Florian Carius (Ed.)

Payments for Ecosystem Services

Towards an Implementation Strategy

BfN-Skripten 326

2012

Payments for Ecosystem Services

Towards an Implementation Strategy

Report of the International Expert Workshop
13th - 16th December 2010
International Academy for Nature Conservation
Isle of Vilm, Germany

Editor
Florian Carius

BfN
Federal Agency for Nature Conservation

Photocredits
cover page: left: Payments for ecosystem services (S. Wunder); left centre: natural Beech forest in Central Europe (T. Stephan); right centre: fishermen in Myanmar (J. Borchert); right: pastures in Caucasus (K. Asher)
workshop photos inside report: M. Kotowska, F. Carius, J. Blignaut, B. Hedden-Dunkhorst

Editors' address:
Florian Carius Federal Agency for Nature Conservation
Division I 2.3 'International Nature Conservation'
Email: Florian.Carius@BfN.de

BfN-Editorial Team: Martyna Kotowska, Flora Müller, Helene Röhl, Shahzoda Alikhanova, Lea Schenkelberg, Andrea Miebach

The workshop was organised by the German Federal Agency for Nature Conservation (BfN), Division for International Nature Conservation (I 2.3) in cooperation with the Secretariat of the Convention on Biological Diversity (SCBD), the Institute of Environmental Economics and World Trade (IUW) at the University of Hannover and the Helmholtz Centre for Environmental Research (UFZ).

The workshop proceedings including the presentations are available at
http://www.bfn.de/0610_payments-ecosystem-services.html

This publication is included in the literature database "DNL-online" (www.dnl-online.de).

BfN-Skripten are not available in book trade but can be downloaded in a pdf version from the internet at: http://www.bfn.de/0502_skripten.html

Publisher: Bundesamt für Naturschutz (BfN) / Federal Agency for Nature Conservation
Konstantinstrasse 110
53179 Bonn, Germany
Website: www.bfn.de

Printed by the printing office of the Federal Ministry of Environment, Nature Conservation and Nuclear Safety (BMU).

Printed on 100% recycled paper.

ISBN 978-3-89624-061-3

Bonn, Germany 2012

Table of contents

Foreword

Payments for Ecosystem Services (PES) are increasingly considered as suitable economic instruments to maintain ecosystem functions and services by rewarding benefits through payments and markets. Today, numerous schemes – based on different methodologies – are in place and lessons learned can be drawn. Schemes can be local to global and cover diverse approaches, trying to bring private incentives in line with society's interests. Political guidance, support and regulations are often central to the success of PES. Research findings and related recommendations of various studies, including 'The Economics of Ecosystems and Biodiversity' (TEEB), call upon policy and decision makers at various levels to further consider the application of PES.

In order to share experiences and discuss approaches for the implementation of PES as instruments for biodiversity conservation and ecosystem protection, a workshop titled "Payments for Ecosystem Service – Towards an Implementation Strategy", was organised by the German Federal Agency for Nature Conservation (BfN), together with the Secretariat of the Convention on Biological Diversity (SCBD), the Institute for Environmental Economics and World Trade (IUW) at the University of Hannover and the Helmholtz Centre for Environmental Research (UFZ). The workshop took place 13th - 16th December 2010 at the isle of Vilm, Germany. Participants – originating from four continents – included researchers, policy advisors and mediators for the implementation of PES scheme.

More specifically, workshop participants discussed issues related to a) institutional aspects of PES, including the importance of a supportive legal environment, the impact of PES on human behaviour, b) efficiency versus equity trade-offs where schemes pursue dual environmental and social objectives, including their impact on livelihoods and poverty reduction and c) various integrated policy planning, governance and implementation issues that are key to the success of PES. These matters were discussed on the basis of vivid case studies from around the world. More practically, and as a means to follow up, the workshop identified subjects and crucial matters for targeted capacity building on PES.

This report summarises the presentations, discussions and recommendations of the participants. It, first, presents a policy brief that was developed to inform policy and decision makers on the potential and constraints of PES, as an instrument to maintain or restore ecosystem services and to support livelihoods. Secondly, this report includes abstracts of the fifteen excellent presentations held at workshop. Finally, we tried to capture the working group discussions and a final plenary exchange that raised a large number of valuable thoughts and suggestions for further development of PES. The workshop website (http://www.bfn.de/0610_payments-ecosystem-services.html) also includes participant's full presentations.

We hope that this document will encourage further research and development on PES and wish you a stimulating and pleasant reading.

Dr. Bettina Hedden-Dunkhorst

Head of Division, International Nature Conservation
German Federal Agency for Nature Conservation (BfN)

1 Summary of Results – Policy Brief

Authors: Bettina Hedden-Dunkhorst[1], Markus Lehmann[2], Unai Pascual[3,4], Till Stellmacher[5,6], Etti Winter[6], Augustin Berghöfer[7], James Blignaut[8], Jakub Kronenberg[9], Moses Masiga[10], Maya Todorova[11], Sarah Schomers[12], Stephanie Domptail[13], Sonny Mumbunan[7,14] Florian Carius[1], Haripriya Gundimeda[15]

[1] Federal Agency for Nature Conservation, Germany

[2] Secretariat of the Convention on Biological Diversity, Canada

[3] University of Cambridge, Department of Land Economy, United Kingdom

[4] Basque Centre for Climate Change, Bilbao, Spain

[5] University of Bonn, Center for Development Research, Germany

[6] University of Hannover, Institute for Environmental Economics and World Trade, Germany

[7] Helmholtz Centre for Environmental Research, Germany

[8] University of Pretoria, South Africa

[9] University of Lodz, Department of International Economics, Poland

[10] Environment and Natural Resources Africa Centre, Uganda

[11] WWF Danube-Carpathian Programme

[12] Leibniz-Centre for Agricultural Landscape Research, Germany

[13] University of Giessen, Institute for Agricultural Policy and Market Research, Germany

[14] AkonLabs, Indonesia

[15] Indian Institute of Technology Bombay, Department of Humanities and Social Science, India

Keywords: threats to ecosystem functioning, payments for ecosystem services, efficiency-equity trade-offs, adaptive management, property rights, capacity development.

Main Message

Ecosystems and their underlying biodiversity are being degraded at an alarming rate in most if not all parts of the world. In consequence, the services provided by these ecosystems, which are critical for human living and well-being, are also increasingly threatened. This generates serious problems to sustainable development and requires new approaches to manage natural resources. Programmes that provide payments for ecosystem services (PES) can be part of the solution. Through market-based and often policy-induced or regulated mechanisms, PES link managers of ecosystems or "sellers" to "buyers" who benefit from the services of the ecosystem. These include carbon sequestration, water quality maintenance, or the regulation of water flows and levels. While the conservation or sustainable use of biological resources is usually the prime objective, PES schemes can also contribute to alleviating poverty and enhancing livelihoods, in particular if being embedded in effective strategies for sustainable development. Although pursuing such dual objectives may imply trade-offs between efficiency and equity, evidence shows that a PES design adapted to local conditions can address these trade-offs effectively. For instance, non-monetary benefits - such as support for local development - can provide important additional incentives to engage in PES schemes. However, reasonably secure property or use rights are essential for the sustainability of a scheme and may at the same time constitute its major limiting factors.

Designing, implementing and managing a PES scheme is demanding for all actors involved. In addition to sellers and buyers, actors often include intermediaries as well as administrative and regulatory governmental and non-governmental bodies at different levels. **Expertise is a critical success factor, in particular as related to: building on existing institutions or establishing seller groups, stimulating inter-sectoral cooperation, managing conflicts and efficiency-equity trade-offs, facilitating fair negotiations, developing business plans, and mobilising start-up funding. With this broad array of know-how necessary for successful implementation of a PES scheme, capacity development is an important issue for its long-term performance.** Adaptive management, with a structured, iterative decision-making process and a system monitoring component, can be a useful tool in designing and implementing PES schemes. In many cases, starting small and expanding gradually has proved successful as it allowed for continuous learning and adaptation.

Because of their potential as an instrument to maintain or restore ecosystem services and support livelihoods, we recommend to strengthen the development and application of PES approaches by providing necessary resources to: fill research gaps, establish and assess pilot schemes, monitor successes and failures and elaborate supporting guidelines.

1.1 Threats that Matter

Forecasts for 2050 suggest that the world will be inhabited by nine billion people. Natural resources are the basis for human life on earth, but maintaining this basis is a challenge. Overexploitation is threatening ecosystems, and related services are at risk in numerous parts of the world. Concerned are vital ecosystem services such as the provisioning of food, fibre or fresh water, regulating of air quality, climate and water protection, erosion control, and supporting services like soil formation, photosynthesis, nutrient and water cycling (Millennium Ecosystem Assessment, 2005). The impact of climate change with increasing incidences of floods, droughts and other extreme weather conditions increases land use pressure on ecosystems. Their degradation is a serious concern across countries and continents. The associated unprecedented loss of biodiversity reduces the basis for future nature-based livelihoods and innovations. Tipping points for population sizes of many species have been reached, indicating difficult or impossible conditions of recovery. More than a third (36%) of the global population lives in water scarce regions and 39% of the global grain production is not sustainable in terms of water use. Increasing food prices, partly caused by food scarcities, repeatedly trigger riots and food insecurity in numerous countries (Food and Agricultural Organisation, 2010).

In this situation, advanced concepts, policies and instruments are urgently needed that are able to effectively safeguard natural resources for current and future livelihoods. In recent years economic approaches that encourage monetary or in-kind payments or transfers from beneficiaries of ecosystem services to those that conserve, restore or manage them, increasingly became considered as part of the solution. Experience from more than 300 PES schemes existing around the globe range from village based initiatives to internationally agreed regimes. The schemes generate incentives for conservation and sustainable use by compensating resource users for benefits forgone.

This policy brief aims to raise awareness and understanding among decision-makers concerned with aspects of sustainable development for PES as an instrument with potential to solve some of the current and future problems on earth. It summarises the discussions and suggestions of an international expert workshop, held in 2010 on the Isle of Vilm in Germany.

1.2 PES – What they are and how they work

Payments for ecosystem services are direct and flexible incentive-based mechanisms, under which a user or a beneficiary of an ecosystem service makes a direct payment in cash or in kind to an individual or community whose decisions on the use of natural resources have an impact on the ecosystem service provision (OECD, 2010). While there are debates as to the most appropriate definition of PES, generally, a PES scheme is characterised by complying with all or at least most of the following ideas: The scheme involves a voluntary, conditional agreement between at least one "seller" and one "buyer" over a well-defined environmental service or land use presumed to continuously produce that service (Wunder, 2005). It is crucial that the conditionality provision applies. Accordingly, the transfer of resources or payments is carried out once it is proved that, for instance, land users have managed their land in a way that has delivered the ecosystem service desired by the service beneficiary. Monitoring is thus also a key aspect of PES design in order to ensure service delivery.

A PES scheme can involve, for example, flood control services between up-stream and down-stream users in a river catchment or a mechanism for land users rewarding biodiversity conservation, water protection or carbon sequestration in soils or forests. Since schemes range from small local projects to global international agreements, the number and organisational form of selling or buying participants, the service specification, payment and monitoring models, and many other features vary substantially. Participants could include individual land users, communities, private companies or the general public. As such, tenure structures can be private-private, private-public or public-public. The shape of a PES scheme depends on regulations and norms as well as relevant political, social, economic and ecological conditions in a specific location. Thus, while PES schemes differ substantially, all of them have in common that costs for the maintenance or restoration of defined ecosystem services are rewarded by beneficiaries (beneficiary-pays principle) (Engel et al., 2008).

In general, PES aim to achieve specific environmental outcomes related to maintenance or restoration of ecosystem functions. In developing countries, however, schemes often additionally aim to pursue socio-economic goals associated with poverty alleviation and equity (Wunder, 2008).

With the term PES a name has been given to market-based mechanisms, whose concept is not new. The Clean Development Mechanism, as set up by the Kyoto protocol, some of the European Union's agri-environmental measures and the certification of products according to ecological and or socio-economical criteria, for example, have been in place for quite some time. More recently, Reducing Emissions from Deforestation and Degradation (REDD) and the Green Development Initiative (GDI) found their way into the focus of PES researchers and practitioners (Angelsen et al., 2008). In their initial conceptions, they all emphasize the relevance of directly rewarding benefits by market-based mechanisms that are policy supported and regulated. Further developments of PES schemes, especially those under the REDD mechanism, advocate the importance of biodiversity protection and enhanced development, addressing issues such as local people's livelihood and poverty alleviation (Vatn et al, 2009).

1.3 Circumstances that Matter

PES are one but a potentially influential instrument in a set of regulations and incentive mechanisms. **Embedding PES in an effective strategy for sustainable development** can generate synergies for the environment and livelihoods and avoid negative side effects for the local population.

Where PES schemes pursue dual environmental and social objectives, trade-offs between **efficiency and equity** can be expected. A clear formulation of the desired outcomes, for instance, area under protection (efficiency) or number of poor land-users receiving payments (equity) helps designing appropriate schemes that fit the intended objectives. Minimum social and environmental standards could emphasise the significance of, and provide safeguards for, the respective objectives. In general, equity considerations improve the sustainability of PES schemes over time (Pascual et al, 2010).

In a number of projects evidence showed that **remunerations for benefits other than or beyond cash payments** were of significant importance for service sellers. These additional non-monetary benefits of a PES scheme included enhanced recognition by governments and an associated support for local development that empowers communities and also provides assets in terms of education, improved infrastructure, etc.

Reasonably secure and long term **property or use rights** for ecosystem services are important prerequisites for viable PES schemes because they enable service sellers to maintain altered resource management decisions over time and to guarantee project permanency. Under some circumstances, the existing de jure or de facto property or use right systems constitute severe limitations to pro-poor outcomes. On the other hand, the process of establishing a PES programme can clarify and strengthen property and use rights (Swallow and Meinzen-Dick, 2009).

1.4 Overarching Challenges and Constraints

For administrative or contracting purposes, PES tend to separate ecosystem functions and ecosystem services from each other. Services like carbon sequestration or water quality maintenance are, hence, usually considered in different projects. Yet, ecosystems usually provide multiple benefits. The joint consideration or **bundling of various functions** could generate synergies and co-benefits, but adds on scheme complexity and, thus, impedes on implementation (Karousakis, 2009).

The effectiveness of PES schemes may be reduced by **leakage** that occurs when the provision of ecosystem services in one location reduces ecosystem services in other sites. This predicament can be addressed through respective specifications in the contracts between buyers and sellers, by appropriate monitoring as well as through the coordination of environmental and development policies and activities at local and regional level.

In practice the actual payment for ecosystem services can be informed, but is not necessarily determined by the **value of the ecosystem service.** However, the payment should at least cover service providers' **opportunity costs** that arise with the adoption of practices determined by the scheme. A comprehensive valuation, capturing major provisioning, regulating, supporting and cultural services can be cumbersome to obtain and might still not reflect a potential price, because buyers are not in the position or willing to offer that price. Thus, although a comprehensive valuation provides useful information, it should not be a prerequisite for scheme implementation. Instead, opportunity costs, prices obtained from willingness to pay investigations or inverse auctions can provide practical indications on potential prices (The Economics of Ecosystems and Biodiversity, 2010).

Caution should be taken with the way PES are portrayed to key stakeholders. Especially in indigenous societies, schemes could be misunderstood as a way of **commoditizing** peoples' ways of life. The delivery of monetary payments for the provision of environmental protection may **undermine the intrinsic motivation** for nature's good stewardship existing as a norm among some groups of land users, especially in the longer-run. To avoid this problem, clear

safeguards should be put in place to guarantee that PES do not undermine the positive effect of already existing informal institutions such as collective action (Huberman, 2008).

Most existing PES schemes still ignore **additionality**. This implies that in practice not only those activities are rewarded that generate "additional" benefits which would not be produced without the scheme, but also activities which land users would be willing to carry out in the absence of the scheme. Critics argue that the consideration of additionality is essential in promoting environmental and market integrity and the economic efficiency of PES programs. Yet, some countries, for example Costa Rica, intentionally ignored additionality and, for fairness reasons, paid for services from forestland that would have been provided also without incentives (Bennett, 2010). Strong eligibility requirements seeking to implement additionality, for example by defining baselines, may also lead to rising monitoring and enforcement costs and sometimes to adverse strategic behaviour of potential sellers.

1.5 Scheme Design is Key

The design phase is crucial for the success or failure of a PES scheme. In many cases **intermediaries** such as governmental and non-governmental organizations, research teams, or consultancies play a vital role in initiating and subsequently implementing a scheme. Thus, their expertise, skills and competence to accomplish the following **central technical and coordinating tasks** are crucial:

- identify the **ecosystem** to be targeted and its current and desired status;
- link potential buyers and sellers and involve other relevant **stakeholders** in the design process;
- screen existing **institutions** in terms of regulations and organisational structure on which a PES scheme could be built (e.g. existing certification or labelling schemes, etc.);
- develop a plan that outlines financial requirements over time and acquire adequate **start-up financing,** establish **risk funds** if necessary, and implement capital budgeting;
- stimulate and institutionalise **inter-sectoral coordination and cooperation** (depending on the objectives of the scheme, this can include sectors like water affairs, forestry, social development, economic affairs, etc.);
- provide **information and juridical support** to contract parties and stakeholders (e.g. on environmental monitoring or the negotiation of legal transactions);
- to guarantee sustainability, try to develop **local capacity** beyond scheme activities;
- promote **transparency and local acceptance** for the scheme beyond contract parties;
- manage **efficiency-equity trade-offs**;
- manage **expectations** and resolve occurring **conflicts** through stakeholder dialogues;
- facilitate fair **negotiations on prices**, payment modalities, etc.;
- avoid high **administrative and transaction costs** and consider **costs for missing the target**;
- develop a **business plan** and draft **contracts**.

Generally, starting with small and clearly focussed pilot arrangements and subsequent **scaling-up** allows to gradually develop knowledge and institutional arrangements, and to be flexible to unforeseen and changing framework conditions. As an example, the South-African environmental support programme “Working for Water” that started to operate in 1995 with wetland restoration (eradication of invasive alien species), continuously expanded and developed new components like fire prevention, land care, provision of energy over time (Turpie, Marais and Blignaut, 2005).

Where land is substantially fragmented, as for example in many agricultural landscapes in Africa, well established **local smallholder cooperatives** proved to be suitable entities to represent seller groups. Whereas, examples from Central and Eastern Europe rather suggest a **differentiation of payments** to smallholders in fragmented agricultural landscapes. Thus, actual approaches are situation specific to a large extent, but, learning from case studies helps in scheme design.

1.6 Selected Implementation Issues

Adaptive management is an approach that foresees structured, iterative decision-making processes, which incorporates a system monitoring component and evaluates results on the basis of what has been learned. This approach could also be useful for PES implementation (Waters, 1986). In practice, it is important to avoid the one-size-fits-all trap and to facilitate joint bottom-up and top-down approaches.

The **facilitating process** in PES implementation is essential. This applies specifically in situations where local sellers and non-local buyers that often come from different social, economic, and cultural backgrounds, face the challenge to build an effective mechanism based on mutually trusted monitoring and adjudication as well as just and effective payment procedures. Facilitating this process, for instance through intermediaries which are trusted by both sides, is a critical success factor.

Specific **mechanisms** that have been initiated in the design phase, like inter-sectoral coordination and conflict resolution will have to be further developed over time, and new procedures related to contract enforcement, monitoring, etc. have to be put in place during implementation. MRV (monitoring, reporting and verification), which is often not sufficiently covered in PES discussions, should be an essential component of PES implementation. It assures that the conditionality criterion which relates payments to predefined conditions is met.

Changing conditions, for instance, in terms of service supply or demand, property rights or other institutional structures, pose specific challenges to PES implementation and require adjustment mechanisms to be in place.

1.7 Capacity Development – A Means for Further Implementation

Human capacities are critical for PES design and implementation. The spectrum of know-how involved in the design and implementation of PES schemes, however, is broad and includes physical, environmental, social and economic aspects. Building on existing knowledge and experiences of stakeholders, it is important to clearly identify training needs for each individual stakeholder group (sellers, buyers, intermediaries, etc.). Based on existing guidelines, module based training material that addresses different stakeholders as well as typical challenges and constraints in terms of technical implementation and social implications are useful. Best practice PES case studies should be incorporated into various disciplinary and interdisciplinary related course curricula to demonstrate practical applications and challenges of market-based and/or policy induced instruments.

1.8 Further Requirements to Develop PES

1) PES are one currently promising and widely applicable component of a spectrum of solutions to address the degradation of ecosystem services. Hence, assistance in further strengthening the approach is recommended.

2) In this context we suggest to provide the necessary resources to:

   - further investigate and develop the potential of PES,
   - consider PES as instruments in sustainable development and strategies and policies,
   - establish and critically evaluate pilot schemes,
   - identify best practices that deserve dissemination and
   - elaborate design and implementation guidelines to support application.

   Due to varying conditions across locations, schemes need to be tailor-made and draw on local experiences, while highlighting and integrating context specificity.

3) Capacity building for the development and management of instruments that link environmental, economic and social concerns is central to address sustainable development across continents. Thus, building capacity for PES application at various levels is recommended.

References

Angelsen, A., Streck, C., Peskett, L., Brown, J., Lutrell C. (2008). *What is the right scale of REDD? Implications of national, sub-national and nested approaches*. CIFOR, Bogor Barat, Indonesia.

Bennett, K. (2010). Additionality: The next step for ecosystem service markets. *Duke Environmental Law & Policy Forum*, Vol 20, 417-438.

Engel, S., Pagiola, S., Wunder, S. (2008). Designing payments for environmental services in theory and practice: An overview of the issue. *Ecological Economics*. 65(4):663-674.

Food and Agricultural Organisation (2010). *Water Scarcity*. URL: http://www.fao.org/nr/water/issues/scarcity.html (accessed 31 December 2010).

Huberman, D. (2008). A gateway to PES: Using payments for ecosystem services for livelihoods and landscapes. *Markets and Incentives for Livelihoods and Landscapes Series* No. 1, Forest Conservation Programme, International Union for the Conservation of Nature (IUCN), Gland, Switzerland.

Karousakis, K. (2009). *Promoting biodiversity co-benefits in REDD*. OECD Environment Working Papers, No. 11, OECD Publishing, Paris.

Millennium Ecosystem Assessment (2005). *Ecosystems and Human Well-being. Synthesis Report*. Island Press, Washington.

Organisation for Economic Co-operation and Development (2010). Paying for biodiversity: Enhancing the cost-effectivness of payments for ecosystems. OECD, Paris.

Pascual, U., Muradian, R., Rodríguez, L.C, Duraiappah, A. (2010). Exploring the links between equity and efficiency in payments for environmental services: A conceptual approach. *Ecological Economics.* 69(6):1237-1244.

Swallow, B., Meinzen-Dick, R. (2009). Payment for environmental services: Interactions with property rights and collective action. In: Beckmann V., Padmanabhan, M. (2009*): Institutions and Sustainability*. Springer, Berlin.

The Economics of Ecosystems and Biodiversity (2010). TEEB. URL: http://www.teebweb.org (accessed 31 December 2010).

Turpie, J. K., Marais, C. and Blignaut, J. N. (2005). The working for water programme: Evolution of a payments for ecosystem services mechanism that addresses both poverty and ecosystem delivery in South Africa. *Ecological Economics* Vol. 65, No. 4.

Vatn, A., Vedeld, P., Petursson, J.G., and Stenslie, E. (2009). *The REDD direction – The potential for reduced forest carbon emissions, biodiversity protection and enhanced development*. Noragric Report No. 51. Department of Internation Environment and Development Studies, Norwegian University of Life Sciences.

Walters, C.J. (1986). *Adaptive Management of Renewable Resources*. Mc Graw Hill. New York.

Wunder, S. (2005). *Payments for Environmental Services: Some Nuts and Bolts*, Occasional Paper No. 42. CIFOR. Bogor Barat, Indonesia.

Wunder, S. (2008). Payments for environmental services and the Poor: Concepts and preliminary Evidence. *Environment and Development Economics,* (3): 279-297.

Link

International Workshop “Payments for Ecosystem Services: Towards an Implementation Strategy” – 13-16 December 2010; Programme, Presentations and Policy Brief. http://www.bfn.de/0610_payments-ecosystem-services.html

2 Oral Presentations

2.1 Setting the Stage

2.1.1 Payments for ecosystem services: policy-research interface

by Paul S. Maro (paul_maro@ymail.com), Department of Geography, University of Dar es Salaam (Tanzania)

Payments for Ecosystem Services (PES) is a new type of subsidy that aims to protect ecosystem services by providing an economic incentive to land managers to adopt land use or management practices favourable to the protection of ecosystem services and biodiversity. It is also referred to as a market-based instrument or a market for ecosystem services.

Two key concepts of PES are that payments made must secure an environmental service that would not have been produced in any way in the absence of those payments, and that payments for the service are defined on performance based criteria that must be met by the providers or sellers.

Concerning PES policy, the paper observes that currently, environmental policies in most countries do not include the issue of PES and that therefore there is a need to encourage the development of PES policies.

PES schemes offer a direct, and possibly more equitable, method for achieving environmental outcomes than other approaches by altering private incentives to induce desired outcomes. The socioeconomic, environmental, and political contexts, in which policies are implemented, together with policy design, influence the outcomes of PES schemes.

The presentation then explores the policy-research interface. Policy is usually developed by government institutions (in a participatory manner) involving all the key stakeholders, while research is more demand driven and usually implemented by the private sector in collaboration with institutions of higher learning. However, although the findings of research feed into the policy development process, research is also guided by policy.

PES polices should rely on research findings that provide adequate information about the state of health of the ecosystems and should therefore be developed based on real research findings. Research and policy can therefore be regarded as symbiotic. PES policies should also be developed based on research findings. There are five key areas on which PES research should be conducted:

1) Identification of biodiversity and ecosystems in danger of extinction, or undergoing degradation or which might need restoration/rehabilitation.
2) Sensitization and education of local communities about the potential of PES to improve their livelihoods.
3) Identification of “buyers” and “sellers” in areas that need interventions.
4) Government support (including country environmental policies) for PES activities.
5) Capacity building for development and implementation of PES initiatives.

2.1.2 **An overview of market-based PES approaches**

by Etti Winter (winter@iuw.uni-hannover.de) and Dirk Röttgers (roettgers@iuw.uni-hannover.de), Institute for Environmental Economics and World Trade, Leibniz University of Hannover (Germany) and by Britta Deutsch (brittadeutsch@uni-bonn.de) and Till Stellmacher (t.stellmacher@uni-bonn.de), Centre for Development Research, University of Bonn (Germany)

The concept of payments for ecosystem services (PES) is relatively new, dating back only to the 1970s, and has a strong connection to the green political movement which started around that time. Through this channel it found its way into political decision-making and is widely promoted as an instrument to protect the environment. The concept of PES is employed in diverse areas from carbon sequestration over watershed management and landscape beauty to biodiversity protection. Since the concept is still in an early phase, however, it requires improvements, based on lessons learned during the implementation of already existing PES instruments.

In PES financing, short-term capacity development and design costs meet long-term implementation and maintenance costs. To alleviate problems caused by this discrepancy and other difficulties, a broad choice of fund-based, market-based and phased approaches, distinguishable in voluntary and obligatory schemes, are discussed in the literature as well as in the political discourse.

One example for an obligatory market-based PES mechanism specifically targeted at biodiversity protection is the EU Biodiversity Trading Scheme. The scheme will balance biodiversity loss at one point in the value chain with new biodiversity value created elsewhere and be financed by the ones responsible for the loss, thereby reducing the ecological footprint of consumers.

Another much debated example for PES systems is the Clean Development Mechanism (CDM), which is part of the Kyoto Protocol. The CDM allows firms in developing countries to abate an amount of greenhouse gas and be rewarded in the process. For each unit of emission reduction, the firm can sell a certificate on the cap and trade market of industrialized countries, thereby helping offset their emissions, making emission abatement cheaper. Much of the criticism geared towards the CDM is relevant for PES in general. One main concern is the problem of proving that a responsible treatment of ES would not have happened without the payment. Another is the amount of transaction costs imposed on actors by costly bureaucracy administering the scheme.

Most revealing, though, one of the main problems for afforestation and reforestation projects under the CDM umbrella seems to be competition with projects for the Reduction of Emissions from Deforestation and Degradation (REDD). This is one example for problems that can be caused by the interconnectedness of ES. Especially REDD systems try to include more than emission reduction by minding co-benefits like biodiversity and watershed man-

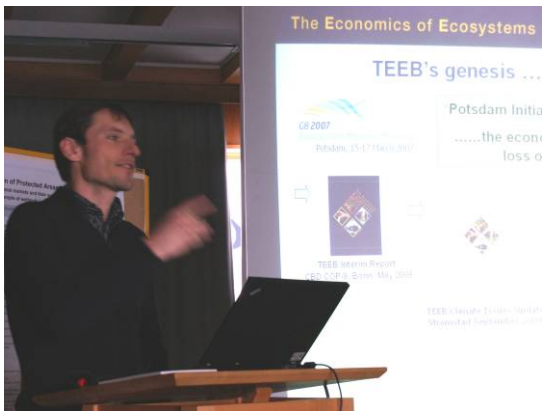
agement and to include socio-economic aspects in schemes. However, also partly due to the complexity of ES, up to now, no formal REDD scheme exists, though pilot projects have been started all around the world.

Overall PES schemes face a multitude of problems. Among them are the internationality of many ES, the incapability of many countries to implement schemes, the differences in national interests and the interconnectedness of services and general political bargaining. These all are issues, though, which can be overcome if tackled in an intelligent and forward-looking manner.

2.1.3 **Conceptional issues of PES**

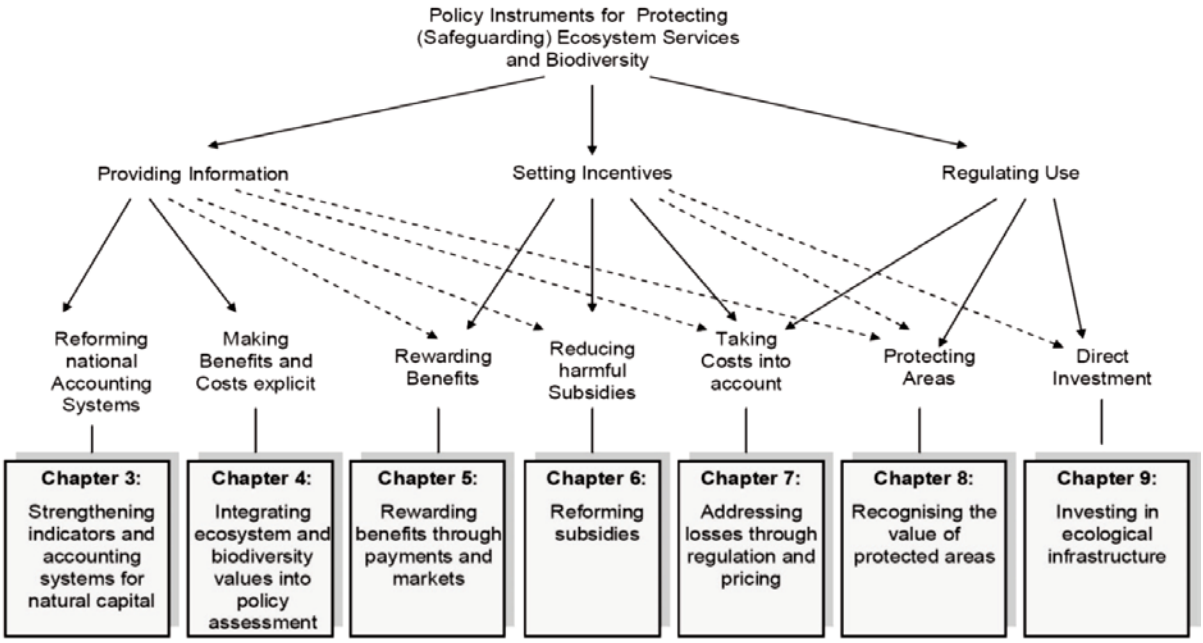
by Augustin Berghöfer (augustin.berghoefer@ufz.de), Helmholtz Centre for Environmental Research, Leipzig (Germany)

In this presentation, I focus on three aspects, drawing on various TEEB reports: (i) PES is placed into context of a broader range of policy instruments, (ii) key challenges to implementing PES are summarised, (iii) questions are proposed for discussion during this workshop, which centre around three themes: enabling political context, equity issues and local implementation processes.



(i) PES in context

"In a situation where trade-offs exist between private and societal benefits from land uses, PES can tip the balance and render conservation focused land uses more privately profitable with benefits for both the private land user and for society." (TEEB D1 ch5) This quote pinpoints the specific benefits of and requirements for a successful PES scheme. While matches of buyers and sellers of PES can take on diverse forms, PES always complements, but never replaces, other policy instruments. This is emphasized in the "TEEB for Policy Makers" (source) report:

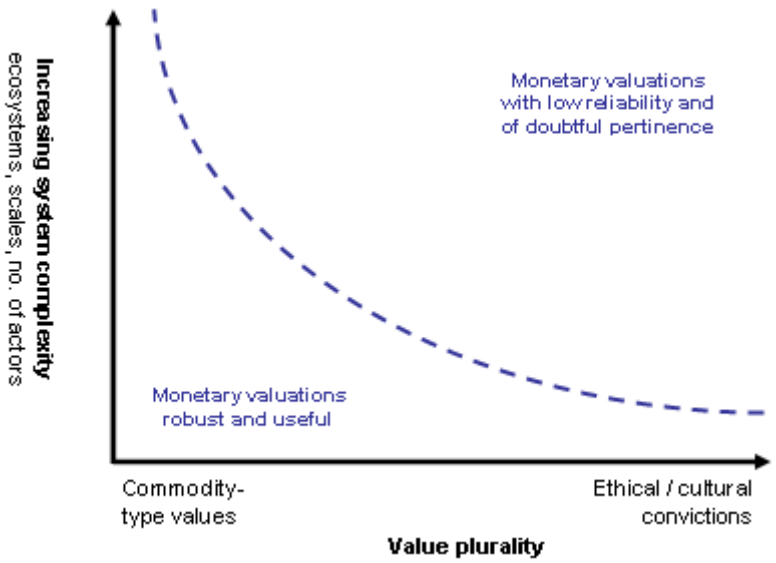


Source: TEEB: The Economics of Ecosystems and Biodiversity in National and International Policy Making (2011), p 71

(ii) Some implementation challenges to PES

- Principal doubts: critics argue that ”nature is being commoditized” and that PES schemes can lead to situations where the beneficiary pays instead of the polluter.
- Ecological side effects: PES schemes can wrongly assume that ecosystem dynamics are known to the point that PES induced ecosystem changes and side effects on other ecosystem services can be anticipated and internalised.
- Equity: PES schemes can implicitly pose barriers to participation in the scheme for poorer population groups; they risk favouring of privatisation of formerly commonly accessible ecosystem services; contractual obligations can pose high risks to sellers of ES due to natural fluctuation.
- Governance: PES have demanding requirements, re mutually trusted monitoring schemes, the distribution mechanism of funds, and adjudication procedures.
- Costs: PES schemes require substantial upfront investment and, if conditions are not ideal, can incur substantial and continuous transaction costs (mgmt costs); the efficiency in terms of return on investment, i.e. the additional conservation benefit, remains difficult to assess due to multiple intervening factors.

TEEB proposes two generic criteria for assessing the suitability of a setting for establishing a PES scheme: social-ecological system complexity wherein the scheme shall be installed and value plurality, i.e. the characteristic of the value attributed to a specific ecosystem services that is the object of the PES scheme:



Source: TEEB: The Economics of Ecosystems and Biodiversity – Ecological and Economic Foundations (2010), Chapter 4, p 26

(iii) Questions for discussion at this workshop

a) Towards enabling political context

- What laws do PES schemes need for fair, effective and efficient deals?
- What strategies work best in conditions of limited higher political backing?
- What institutional features can meet demanding requirements, re trusted monitoring, distribution of funds, adjudication?

b) Equity issues

- Who has access to the PES scheme?
- Who participates in decision making and how?
- How are funds distributed among sellers?
- How are risks distributed among sellers (and buyers)?

c) Local implementation processes

- Can we identify common features of successful implementation processes? Which sequence makes sense?
- What are needs-oriented content and format for capacity building?
- How to better draw on already existing ecosystem knowledge for PES?
- What role for social impact assessment in PES?
- What options for starting with a simple approach which is subsequently refined?

2.1.4 **CBD and PES: The Work on Positive Incentive Measures of the CBD**

by Markus Lehmann (markus.lehmann@cbd.int), CBD Secretariat, Montreal (Canada)

The presentation reviews the considerable interest in payments for ecosystem services expressed by the Conference of the Parties to the Convention on Biological Diversity, through its Article 11 on incentive measures for the conservation and sustainable use of biodiversity, and the associated programme of work. During its review of the programme of work on incentive measures, in 2008, the Conference of the Parties decided to put more emphasis on studies on markets and payments for ecosystem services, looking into their advantages as well as their potential limitations and risks; their cost-effectiveness; the potential implications for biodiversity and indigenous and local communities; and their consistency with other international obligations. An international expert workshop on incentive measures, convened in 2009, reviewed recent experiences and identified lessons learned and good practices in designing and applying positive incentive measures, including PES. These include:

- PES need to be applied in a flexible manner and tailored to local conditions.
- Clear targeting is needed, including defining clear terms of reference including objectives, measurable targets, associated indicators as well as baseline standards or benchmarks for eligibility.
- Valuation can be used for better calibration.
- Ensure adequate funding; calibrate economic instruments (fees etc.) so that they can play their role, whenever planned, as a source of revenue for funding, while not generating too strong incentives for evasion and illegal resource exploitation.
- A long-term commitment is critical, including long-term financial sustainability.
- PES typically involve the building of institutions and trust. The different mandates and interests, and subsequent dynamics, of all actors involved, must be taken into account.
- The prior removal of perverse incentives will make positive incentives more effective, and can even reduce the need for providing positive incentives.
- The life-choices of the target groups must be understood and reflected in the design of PES schemes. For instance, in some cases, incentives in kind are more acceptable than cash payments as the perception of a sale of a good or service is avoided.
- Ensure no loss of income.
- PES are not poverty alleviation tools and synergies with social objectives are not automatic. Poverty alleviation measures may however generate additional benefits.
- Gender issues need to be taken fully into account.
- Take additionality issues and leakage into account in designing PES.
- Avoid generation of perverse incentives.
- Ensure effective monitoring and regular review, including adequate levels of resources for monitoring systems.

In concluding, the presentation points to a number of necessary next steps for implementing the new Strategic Plan for Biodiversity 2011-2020, adopted by the Conference of the Parties in October 2010, whose Aichi target 3 includes the promotion of positive incentive measures.

Next steps include the further development of the economic case for biodiversity, in the context of the TEEB studies, the translation of general lessons learned into concrete and practical implementation strategies, and the associated building or enhancement of capacity.

2.2 Institutional Dimensions and Integrated Policy Planning

2.2.1 **Direct Payment and Changing Motivation – Institutional Dimensions of PES**

by Sonny Mumbunan (sonny.mumbunan@ufz.de), Department of Economics, UFZ – Helmholtz Centre for Environmental Research, Leipzig (Germany)

This presentation addresses the institutional dimensions of PES. In particular, it addresses the behavioral dimension of a direct payment instrument through which human motivation in dealing with ecosystem service provision may change. By arguing that institution serves not only as a constraint to human interaction, but also serves to facilitate the realization of expectation – including the articulation of certain values – and is socially constructed, the presentation discusses a number of plausible limitations of PES if designed in light of a Coasean world. In this world, human actors are assumed to be exclusively self-regarding. In addition, their preferences are assumed to be stable and additive. The presentation further discusses empirical findings from behavioral economics and field economic experiments with real actors dealing with socio-ecological dilemma, and shows that these assumptions do not necessarily hold. Preferences are indeed heterogeneous, may change and become interactive; and subjects have multiple type of behaviors. In consequence, a direct payment scheme such as PES may have ambiguous effect in the provision of ecosystem services. On the one hand, as it is often argued, PES may increase the level of ecosystem services provision. On the other hand, one can expect otherwise. For instance, if this particular institution (i.e. PES) crowds out intrinsic motivation facilitating cooperative behavior, over time PES may induce less provision of ecosystem services.

2.2.2 **Is there a risk of an ecosystem service curse?**

by Jakub Kronenberg (kronenbe@uni.lodz.pl), University of Lodz (Poland) and Klaus Hubacek (hubacek@umd.edu), University of Maryland (USA)

So far, the scale of PES has remained limited and they have not made significant impacts on economies of countries in which they were implemented. This is likely to change with the rapid development of PES and an increasing demand for creating a global system of PES. We explore the risks that further development of PES might bring about from the perspective of their impact on economies as a whole.

If PES increased in scale with new international and global initiatives using this mechanism, and if they reflected the real value of ecosystem services, they would generate revenue streams that would be significant in particular in the case of poorer countries. The experience gained so far with the provisioning service (resources), which has long been included in the system of market transactions, reveals that poorer countries may have difficulties to benefit from such revenue streams. The so-called resource curse demonstrates that not only are resource rich countries often not able to use their resources to ensure economic development, but their rate of economic growth tends to be lower than that of resource poor countries. Indeed, other types of windfall capital flows have also been associated with a curse, e.g. aid flows.

Although PES have already been subject to criticism, and many suggestions have been made on how to improve them, we feel that further risks have to be addressed, based on the mixed experience of developing countries with provisioning service (and the resource curse). Based on an analogy, we call this a risk of an ecosystem service curse, whereby countries rich in ecosystem services would receive payments significant enough to distort their economies, or at least to distort local economies where ecosystem services emerge. The main reasons for these distortions might be: rent seeking and conflicts, unequal expertise and differences in bargaining power among ecosystem service providers and buyers, crowding out of other economic activities, volatility of payments and poor quality of institutions responsible for managing PES.

2.2.3 **Legal Frameworks for Payments for Ecosystem Services Schemes**

by John Costenbader (John.Costenbader@iucn.org), IUCN Environmental Law Centre, Bonn (Germany)

Although often overlooked in policy research and project work to date, the success of national Payments for Ecosystem Services (PES) schemes likely will depend on clear, equitable and enforceable legal frameworks. This presentation provides an overview of issues relevant for consideration in the iterative development of PES legal frameworks, circumscribed here in three phases of work: weighing options, scaling up and refining goals.

Prior to designing and implementing any new legal reforms, national policy makers and stakeholders would do well to begin by **weighing legal options**. Law may play a variety of roles in PES schemes, depending in large part on whether a private bilateral agreement, commercial market or government-regulated scheme is chosen to provide the ES in question. Whereas direct, private arrangements generally need only judicial enforcement of contracts and possibly model contract provisions for parties, commercial markets and government schemes require comprehensive regulatory provisions. The choice of legal instruments employed to enable a PES system, (e.g. constitutional provision, new PES law and/or reform

of existing sectoral laws) also depends on national priorities and the need to promote PES while not overly fragmenting national environmental legislation. Substantively, regulatory and contractual provisions may encompass a long list of mechanisms depending on the system chosen for a given country or region.

Development of national legislation, regulations and/or private model contract provisions in most cases would benefit from learning from and progressively **scaling up** in-country pilot PES projects and programmes to date. Over 80 percent of tropical forest land in developing countries is *de jure* state-owned, and large areas of land in many countries are classified as unassigned land (many with competing or unofficial customary land tenure systems). As a result, resolution of property rights will challenge national-scale implementation of PES project in many developing countries. Additionally, correctly sizing and targeting benefits to recipients may be relatively simple in small-scale projects but presents difficulties at regional or national-scales given differing opportunity costs, and equity and efficiency considerations.

Finally, countries will need to continually remain engaged in **refining national goals** for PES, as good legal frameworks depend on clearly-defined strategic thinking in the form of national policies and guiding legislation. Such strategies should define whether and to what extent PES programmes promote multiple social and environmental benefits beyond the strict environmental service in question. For example, in the context of reducing emissions from deforestation and forest degradation (REDD+), carbon sequestration goals could need to be balanced with biodiversity conservation aims. Similarly, a balance will need to be found between the role of PES in promoting sustainable development and that of environmental protection and biodiversity conservation. For example, PES scheme sustainability can present practical challenges in deciding what happens next to a given land area after termination of a PES agreement. Ultimately, PES is one among many instruments possible for promoting sustainable development and environmental and natural resource conservation, and traditional tools such as 'fines and fences' likely will need to play a role where PES cannot.

2.2.4 Payments for environmental services in West, Central and Southern Africa: UNDP's Stock taking on the investment and development opportunities for PES

by Moses Masiga (nomman22@hotmail.com), ENR Africa Associates (Uganda)

Although more than 15 years have passed since the first Payments for Ecosystem Services (PES) carbon projects and biodiversity conservation projects were set up in Sub-Saharan Africa (SSA), PES initiatives are still in the early phases of development. From the outset, PES, in SSA, has been defined as a conservation tool without seeking to explicitly link it to government priorities, which generally are directed towards enhancing the livelihoods of the population. With hindsight the new Reduced Emissions from Deforestation and forest Degradation (REDD) process is engaging with governments. However, the engagement seems to have been forced by the nature of ownership of natural resources and the need to have the forests remain intact to continue storing the carbon captured in them.

Therefore, it would seem that the most significant weak link was dissociating PES from formal government policy, from the outset. Although, this dissociation was not entirely negative

as it enabled project developers to experiment and pilot PES technologies while avoiding the considerable governance problems associated with SSA governments. There are three major barriers articulated for PES: they include technology, financing and institutional and legal frameworks. At the technology level, carbon projects have advanced the most with soil carbon projects joining agro-forestry and forestry projects, renewable energy and waste management innovations.

The transition for PES starts by determining whether or not a PES intervention is needed to contribute to a conservation challenge and whether using PES will contribute to achieving national development priorities, especially the enhancement of the people's livelihoods. Where appropriate, pilots have been carried out beforehand. PES technology projects can then be introduced at a limited scale and synergized with existing policy, legal and institutional frameworks. Land use suitability, efficiency, contribution to livelihoods and conservation should also be integral elements. After a PES project is successfully introduced, it can be scaled-up to a national level through the national regulatory and PES coordinating institutions. At the same time a clear message or information should be available for policy makers, articulated in a language that is clear and shows how the PES initiative directly contributed to national development priorities.

Extracted from a study on Payments for environmental services in Sub-Saharan Africa, under the UNDP Project on Management of environmental Services and Financing for sustainable Development

2.3 Equity and/or Efficiency Issues of PES Schemes with Selected Case Studies from around the World

2.3.1 Amazon Forest: equity & poverty alleviation impacts of PES

by Carolina Elia (c.elia@globalcanopy.org), Global Canopy Programme (UK)

In 2009 and 2010, the Global Canopy Programme (GCP) organised a series of workshops related to payments for ecosystem services in Latin America aiming to develop ideas and tools for designing effective and just compensation mechanisms for ecosystem services in the Amazon Basin. From the communities' point of view, PES schemes should create viable processes of social and economic inclusion, resulting in land and cultural rights, together with improvements in communities' standards of living – rather than in periodic money payments to service providers. Therefore, PES should be considered a development tool. Whilst workshops with regional NGOs and policy-makers focused more on PES as an economic tool, the success of such mechanism would depend on bottom-up processes and should factor in the 'GDP of the Poor' (TEEB, 2010). Demand for generation and sharing of knowledge, together with access to existing information on ecosystem services impacts, were also considered critical to any successful PES implementation in the Amazon Basin, leading to the conclusion that there is a regional expectation that PES mechanism should deliver equity and poverty alleviation.

2.3.2 Experiences with the Natural Resources Management (NRM) programmes in South Africa: Reflecting on PES

by Guy Preston (gpreston@mweb.co.za), Chairperson/national programme leader: natural resources management programmes and James Blignaut (jnblignaut@gmail.com), Beatus & University of Pretoria; advisor to natural resources management programmes (South Africa)

Ecosystem goods and services are of high value rendering essential services to mankind and life in general. Often, however, there is no incentive for land use managers to manage their land prudently. This leads to degradation and a loss of such ecosystem goods services. Now is the time to invest in restoration and the management and maintenance of ecosystem goods and services. Restoration is the only supply-side option to augment the dwindling levels of ecosystem goods and service.

In South Africa the government has embarked on an integrated restoration and ecosystem management approach under the umbrella of the Natural Resources Management programmes. These programmes comprise, mainly, Working for Water, Working for Wetlands, Working on Fire, Working for Lands, and Working for Energy. The programmes' annual budget is approximately 100 million Euro, employing approximately 40.000 people. These programmes focus on integrated field and fire management, the combating and control of invasive alien species, the restoration of erosion gullies and wetlands, to mention but a few interventions. While the programmes started purely as public works programmes, there is increasingly involvement by the private sector. This is since the return on investment of both restoration and the prudent management of ecosystems are among the best forms of resource use possible. The lessons to date for having a successful programme, include: i) having a local champion that can anchor the project and provide leadership; ii) a well-defined yet adaptable strategy and management plan; iii) sufficient structural support, both in cash and in kind, to enable the well-functioning of the programme; iv) the presence of a functioning organisation in terms of social networks, formal inter-organisations contracts, and intra-organisational stability; and v) the degree to which the project addresses the political agenda of the day.

While the successes are something to be proud of, the challenges remain: i) how to convert EGS (economic) value into actual financial flows (domestic, regional and international); ii) how to engage private sector and role of (water) trading account; iii) the broadening PES type options to include private sector to private sector transactions; iv) how to improve regional and global level of co-operation and PES partnerships; and v) how to expand the PES concept to include land under wildlife.

2.3.3 **Prospect of Reconciling Conservation and Poverty Reduction in the Forest Coffee Landscapes of Ethiopia: the Role of PES**

by Aseffa Seyoum (aseyoumw@yahoo.com), Environment and Coffee Forest Forum (ECFF), Addis Ababa (Ethiopia)

Forest coffee landscapes of Ethiopia provides a number of ecosystem services such as harboring biological resources; climate change mitigation, carbon sequestration, and watershed protection and so on. Particularly, the biological resources has paramount importance for international coffee breeding for disease tolerance, production stability and quality improvement as well as adaptation to climate change, tolerant to biotic and abiotic factors. Nevertheless, the local people are highly dependent on the coffee forest as source of extractive products, which in not consistent with the conservation principles, to make their livelihoods. As a result the coffee forest and embedded genetic resources are highly endangered from deforestation and forest degradation. Conservation of ecosystem services in developing countries, including the forest coffee genetic resources in Ethiopia, is challenged by poverty. Some of the conservation interventions tend to increase the gap between the poor and better of local peoples. Despite the various attempts and so far, it was found hardly possible to ensure sustainable conservation of the coffee forests without negatively impacting the livelihoods of the local people. Studies in coffee forest area also show that the current conservation intervention tended to increase poverty among the local peoples if enforced effectively since it reduce local people access to forest resource. The extent of impact differs across the local households depending on their level of dependency, availability of substitute products, access to markets and compensating alternatives. Effective implementation tends to increases income inequality as well. This level of poverty and inequality induced as a result to conservation interventions can be reduced by increase in income of the coffee forest related non-farm income, off-farm income and payment for ecosystem services.

Since it is commonly the poor depends environmental resources (particulars forest) payment for Ecosystem services (PES) can reduce the poverty and income inequality, and in turn can enhance effectiveness of conservation interventions. However, for a PES to work better in reconciling conservation and poverty reduction to design an in an adaptive ways to ensure horizontal and vertical equity, clear identification of PES beneficiary groups, selection of the right channel and avoiding or minimizing the possibility ‘free riding’ problems. In developing countries in general and in coffee forest areas in particular PES should create employment opportunities. It is also important to ensure that PES is contributing to households’ betterment in terms of physical and human capital and thereby pull them move out of poverty.

On the other hand there are challenges related to property right issues which will complication identification of target beneficiaries. Unless well designed the PES may have perverse effect on conservation of ecosystem services in developing countries. Therefore, there is a need to assess concerns of local communities regarding PES, conduct rigorous empirical studies regarding its implications on households’ decision towards conservation since the relationship between household’s income and natural resources degradation /deforestation not yet well established. In a nutshell, it is important to integrate PES with strong enforcement of ecosystem services conservation rules and regulations. This is more important in case of ‘commercial forest’ like coffee forest because PES (better prices for semi-forest coffee) may trigger further intensification of forest coffee. There has to be mechanisms for rais-

ing funds at local and national levels to finance payment for ecosystem services, for instance through tax, in addition to international sources.

2.4 Selected Policy, Government, Equity and Implementation Issues of PES: The Case of Europe and beyond

2.4.1 Promoting Payments for Ecosystem Services and Related Sustainable Financing Schemes in the Danube Basin

by Maya Todorova (mtodorova@wwfdcp.bg), WWF Danube-Carpathian Programme, Sofia (Bulgaria)

This project promotes and supports land managers who help us sustain the benefits that we all get from nature. The project is implemented by the WWF Danube-Carpathian Programme with the financial support of the GEF through UNEP, and of the European Commission.

What are Payments for Ecosystem Services?

Ecosystem services are the multiple benefits that people receive from nature, such as water purification and flood control by wetlands. The Payments for Ecosystem Services schemes (PES) reward those whose lands provide these services, with subsidies or market payments from those who benefit. This could mean, for example, that a bottling company uses water purified by an upstream forest. In order to maintain this service – a well managed forest – the company pays the forest managers a certain amount of money to ensure they keep this forest.

Arranging payments for the benefits provided by forests, fertile soils and other natural ecosystems is a way to recognize their value and ensure that these benefits continue well beyond present generations. It encourages landowners to manage resources in a manner that avoids damage or additional costs for other users of these resources. For example the bottling company would need to purify water with costly technologies if the natural system was not in place. In addition to the biodiversity benefits, also poor landowners who manage their land without pesticides and synthetic fertilisers can benefit if they are rewarded by companies depending on soil and water quality.

WWF is leading the development and implementation of this innovative approach to conservation.

What will this project do?

- Promote the concept of Payments for Ecosystem Services (PES) in the Danube basin.
- Encourage related Sustainable Financing schemes (SF).
- Demonstrate how national and local-level PES/SF schemes work.

- Contribute to rural development and conservation in the Lower Danube basin in Romania and Bulgaria.
- Promote the integration of PES/SF schemes into the River Basin Management Plans for the Danube, its sub-basins and other major river basins.
- Develop and share experience and learning with other countries in the Danube River basin, especially Serbia and Ukraine, with other major river basins and the international community.

What are the overall goals of this project?

- Make Payments for Ecosystem Services and Sustainable Financing mainstream in the Danube basin.
- Show that PES and SF schemes work in large-scale international watersheds.
- Secure global environmental benefits.

What is the project duration?

48 months (January 2010 - December 2013)

What are the project components and expected results?

Design, development and promotion of PES and other Sustainable Financing schemes in Bulgaria and Romania

- National PES schemes in Romania and Bulgaria effectively reward provision of Danube-related ecosystem services and are integrated into the Danube River basin and sub-basin management plans.
- Capacity building and training in PES and Sustainable Financing schemes for key stakeholders in Romania and Bulgaria;
- Demonstration of local-level implementation of public payments for Danube-related ecosystem services;
- Demonstration of private sector involvement and support for PES schemes.

Capacity building for river basin managers and other key stakeholders in the wider Danube River basin and major river basins in the world

- Information and experience exchange for key stakeholders in the Danube and its sub-river basins (focusing on Serbia and Ukraine);
- Exchange of information and experience with stakeholders in selected major river basins (in Asia, Africa and Latin America);
- Document, distribute and discuss best practices and lessons learned with the conservation and international community.

2.4.2 The Relevance and the Innovation Potential of the Civil Society for Payment Systems for Ecosystem and Cultural Landscape Services

by Sarah Schomers (Sarah.Schomers@zalf.de), Leibniz Centre for Agricultural Landscape Research (ZALF), Müncheberg (Germany)

The presentation aims at giving a brief introduction to the overall research concept of CIVILand including a summary of the advancement within the research.

CIVILand is a junior research group involved in payments for ecosystem and cultural landscape services (PES) in the context of civil society initiatives in Germany, England & Wales and the USA.

CIVILand examines how economic incentives can be developed and how they can be applied to preserve ecosystem services or to maintain cultural landscapes. The role of non-governmental initiatives will be explored; their strength and weaknesses will be discussed in detail. Questions such as "what is the civil society's financial contribution to the preservation and development of ecological benefits?" or "what innovative contribution did civil society make in the development and implementation of PES schemes?" will be discussed.

CIVILand is an interdisciplinary team of 7 researchers, consisting of 3 post docs and 4 PhD candidates. The topic will be approached from different perspectives, with each team member focusing on a separate sub project.

Currently we are busy with an online survey, sent to foundations involved in the field of environment, nature and landscape protection in the concerned countries. General structural data about foundations and their endowment will be generated. The foundations' relevant fields of activities, their pursued goals and the instruments they employ will be examined.

Furthermore, possible case studies will be identified to explore PES schemes developed and implemented in Germany, England & Wales and the USA in detail.

The group is based at the Leibniz Centre for Agricultural Landscape Research (ZALF e.V.) and conducts the research with various partners in the countries to be investigated.

Further information can be found at www.civiland-zalf.org.

2.4.3 **Opportunities and Challenges in the Implementation of PES for Agrobiodiversity**

by Unai Pascual (up211@cam.ac.uk), University of Cambridge (UK)

This talk is based on the idea that Payment for Ecosystem Services is an often ill defined term and that its application cannot be assessed through simplistic generalizations about the role of market based instruments for environmental governance. This point is illustrated with an innovative PES scheme applied for the conservation of agrobiodiversity in the Andes of Peru and Bolivia. First the economic problem of the underprovision of agrobiodiversity is presented, and the idea of applying PES as an economic instrument developed in complex social-ecological context like the Andean altiplano. The PES instrument is described based on a reverse auction approach where farmers bid for the conservation of different quinoa landraces for their prespecified reward level. A system of selecting farming communities that offer the best "conservation value for money" is presented together with a discussion on the advantages and disadvantages of using different selection approaches in terms of cost-efficiency, agricultural area being conserved, fairness, inclusiveness and social equity. The talk thus uses this example to reflect on the complexity of using PES in different settings and the need to carefully design PES schemes that can be socially legitimized without sacrificing the efficiency and equitable dimensions of this market based instrument for biodiversity conservation.

2.4.4 **Multi-dimensional issues of PES – Lessons for Implementation and Capacity Building**

by Haripriya Gundimeda (haripriya@hss.iitb.ac.in), IITB – Indian Institute of Technology Bombay, Mumbai (India)

Ecosystems provide us valuable goods and services that benefit local, regional and global population, without having to pay for it. However, the costs of conservation often are borne disproportionately by local people involved. As no transfer payments exists between beneficiaries and those bearing the costs of conservation, the opportunity costs of conservation are higher and is one of the prime reasons for loss in ecosystems and biodiversity. Payment for ecosystem services is often seen as a mechanism to ensure that such kind of transfer payments exists. Several successful examples exist through out the globe where PES has resulted in win-win scenarios. PES is multi-dimensional and has to be carefully designed for success.

Before considering whether or not PES has to be implemented it is important to understand if mainstreaming strategies (governance and market reforms) would solve the problem. If not the second question that needs to be explored is if formation of homogeneous social groups would solve the problem. Implementation of PES however would also not ensure automatic conservation of resources. It has a number of preconditions. Any social hurdles, such as low levels of institutional and legal capacity, may result in failure of PES schemes. PES programs require a great deal of cooperation that depends on state and/or community engagement. Local confidence often has to be won and small stakeholders often need increased bargaining power with more powerful stakeholders. For implementation of PES several design issues need to be considered like the form of payments and how to disperse them; which services to pay for – and who to pay; the size of the payment; how to evaluate the program's efficiency and effectiveness; the role of intermediaries; whether secure tenure rights are necessary; how compliance with the program's requirements will be monitored and enforced; whether PES should be linked to poverty alleviation.

In addition to these design considerations and preconditions for PES, a healthy legal environment is necessary for a healthy PES program. Such an environment allows for amendments to existing laws, explicitly recognizes the environmental services provided by certain ecosystems, clearly defines buying and selling rights, legally acknowledges property rights, acknowledges the autonomy of certain communities, ensures compliance with legal requirements and has the ability to issue decrees in regards to environmental compensation. Above all, there should be adequate capacity building regarding PES. Only then can PES result in desired benefits and be sustainable in the long-run.

3 Working Group Results

3.1 Session I – Institutional, legal, (national) policy context

3.1.1 Group 1

What precisely are the key obstacles to successfully implementing PES?

- Property rights: high barrier to action – to what extent do we need PRs to be clarified?
- Clearly identified user group;
- The higher the benefits the higher the membership conflict;
- Lack of brokerage: poor exploring alternative institutional arrangements;
- Poor knowledge about options for PES;
- Absence of imagination for tailoring PES to needs;
- Absence of blueprints for arrangements;
- Lack of information on ES values;
- Prone to capture by intermediary.

What precisely are the actions required to identify/build PES suitable conditions?

- Raise awareness on ES values: manuals/maps on ES;
- Blueprint box elements for PES contract;
- Prioritizing interesting geographical candidates for PES schemes: Checklist for identifying suitable or no-go areas (clearing house);
- Minimum social standards for PES.

What are the priorities for action? What are suitable strategies in difficult circumstances?

- Pre-assessment of suitable areas;
- Eligibility ranking, very simple very cost-effective contracts;
- Minimum social and environmental standards.

Give specific questions to be addressed in capacity building

- How does it work?
- Who wants to pay for what and why?

3.1.2 **Group 2**

What precisely are the key obstacles to successfully implementing PES?	**What precisely are the actions required to identify/build PES suitable conditions?** **What are the priorities for action?** **What are suitable strategies in difficult circumstances?**	**Give specific questions to be addressed in capacity building**
Lack of capacity at the intermediary	Identify the intermediary; Identify the skills needed; Invest in skills raising; Checks and balances of intermediaries	Consequences of in-/ action
Intersectoral coordination	Set up of a proper administration framework	
Prioritization of ES	Awareness raising (of policy makers, society, etc.) – **prior**; Lobby work (e.g., policy proposals)	
Incompatibility of (externally funded) PES schemes with local land tenure systems	Improvement of related frameworks (of PES and of land tenure systems) – **prior**	
Bottom-up organisation of stakeholders	Empowerment of local stakeholders – **prior**	

3.1.3 **Group 3**

What precisely are the key obstacles to successfully implementing PES?	**What precisely are the actions required to identify/build PES suitable conditions?**	**What are the priorities for action?** **What are suitable strategies in difficult circumstances?**	**Give specific questions to be addressed in capacity building**
Property right	A definition of right, in a short term (easement) and long time (registry)	Pilot demonstration activities. Learning by doing, adaptive management	Land tenure reform (for upper management) and assignment of legal tenure, wherever appropriate
Binding agreement between parties	Clear specification of the contract in which actors, benefits are defined; Establishing national guidelines	Facilitated/assissted through structured bottom-up approach; In case there is a conflict, PES can be a conflict resolution mechanism (e.g. water conflict)	Lower-level management builds capacity; *re*: dynamics of the agreement (e.g. via training about activities) and empowerment of communities through skill transfers with regards to specific activities/interventions

Tangibility of the ecosystem services	Education and capacity building	Baseline assessment, transdisciplinary research	Expose middle management to project-level experience (e.g. secondment for a few month); Ongoing trainings to promote awareness of (a) the importance of ecosystem services; (b) in terms of other income-generating activities, compatible with protecting ecosystem services; and (c) the direct benefits of protecting ecosystem services for the local community

3.2 Session II – PES scheme design (incl. equity issues, equity-efficiency linkages)

3.2.1 Group 1

What precisely are the key obstacles to successfully implementing PES?

- Interests between buyers and sellers are not the same – a sound balance needs to be found.
- Lack of taylor-made PES schemes to local conditions;
- Lack of local input;
- Lack of safeguards as minimum requirements re equity.

What precisely are the actions required to identify/build PES suitable conditions?

- Identification of buyers and sellers;
- Box of contract options (specifying alternative provisions to each element of the contract, e.g. payment mode, monitoring, …);
- Technical support unit to facilitate contract making;
- Screening for institutions that exist already and onto which PES may be built.

What are the priorities for action?

- Do some scouting;
- Start and maintain a stakeholder process.

Give specific questions to be addressed in capacity building

- What sample contracts are there?

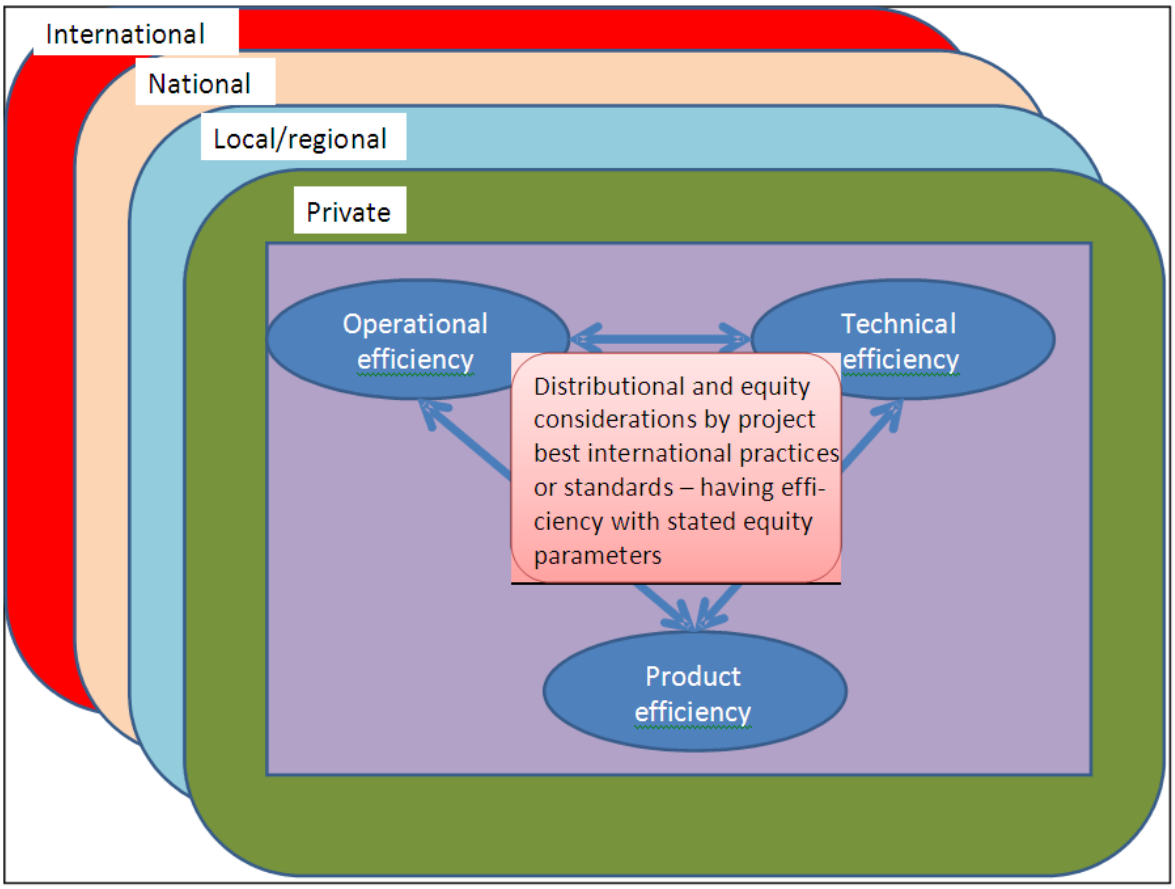
- How can I easily compare their features (icons to show differences between different options)?
- What factors shape local acceptance of PES?
- Info on checking suitability: criteria;
- Info on preparatory process (What steps are required to implement/set up a PES scheme?)

3.2.2 **Group 2**

General observations

- Do not expect to solve the world's problems with PES: minimize negative impacts.
- Equity considerations exist on both sides: buyers and sellers.
- Equity considerations are mainly relevant for public/government-driven schemes, less so for private-private schemes.
- Ensuring fairness contributes to long-term sustainability of the scheme ('permanence') and, in this sense, to long-term efficiency.

Ground rule: work towards efficiency within a set of equity parameters.



Source: James Blignaut 2010

Definition of equity parameters: The fairness of payment distribution is context-specific and need to be defined from the stakeholders themselves: inclusive procedures matter, such as stakeholder involvement/consultation, or, sometimes: community self-selection (with checks & balances):

- Some (short-term) loss of efficiency is acceptable.
- Relevant concepts from the CBD: prior informed consent and mutually agreed terms;
- Equity parameters may include for instance: targeted eligibility requirements (ranked).
- Defining tailored equity parameters could get inspired by international standards/good practices.
- Equity parameters need to be adaptable, both with regard to the timeline and to geographical scale/different socio-economic circumstances of recipient communities.

Framing payments as development opportunities may also help addressing equity concerns.

Capacity building needs

(For potential designers of PES schemes and for potential recipients)

- Awareness on equity-efficiency linkages (not just tradeoffs etc);
- Participatory mechanisms for involvement of all stakeholders (from local to national);
- Alternative livelihood opportunities.

3.2.3 **Group 3**

Key Obstacles

- Scale of issue is a problem especially because of land fragmentation.
- The farmers are not rewarded for all the environmental and ecological benefits – Hence they do not have incentives for participating in the scheme.
- The schemes are too technical and complex for poor people to understand.
- Transaction costs is an issue – Hence a trade-off between efficiency and equity.
- Efficiency and data information is an issue.

Key Actions

- Action 1: Legal cooperative that can consolidate small lands on behalf of the farmers who can be paid as per the service they provide.
- Differential payments based on the size enrolled. Say for example, if the area is less than 1 ha, they are paid a fixed fee but this can increase as the amount of land increases as the ecosystem service provision increases with the amount of land enrolled. This may pave way for land consolidation. Higher incentive can be given for a single large land or cooperatives.
- Action 2: one can pay through reverse auctions or opportunity costs. Also recognise the co-benefits.

- Action 3: simplify the management practices and set clear criteria against which the implementation. Allocate some money for capacity building.
- Action 4: User Cooperatives can play a key role who consolidate the land and share the benefits. The participants can be part of executive committee who takes decisions on behalf of the cooperative body.
- The implementing structure of PES should be well-defined.
- Payments can be linked to the outcome – fixed payment plus a bonus based on quality of service generated.
- This is also an issue of monitoring. If the data is not correct, it can be corrected. There can be legal penalty in case information provided is not correct.
- There can be FSC for PES. There should be international body/local bodies certifying PES.
- Network of people can share the information that they have.

Priorities for action

- Cooperatives for PES land owners;
- Networking among PES experts;
- Need to integrate the development aspects in PES;
- Need to involve more local partners.

Suitable strategies in difficult circumstances

- Here linking with development opportunities;
- Payments can be offered in kind and cash. The payments in kind can be in terms of alternative livelihood activities like access to education, beehives (as In Bolivia), building roads etc. or it can be linked with other development activities.
- Involve communities in the design of PES.

Capacity Building issues

- Capacity building for those who would use these schemes;
- Capacity building on benefits provided by PES;
- Quantifying the level of ecosystem services provided;
- About how to participate in PES scheme;
- Train them with technical skills required;
- Capacity building on understanding of how ecosystem works and teams should be built of multidisciplinary back grounds;
- Capacity building on conflict resolution.

3.3 Session III – Selected policy, governance, equity and implementation issues of PES: issues, constraints and requirements for implementation

3.3.1 Group 1

Key Obstacles

- Identification of local contractors, working in the field;
- Quality control/evaluation, having direct impact on credibility;
- Start-up finance;
- Managing expectations (being dependent on promises made, e.g. during contracting phase);
- Unequal expertise, create mechanisms to avoid exploitation, checks-and-balance control;
- Lack of check-and-balance of impact of PES.

Key Actions / Priorities for action / Suitable strategies in difficult circumstances

- Stepwise approach or methodologies/procedural guidelines for contracting process/ standards;
- Capacity building, access to non-biased information;
- Secure clarity of performance management criteria, what are the deliverables, the outcomes and how are they compensated for?
- Work plan, supporting the providers in the delivery.

Capacity Building issues

- Paying for tolerance;
- Capacity building on different standards;
- How to have access to non-biased information;
- Capacity building for mechanisms how to share (local) knowledge and information;
- Capacity building/ explaining in detail what is going to be measured/which are the performance criteria) and why they are going to be measured.

3.3.2 **Group 2**

PES as an agent to change? Alternative to corrupt/deficient state?

OR just a small tool for narrow purposes?

What precisely are the key obstacles to successfully implementing PES?	**What precisely are the actions required to identify/build PES suitable conditions?**	**What are the priorities for action?** **What are suitable strategies in difficult circumstances?**	**Give specific questions to be addressed in capacity building**
Complexity of schemes: • Eligibility criteria, rules of the game, overly technical language • Bureaucracy • Lack of capacity of the monitoring	• Self-enforcing contracts (annual payments instead of lump-sum payments) • Eligibility criteria that are easy to monitor • Capacity building on enforcement mechanisms	• Capacity building • Consistency • Revision and adaptation	• Capacity building of agents on designing (on participatory design) • Technical knowledge of monitoring agents • Capacity building on adaptive management (long-term vision and aims)
Corruption	Transparency		
Leakage – pervert incentives	Consistency and coordination in overall environmental policy that will help overcome leakages		
Overexpectations concerning PES			
Lack of absorption capacity (failure to lead to long-term change to sustainable practices)	Research sustainable development options/ adaptive management (explicit dependence on ES, also of providers		
Problem to reach the ones the most need the PES	Plan for an iterative process for revision and adjustment of the scheme (research sustainable development option)		
Changing dynamics (social and economic – land property change, changes in the ecosystem)			
Continuity & permanence – problem : need for safety mechanisms to ensure payments in times of crisis			

3.3.3 **Group 3**

What precisely are the key obstacles to successfully implementing PES?	What precisely are the actions required to identify/build PES suitable conditions?	What are the priorities for action? What are suitable strategies in difficult circumstances?	Give specific questions to be addressed in capacity building
Lack of transparency leading to mistrust by relevant parties	1. Involving credible intermediaries 2. Building up trust 3. Providing accessable information to the parties	The sequence of priority: 2, 1, 3 Engaging local champion(s); Inclusiveness (ethnic groups, gender representations, etc)	Education about PES for parties; Providing the parties with good examples from best practises, tailoring it to the context concerned; Having effective communication strategy that integrates local perceptions
Heterogeneity of power relations	1. Identification of power relations 2. Finding relatively homogeneous groups based upon common interests	1, 2 Involving local mediators; Implementing the PES scheme with the willing groups	Education of conflict resolution
Insufficiency of start-up fund and uncertainty of future fund availability	1. Making it clear that start-up capital is a pre-requisite 2. Accessability to start-up fund 3. Reducing the uncertainty of the future flow of PES fund through a proper capital budgeting	1, 2, 3 Establishing a kind of “risk fund” (e.g. green insurance premium, green levy for public project), earmarked for special conditions	Training on financial planning; Disemminating information on alternative source of funds
Lack of adaptability of the PES scheme in responding to unexpected circumstances	1. Acknowledging potential external changes, both in legal frameworks and contracts 2. Formulating clear guidelines on the scope of flexibility	1, 2	Learning from PES cases where the scheme that has claimed success in adaptability

4 Follow up Issues

4.1 PES as a development mechanism / service contract

- Local people have expectations that PES function as a development tool.
- Consumerism attitude… money comes and you can spend it for development.
- Governmental support is needed.
- PES contributes to human development on a global level so it is a development mechanism per se.
- PES contributes to sustainable development if it's designed accordingly.
- Depends on the definition of development;
- Institutional sustainability of the ES conservation after the PES scheme needs to be considered.
- A social development tool through improvement of people's livelihood by sustaining natural resources (can't be a non-development tool);
- Potential difference between finite, fixed investment-type PES leading to changed behaviour and transition to sustainable development outcomes versus ongoing service contract-type PES in which sellers provide ongoing service with significant opportunity costs benefitting distant-global recipients.

4.2 Limits of PES (in relation to other instruments); Debate: PES & PES-like projects

- Combine regulation with market-based instruments (e.g. in case of damaging factors);
- Land and wildlife: value is global but managing costs are local (elephants example).
- Ecological footprint (EFN metric) is a suitable instrument for bundling ES.
- PES could be a concept that will prove inappropriate in more or less five years, so we should not conserve natural capital just with PES schemes.
- ES is a new concept that gave valuable impetus to the nature conservation efforts.
- PES relies on the ES model classified by Millennium Ecosystem Assessment.
- Not applicable for every location and each ES, there is no ideal PES;
- PES is part of the solution of conserving ES.
- PES is an efficiency enhancing instrument.
- PES and PES-like schemes should be differentiated.
- PES is a reductionist approach that separates the natural services → need for a more holistic instrument;
- PES is always a means and never an end.
- Wunder's definition (according to which "PES is a voluntary transaction where a well-defined ecosystem service (ES) or a land-use likely to secure that service is being bought by a minimum one ES buyer from a minimum one ES provider if and only if

the ES provider secures ES provision", 2005) is useful as a point to get started with PES (there are other models), but we need to go broader.

4.3 Willingness to pay: requirements

- Forced by government;
- Buyers need a time frame how long they pay for it, delivering individual schemes to individuals;
- Information is basic, awareness rising;
- Understanding the client.

4.4 Is (economic) valuation of ES needed for PES?

- Opportunity costs are a basis for calculation, but environmental valuation is needed to negotiate the price in order not to pay more than the optimum.
- Valuation is needed for marketing and advocacy; but valuation should contribute to information for the deal.
- Economic valuation should not trump other forms of valuation since it is not the only way of understanding what should be the appropriate payment.
- Valuation should be included in scheme appraisals.
- PES need a valuation (but not necessarily economic) because non congruent interests of buyers and sellers need to be balanced.
- The price of the payment is informed but not determined by the value of the ES.
- Valuation helps to know where the opportunity costs lie.

The point is very controversial.

4.5 PES and other land use programmes

- PES is one policy option.
- PES is often part of (existing) land use programmes.
- PES should be part of a broader (agricultural) policy.
- Be aware PES can change balances of power with political and economical long-term implications.
- PES should not be isolated but recognised in the policy context of land use.
- Institutional, intersectoral and geographical issue to harmonise PES.

4.6 PES design: (inter-/national) standards/certification?

- Variety of standards can be an advantage, but transaction costs will increase.
- New producers will easier find buyers under a certification scheme and they have a choice.

- PES and certification might be both very complex systems that might be beyond the capacity of the stakeholders → certification can help a lot but new standards for PES would add complexity.

4.7 Capacity Building

See related issues already elaborated by the working groups.

5 Workshop Programme

Monday, 13 December 2010

18.30	***Dinner***
20:00	Welcome to the Isle of Vilm and brief introduction to the International Academy for Nature Conservation and the unique history and nature of Vilm *Norbert Wiersbinski, Federal Agency for Nature Conservation (BfN), Vilm*
	Welcome of participants and introduction to the workshop *Bettina Hedden-Dunkhorst, BfN, Bonn*
	Round of introduction

Tuesday, 14 December 2010

9:00	**Plenary Session 0:**
	Setting the stage ***Chair: Bettina Hedden-Dunkhorst, BfN, Bonn***
9:15	Key Note: PES in the context of the policy-research interface *Paul Maro, University of Dar es Salaam*
10:00	An overview of market-based PES approaches *Dirk Röttgers Institute for Environmental Economics and World Trade (IUW), University of Hannover, and Till Stellmacher, Centre for Development Research (ZEF), University of Bonn*
10:45	***Coffee break***
11:00	Conceptional issues of PES and selected case studies – lessons learnt from TEEB *Augustin Berghöfer, Centre for Environmental Research (UFZ), Leipzig*
11:45	Challenges and opportunities for PES in the context of the new Strategic Plan of the Convention on Biological Diversity (CBD) *Markus Lehmann, CBD Secretariat, Montreal*
12:30	***Lunch***

Plenary Session I:

Institutional dimensions and integrated policy planning
Chair: Unai Pascual, Cambridge University

13:30 Inequality, direct payment, and changing motivation – the institutional dimensions of PES
Sonny Mumbunan, UFZ, Leipzig/

14:00 Is there a risk of an ecosystem service curse?
Jakub Kronenberg, University of Lodz

14:30 Legal frameworks for international PES schemes
John Costenbader, IUCN Law Centre, Bonn

15:00 Integration of PES in policy design and the role of government in scaling up – the case of Southern Africa
Moses Masiga, ENR Africa, Kampala

15:30 ***Coffee Break***

15:45 **Working Groups Session I:**

Institutional dimensions and integrated policy planning: issues, constraints and requirements for implementation
Moderator: Augustin Berghöfer, UFZ, Leipzig

18:30 ***Dinner***

20:00 Working Group presentations and social gathering

Wednesday, 15 December 2010

Plenary Session II:

Equity and / or efficiency issues of PES schemes with selected case studies from around the world
Chair: Haripriya Gundimeda, Indian Institute of Technology Bombay

9:00 Equity / poverty alleviation impacts of PES, the case of the Amazon Forest
Carolina Elia, Global Canopy Programme, London

9:30 Experiences with the Working for Water Programme in South Africa
James Blignaut, University of Pretoria

10:00 ***Coffee Break***

10:15 Prospect of reconciling conservation and poverty reduction in forest coffee landscapes of Ethiopia: The role of PES
Aseffa Seyoum, Environment and Coffee Forest Forum, Addis Ababa

10:45	**Working Groups Session II:**
	Equity and / or efficiency issues of PES schemes: issues, constraints and requirements for implementation ***Moderator: Markus Lehmann, CBD Secretariat, Montreal***
12:30	***Lunch***
13:30	Excursion to the Isle of Vilm Nature Reserve *Jochen Krause, BfN, Vilm*
15:00	***Coffee break***
15:15	Continuation of Working Groups Session II
16:15	Group Presentations and Plenary Discussion
	Plenary Session III:
	Selected policy, governance, equity and implementation issues of PES: The case of Europe and beyond ***Chair: Jakub Kronenberg, University of Lodz***
17:30	New opportunities for PES implementation in south-eastern Europe in the context of future EU policies (why and how) *Maya Todorova, WWF Danube-Carpathian Programme, Sofia*
18:00	The role of civil society initiatives in the design and implementation of PES in Europe *Sarah Schomers, Leibniz Centre for Agricultural Landscape Research, Müncheberg*
18.30	***Dinner and Visit to the Vilm Photo Gallery***
20.00	Opportunities for further short ad-hoc presentation of activities as desired and social gathering

Thursday, 16 December 2010

	Plenary Session III continued:
	Selected policy, governance, equity and implementation issues of PES: The case of Europe and beyond ***Chair: Paul Maro, University of Dar es Salaam***
9:00	Opportunities and challenges for PES in the context of agrobiodiversity *Unai Pascual, Cambridge University*
9:30	Synthesising the multiple dimensions of PES: Implications for capacity development and implementation *Haripriya Gundimeda, Indian Institute of Technology Bombay*

10:00	***Coffee Break***
10:15	**<u>Working Groups Session III</u>** **Selected policy, governance, equity and implementation issues of PES: issues, constraints and requirements for implementation** ***Moderator: Till Stellmacher / Etti Winter, IUW, University of Hannover***
12:30	***Lunch***
13:30	Working Group Presentations and Plenary Discussion
14:45	***Coffee break***
	<u>Plenary Session IV:</u> **Synthesis and way forward** ***Chair: Bettina Hedden-Dunkhorst, BfN, Bonn***
15:00	Synthesising the discussion and working group results
17:30	Wrap up and closure of the workshop
18.30	***Dinner***
20.00	Social gathering

6 List of participants

Name	Organisation	Location
Berghöfer, Augustin	UFZ	Leipzig, Germany
Blignaut, James	University of Pretoria	Pretoria, South Africa
Carius, Florian	BfN	Bonn, Germany
Costenbader, John	IUCN	Bonn, Germany
Deutsch, Britta	University of Bonn	Bonn, Germany
Domptail, Stephanie	University of Giessen	Giessen, Germany
Elia, Carolina	Global Canopy Programme	Oxford, United Kingdom
Gundimedia, Haripriya	Indian Institute of Technology Bombay	Mumbai, India
Hedden-Dunkhorst, Bettina	BfN	Bonn, Germany
Kotowska, Martyna	University of Göttingen	Göttingen, Germany
Kronenberg, Jakub	University of Lodz	Lodz, Poland
Lehmann, Markus	SCBD	Montreal, Canada
Maro, Paul	University of Dar es Salaam	Dar es Salaam, Tanzania
Masiga, Moses	ENR Africa Associates	Kampala, Uganda
Meißner, Nathalie	University of Hamburg	Hamburg, Germany
Mumbunan, Sonny	UFZ	Leipzig, Germany
Pascual, Unai	Cambridge University	Cambridge, United Kingdom
Roettgers, Dirk	IUW, University of Hannover	Hannover, Germany
Schomers, Sarah	ZALF	Müncheberg, Germany
Seyoum, Aseffa	University of Addis Ababa	Addis Ababa, Ethopia
Stellmacher, Till	ZEF, University of Bonn	Bonn, Germany
Todorova, Maya	WWF	Ruse, Bulgaria
Winter, Etti	IUW, University of Hannover	Hannover, Germany