>43-14</b>	The specifications of the exact payments matter, but in general the poor are more likely to benefit from Working Land programs that increase demand for labour than land diversion payments that reduce labour opportunities.

<b>47-2</b>	Entrance fees and eco-tourism services are the rewards most often used for natural and guardian services of landscape beauty.
<b>47-4</b>	Stewardship is important for conserving biodiversity, carbon sequestration and watershed protection, while natural capital and guardianship are more applicable for landscape beauty functions.
<b>47-5</b>	Land lease and carbon credits can be used as rewards for stewardship services.
<b>47-3</b>	Where dependency of a community's livelihood on land or forest is high, using land leases could be effective rewards for environmental services and to enhance livelihoods.
	<b>Guaranteeing the security of the stakeholders (project sustainability)</b>
<b>13-5</b>	The participants must be guaranteed in the event that the project fails.
<b>19-1</b>	<b>Projects are highly vulnerable to external contingencies (livestock epidemics, international politics) which can destroy the balance between the stakeholders.</b>
<b>13-3</b>	A sound approach to property ownership issues is a success factor, particularly with regard to the security of ownership.
<b>16-1</b>	The financial security of farmers is a pre-requisite for all agro-environmental projects.
<b>44-7</b>	Environmental service rewards will be viable as significant source of income for smallholders only if smallholders can be proven to be a large, effective and credible supplier of services.
<b>43-15</b>	Concerning risk aversion, PES can affect farmers in providing them with sure income, and under reasonable conditions smaller farms that are more vulnerable to risk are more likely to participate.
<b>43-16</b>	The reduction in supply due to the PES may result in increased food insecurity to the urban poor and increase the fluctuation of food prices.
	<b>Laying the foundations for the participatory management of the project</b>
<b>3-1</b>	The stakeholders must be committed and convinced of the project that valorises positive externalities.
<b>22-3</b>	Territorial competitiveness, the capacity to act jointly and effectively at the local level requires coordinated efforts.
<b>3-4</b>	The capacities of each stakeholder to defend their own interests must be verified and, where necessary, improved.
<b>6-1</b>	<b>The "Top Down" approach of environmental services, under which national level policies are applied to local cases, should be replaced by a flexible and participatory approach.</b>

<b>15-3</b>	<b>The PES must be placed under the authority of a body with multiple stakeholders involved.</b>
	<b>2.2 Project implementation</b>
	<b>Laying down the coordination and a decision-making rules</b>
	<b>Participation</b>
<b>13-1</b>	The production and dissemination of information on PES projects can considerably reduce both transaction and project launching costs.
<b>13-2</b>	For services that can be evaluated and remunerated independently for each participant (e.g. carbon sequestration), community work can be a trump card: it reduces transaction costs and increases the social benefits for everyone.
<b>3-6</b>	Information, awareness-building and participation by the local people are a condition for putting the organisation's decisions into practice.
<b>3-3</b>	The organisation responsible for the project must represent all the stakeholders.
<b>42-3</b>	Truly lasting change is more likely to be achieved through a bottom-up approach, in which

	farmers and other local people develop and 'take ownership' of the detailed strategies, than it is through a top-down approach that is perceived as heavy-handed.
	<b>Balance/equality between stakeholders</b>
<b>3-4</b>	The capacities of each stakeholder to defend their own interests must be checked, and where necessary, improved.
<b>11-6</b>	<b>Discrimination against women and "gender rules" raises difficulties when implementing a sustainable tourism project.</b>
<b>10-5</b>	The effect will be positive for environmental service suppliers if they have sufficient negotiating strength in dealings with purchasers.
<b>44-6</b>	Greater consideration of the linkages between PES and other rural institutions can lead to more equitable outcomes: overcoming transaction costs and barriers to participation by smallholders and identifying mechanisms to reward managers of small private parcels or areas of common property through PES.
<b>41-2</b>	The most egalitarian approach is to pay the rental rate every year but to cap the number of allowable hectares.
<b>42-9</b>	One approach to tie together social and stewardship objectives would be to make a greater reduction in support payments of large farmers than in the payments of small farmers.
	<b>Transparency</b>
<b>3-5</b>	Total transparency in decision-making is indispensable if the organisation is to operate properly.
	<b>Disseminating information and providing access to training</b>
	<b>Information/sensitisation</b>
<b>3-6</b>	Information, awareness-building and participation by the local people are a condition for putting the organisation's decisions into practice.
<b>13-1</b>	The production and dissemination of information on PES projects can considerably reduce transaction and project launching costs.
	<b>Stakeholder training and skills</b>
<b>3-4</b>	The capacities of each stakeholder to defend their own interests must be checked, and where necessary, improved.
<b>7-3</b>	To implement a "pro-poor tourism" project in the field, a solution must be found to the problems of acquiring access to the skills needed to propose a tourism project, and guarantee communications.
<b>11-4</b>	<b>Local people are often very inadequately trained to be able to understand tourists' expectations.</b>
<b>14-1</b>	Combating poverty in a resource conservation project requires capital and learning how to use resources properly.
	<b>2.3 Project monitoring and evaluation</b>
<b>13-6</b>	Service quality depends on monitoring, support and independent certification.
<b>8-1</b>	A sustainable tourism offering must be constantly and continuously monitored.
<b>4-3</b>	The basis for successfully implementing a PES is to choose a certification organisation to guarantee the quality of the service rendered.

## Part 3 - Impacts

	<b>3.1 In general</b>
<b>1-4</b>	PES have two types of impacts on non-participants: impact on resource users (not owners), and impact on paid employees and on properties.
<b>2-6</b>	PESs provide three types of benefits: financial, environmental improvement-related (health, recreation areas) and market-linked (environmental education, institutions, and definition of ownership).
<b>1-3</b>	The short-term and long-term effects of implementing the PES must be taken into account: if the long-term effects are positive, the transition in the short-term can be difficult.
<b>44-1</b>	The function and welfare effects of PES institutions depend crucially on the co-institutions of collective action (CA) and property rights (PR).

	<b>3.2 Socio-economic impacts</b>
	<b>Vulnerable groups</b>
<b>2-1 &amp; 3-7</b>	The condition of the poorest people and women must be borne in mind when taking decisions. These are sometimes the most seriously affected by the - indirect - consequences of the measures adopted.
<b>43-8</b>	The distribution of land matters in PES' impacts. If smallholders depend on earnings from work on larger farms, then PES may affect them negatively.
<b>43-10</b>	Poor consumers may lose from ES, especially if the products that were replaced by ES have low elasticity of demand.
<b>43-16</b>	The reduction in supply due to the PES may result in increased food insecurity to the urban poor and increase the fluctuation of food prices.
<b>41-14</b>	Encouragingly, there is a higher participation both from the poor and from indigenous communities. In addition, the percentage of the overall budget allocated to the poor and indigenous is quite large and the efficiency of payments to them considerably higher than to the non-poor, non-indigenous communities. At an individual level, however, we find that payments per capita to the poor are much lower than to the non-poor. A similar trend is seen in per capita payments to indigenous and non-indigenous.
<b>43-11</b>	For land diversion programs, labourers may lose as the demand for labour declines. But when areas supplying ES are well integrated into the global economy, so that prices of labour and output are not affected very much by the ES program, positive effects on the poor are likely to occur.

	<b>Social effects</b>
<b>14-4</b>	The causes of poverty and environmental degradation are often far removed from the area on which they impact.
22-2	The implementation of a rural development project strengthens the people's sense of belonging to their territory: <ul style="list-style-type: none"> <li>- it links the people to their environment: countryside, heritage, buildings, common values etc</li> <li>- it creates links with other stakeholder groups, particularly between public and private stakeholders; stakeholders in the same category (farmers, hoteliers); different stakeholder groups (livestock farmers and restaurateurs, craftspeople and artists); generations</li> </ul>
13-2	For services that can be evaluated and remunerated independently for each participant (e.g. carbon sequestration), community work can be a trump card: it reduces transaction costs and increases the social benefits for everyone.

4-4	The PES has a major impact on small farmers when they are involved in the process. It has a financial positive effect, and also has social effects, by enhancing Community dynamism.
<b>15-2</b>	<b>The PES can create economic dependence by the participating populations.</b>
<b>41-13</b>	The distribution of the most efficient payments over size and distance classes shows that the lion's share of the budget goes to the most remote and largest participant lands.
<b>42-7</b>	In Europe and Northern America, a complete decoupling of payments would favour stewardship objectives but also would support social objectives such as maintaining a moderate-sized, 'family farm' agricultural structure.
	<b>Economic effects</b>
<b>10-5</b>	The effect will be positive for environmental service suppliers if they have sufficient negotiating strength in dealings with purchasers.
<b>12-3</b>	<b>The interest shown by environmental services suppliers is sometimes closely bound up with seeking recognition of property ownership rights.</b>
<b>43-7</b>	Impacts of PES also depend on the correlation between poverty and environmental amenities. If the richer farmers also provide the best environmental services (ES), then the poor farmers may lose. If there is negative correlation between ES and productivity, then the poorer landowners may gain from ES.
<b>43-3</b>	A set of factors that are important determinants of the poverty impact of PES programs includes the price elasticity of food demand, the elasticity of agricultural wages with respect to changes in local labour supply, the distribution of land over wealth, and heterogeneity amongst farmers in land productivity with regard to agricultural and ES production.
<b>43-4</b>	In rural areas where food markets are poorly developed, local supply effects could have a strong effect on food prices, even if the country is integrated into international markets.
<b>43-5</b>	Generally speaking, PES is good for landowners as producers because either they directly get ES that are greater than the value of the production that they give up, or they benefit from changes in prices, which increases output price and sometimes reduce labour prices.
<b>43-6</b>	Generally, PES is good for landowners and may negatively affect consumers if food demand is inelastic.
<b>43-13</b>	The distribution of lands matters. If land distribution is unequal and landowners have minimal amounts of lands and much of their income is coming from their labour, then especially when it comes to land diversion programs, they may lose a lot from the ES because of labour market effects.
<b>43-16</b>	The reduction in supply due to the PES may result in increased food insecurity to the urban poor and increase the fluctuation of food prices.

	<b>3.3 Environmental impacts</b>
<b>12-6</b>	<b>PES can have negative environmental consequences on sectors not protected by the services.</b>
<b>14-4</b>	The causes of poverty and environmental degradation are often far removed from the area on which they impact.
<b>12-1</b>	<b>There are uncertainties regarding cause and effect relations between an environmental service (e.g. planting trees) and the expected effects (e.g. improving water quality).</b>
<b>13-6</b>	Service quality depends on monitoring, support and independent certification.
<b>43-9</b>	Program specifications also matter. Working land programs may have better distributional effects than PES for land diversion.
<b>43-12</b>	The impact of PES depends critically on the spatial correlation of poverty over land quality for ES provision and its alternative (e.g., agricultural production).

<b>Part 4. Ways of valorising positive externalities</b>	
<b>4.1 Payment for environmental services</b>	
<b>In general</b>	
<b>Types of PES</b>	
<b>10-2</b>	Three distinctions for PES classification: <ul style="list-style-type: none"> <li>- private v. public purchasers</li> <li>- based on the geographic zones/product type;</li> <li>- based on resource-use restrictions (conservation)/resource-replenishment (restoration).</li> </ul>
<b>Bundled services</b>	
<b>2-4</b>	"Bundled services" may be of two types: Merged bundles (all the environmental services are sold together and inseparably) and Shopping baskets (the buyers choose the services they need).
<b>2-5</b>	"Bundled services" present all the traditional difficulties of the PES but they also require a better understanding of environmental mechanisms (e.g. the linkage between water quality and forest management).
<b>Project design</b>	
<b>Circumstances for project implementation</b>	
<b>4-5</b>	A fragmented PES approach weakens the potential of environmental services. The main obstacles are laws covering only part of the projects, a sector-based approach (agriculture, tourism, energy etc) and a lack of general policy to improve the communities' capacities.
<b>41-6</b>	When services are provided freely by legal owners of the resource, putting into place a payments system based on fiscal revenues can be effective.
<b>42-4</b>	An approach dominated by bottom-up elements must not simply become a covert way to sanction stewardship payments for 'business as usual' farming.
<b>Resource analysis</b>	
<b>12-1</b>	<b>There are uncertainties regarding cause and effect relations between an environmental service (e.g. planting trees) and the expected effects (e.g. improving water quality).</b>

<b>Market and market agent analysis</b>	
	Users and suppliers
<b>12-4</b>	<b>The users and suppliers of environmental services are often poorly identified.</b>
	Market's fundamental factors
<b>2-3</b>	Environment services can be a solution on three conditions: transaction costs must not be too high, the service must be able to deliver (organisation, ownership etc.), and there must be a demand (shortage of finance, coordination etc.).
<b>10-1</b>	A PES is based on meeting four conditions: <ul style="list-style-type: none"> <li>- a voluntary transaction,</li> <li>- a service buyer,</li> <li>- a supplier,</li> <li>- a trading conditionality (guaranteeing service delivery).</li> </ul>
<b>41-7</b>	The minimum value necessary to preserve the environmental benefits is the opportunity cost of the land, and the entire value of the good being purchased is the environmental benefit. In reality, the difference depends on property rights.
<b>42-2</b>	Transactions costs are key in thinking about the best mix of top-down guidelines and bottom-up processes for agri-environmental schemes. These include the public and

	private costs associated with (a) gathering and providing information needed by both the implementing agencies and farmers, (b) negotiating agreements, and (c) ensuring compliance.
<b>45-1</b>	The design of the payment scheme should be based on fundamental criteria of market economy such as supply and demand and integrates auctions as an award procedure.
	<b>Selection of payment mechanism</b>
<b>41-2</b>	The most egalitarian approach is to pay the rental rate every year but to cap the number of allowable hectares. This is also the least efficient in terms of environmental benefits per dollar paid. Payments that incorporate the risk of forest loss – whether the price paid is the opportunity cost or the environmental benefits – are also considerably more efficient than the capped payments. The difference between these two programs is the recipient of the rent – the government in the first case and the participant in the second.
<b>41-3</b>	A programme using the predicted deforestation rate is still twice as efficient as a flat payment programme.
<b>41-4</b>	Liberating “win-win” solutions and local environmental services agreements are at least two less expensive alternative policies than a national level payment, and could be effective steps in addressing deforestation.
<b>41-8</b>	A scheme based on paying the opportunity cost only for forest at risk generates more than three times the environmental benefits at the same cost as the flat payments programme.
<b>41-9</b>	A scheme of flat payments for all forests with a cap is often very egalitarian, but highly inefficient.
<b>41-10</b>	An argument in favour of a flat payment is the simplicity of implementation and the impression of fairness that it gives, as it does not take into account deforestation behaviour.
<b>45-3</b>	The use of auctions has a practical potential for a more efficient use of public funds.
<b>41-5</b>	Introducing more uniformity in technical assistance, monitoring post-harvest activities, and keeping track of illegal wood sales could do much to reduce forest loss, expectedly at a lower cost than compensating for ill-devised or ill-applied policies through PES.
<b>41-11</b>	If the goal of the programme is to conserve the largest amount of environmental benefits for a specified cash outlay, then the optimal scheme consists in ranking the participants by decreasing ratio of benefit/payment and include in the program those with the highest ratio until the budget is exhausted.
<b>43-14</b>	The specifications of the exact payments matter, but in general the poor are more likely to benefit from Working Land programs that increase demand for labour than land diversion payments that reduce labour opportunities.
<b>47-5</b>	Land lease and carbon credits can be used as rewards for stewardship services.
	<b>Analysis of the project's capacity to achieve its objectives</b>
	Rural development and poverty alleviation objectives
<b>1-1</b>	If the objective of the PES is not to reduce poverty, preventing increased poverty and as far as possible playing a part in reducing it, form part of the basic requirements for putting these services in place.
<b>43-7</b>	Impacts of PES also depend on the correlation between poverty and environmental amenities. If the richer farmers also provide the best environmental services (ES), then the poor farmers may lose. If there is negative correlation between ES and productivity, then the poorer landowners may gain from ES.
<b>43-10</b>	Poor consumers may lose from ES, especially if the products that were replaced by ES have low elasticity of demand.
<b>43-11</b>	For land diversion programs, labourers may lose as the demand for labour declines. But when areas supplying ES are well integrated into the global economy, so that prices of labour and output are not affected very much by the ES program, positive effects on the poor are likely to occur.
<b>43-13</b>	The distribution of lands matters. If land distribution is unequal and landowners have

	minimal amounts of lands and much of their income is coming from their labour, then especially when it comes to land diversion programs, they may lose a lot from the ES because of labour market effects.
	<b>Environmental objective</b>
<b>41-1</b>	Liberating win-win solutions, which involves getting rid of policies that contradict personal incentives to conserve, is the first step in this process. The second is to develop local markets for environmental services.
<b>43-8</b>	The distribution of land matters in PES' impacts. If smallholders depend on earnings from work on larger farms, then PES may affect them negatively.
<b>42-10</b>	The European idea of 'managed countryside' is one in which, over some range, the joint production of food and environmental goods is complementary, rather than competitive. If agricultural support falls too low, it may no longer be economically viable for farms in some areas to produce either conventional agricultural commodities or the kinds of landscape and habitats European societies have come to value.
	<b>Project implementation</b>
<b>1-2</b>	Three conditions are needed to accede to a PES programme: property ownership, the capacity to advance investment costs, and the possession of the necessary technical skills (equipment and/or training).
<b>41-12</b>	If a contract is incomplete, then deforestation may simply be transferred from a contracted to an uncontracted area of forest. Hence, typically, the contract should specify a payment against no deforestation on all of the hectares that have an opportunity cost below their environmental benefits.
<b>42-8</b>	Long-range agri-environmental planning must be based on a collective vision of which environmental conditions or outputs should be obtained through regulations and which ones should be 'purchased' from farmers through stewardship payments.
	<b>Monitoring</b>
<b>12-6</b>	<b>PES can have negative environmental consequences on sectors not protected by the services.</b>
<b>13-6</b>	Service quality depends on monitoring, support and independent certification.
	<b>4.2 Sustainable tourism/pro-poor tourism</b>
	<b>In general</b>
<b>11-8</b>	<b>There is a genuine demand by tourists for sustainable tourism.</b>
<b>11-9</b>	<b>Communities seize on the opportunities for sustainable tourism if they are given the chance.</b>
<b>48-1</b>	Environment as a basis for rural tourism and marketing asset can be encouraged through information and capacity building to improve the understanding of local biodiversity, freshwater and landscape heritage, to reduce the impacts of tourism actions and to integrate the environmental heritage into rural land management and development.
	<b>Project design</b>
<b>11-1</b>	<b>There are three major stages in a sustainable tourism project:</b> <ul style="list-style-type: none"> <li>- identifying the stakeholders, the place, and the potential,</li> <li>- a feasibility study,</li> <li>- project implementation,</li> <li>- monitoring and evaluation.</li> </ul>
<b>7-1</b>	Access to the tourism market depends on the level of knowledge, place of residence, and living standards. The "economic elites" often block access, and the poorest people often live far away from the attractive zones.
<b>16-3</b>	Agri-tourists have expectations which are similar to sustainable agriculture practices.

7-2	The success of a product depends on its quality, the attractiveness of the region where the project is located, and the marketing efforts made.
8-3	Involving the local people in a sustainable tourism project ensures sound marketing and also provides an opportunity for the operators.
11-6	<b>Discrimination against women and "gender rules" raises difficulties when implementing a sustainable tourism project.</b>
17-1	Solidarity-based tourism is the effect of the internal construction of tourism by professionals, as well as external construction with the involvement of tourists.
47-2	Entrance fees and eco-tourism services are the rewards most often used for natural and guardian services of landscape beauty.
<b>Project implementation</b>	
<b>The stakeholders' training and skills</b>	
7-3	Implementing a PEC project in the field depends on solving the problem of acquiring the necessary skills to propose a tourism project, and to communicate it.
11-4	<b>Training the people to understand the expectations of tourists is often very inadequate.</b>
<b>Monitoring</b>	
8-2	After the initial project, a process must be set in motion to ensure that the tourism offerings are diversified and improved.

<b>4.3 Trade in regional products/quality products</b>	
9-1	Criteria to be met when taking a decision on a regional product: <ul style="list-style-type: none"> <li>- social externalities,</li> <li>- environmental externalities,</li> <li>- territorial externalities,</li> <li>- market attractiveness,</li> <li>- the competitive position of producers.</li> </ul>
9-3	The subjective perception of externalities must be carefully considered when valorising a positive externality by product differentiation...
9-4	The policy of analysing externalities and the strengths/weaknesses of each regional product must be accompanied by a political commitment.
21-1	<b>Two essential qualities give specificity and attractiveness to mountain agri-food products: the expertise associated with production and the linkage between the environment and natural resources.</b>
21-2	<b>Three criteria ensure the success of products designed to valorise mountain production:</b> <ul style="list-style-type: none"> <li>- <b>typical features and legitimacy of the product,</b></li> <li>- <b>mobilising the stakeholders to implement structures,</b></li> <li>- <b>supporting the projects.</b></li> </ul>
20-1	The internalisation of positive externalities is easier when dealing with specific products (regional or local products) for which there are a linkage with the consumer. For generic products, there is a weak linkage with consumers and another form of internalisation must be envisaged.