Designing Payments for Ecosystem Services

Report from the East Asian Regional Workshop (Hanoi, April 2008)

Photo and illustration credits

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Introduction

Are payments for ecosystem services (PES) a viable way of financing management and restoration of river basins and coastal and marine environments? What steps are needed to develop PES schemes? What are governance needs and how can stakeholders participate? What experiences and lessons learned have been generated from attempts to develop PES in the real world? These are some of the questions examined at the IUCN-GEF IW-Learn workshop on Designing Payment Schemes for Ecosystem Services held from April 3-5, 2008 in conjunction with the Global Forum on Oceans, Coasts and Islands in Hanoi, Vietnam.

An increasing number of multilateral development projects have ambitions to develop PES as a mechanism for sustainable financing of ecosystem-based management of natural resources. These initiatives reflect a relatively young body of experience from around the world, which has so far mainly focused on the application of the PES concept to watershed management. Interest in developing PES schemes for coastal and marine environments is growing, including ways to link river basins and downstream marine ecosystems.

The workshop was attended by more than 50 people, who came to Hanoi from as far afield as Samoa and India. Participants represented GEF International Waters projects and partner institutions from government and NGOs. Some brought perspectives mostly from freshwater systems, others from marine ecosystems. All brought an interest in understanding the principles behind PES and practical approaches to designing and implementing workable payment schemes.

Learning by participants was supported by a series of case studies presented to the workshop from around the world, but including regional examples from China, the Philippines, India and Vietnam. These illustrated PES applications ranging from user fees in parks or Marine Protected Areas, to payments by hydropower companies to upstream land-users to reduce erosion, and implementation of sea-use rights to address excessive use of marine resources. Common to all schemes were site-specific challenges requiring a pragmatic approach, the building of trust, and sound monitoring to ensure a constant flow of funds to clearly identified beneficiaries.

It is clear that developing payment schemes does not depend only on pure economics. There need to be laws and institutions in place that make provision for and have capacity for effectively facilitating transactions. Negotiation between providers of ecosystems services and buyers is also a key. To explore the issues that arise in PES negotiations, participants engaged in a lively role-play scenario, negotiating agreements among stakeholders, in efforts to increase benefits and equity among upstream and downstream actors. It was evident through this exercise that in addition to creating incentives, well-designed PES schemes can open dialogue over how to better manage ecosystem services and improve benefit sharing in watersheds and marine and coastal ecosystems.

6 Objectives for the workshop

1) To understand the economic aspects of ecosystems and links of ecosystem services and providers efficiently. How are the economics relevant to ecosystems- upstream and downstream groups, etc?

2) To identify market-based incentives. What are the various options for payment schemes and how are they put together?

3) To share experience across countries and regions. Examine different applications and expand the scope for PES application in international waters.

4) To identify practical sense components of PES programmes. What elements do we need to bring together?

5) To examine institutional requirements and processes for stakeholder involvement and engagement that need to accompany these processes.

6) To distill from the work together, practical lessons for projects that have emerged form the workshop.

Mark Smith, IUCN Water Programme: We are staging this workshop as a pre-workshop for the Global Forum on Oceans. I'm from the IUCN Water Programme, and this was deliberate choice made by the IW-Learn team. They said "Can we combine watershed perspectives with marine perspectives in a workshop on payments for ecosystem services? Can we examine the lessons and the experience of this idea more widely and look at how these ideas can help in the marine environment? Can we then expand the scope of how PES is applied, and look at links that may emerge between watershed management and coastal and marine management?" This is a theme we want to develop throughout the three days. Freshwater watershed perspectives and marine perspectives encourage people to look at how to find links that will enable a greater variety of management options in marine and coastal systems.

Opening remarks

Lucy Emerton, Head, IUCN Global Economics and the Environment Programme

Evaluation and Environmental flows

This week we will be looking at PES in larger context of valuation of environmental goods and services. The reason we are focused on this is not for the sake of the environment but for the sake of humanity and sustainable development, the stake of our future, out children's future, and the future of humanity on the planet. These are serious issues. I wanted to say how proud we are to be in a meeting, how proud we are of Vietnam in hosting this meeting, in undertaking many national and regional initiatives for work they have been doing in valuing the environment and valuing the services and goods that form our life support system.

I was impressed with the headlines in the newspapers I picked up arriving today. The headline reads, ‘ Global Talks on Global Warming.’ Inside we have headline news about the new biodiversity law in Vietnam. This relates directly to what we are doing here today. With payments for ecosystem services we are attempting to internalize the costs for conservation, bringing inside the externalities that have been imposed. These externalities are being paid but have not been accounted for and assigning payments for ecosystem services is a way of internalizing these externalities. These are not new costs; these are existing costs. Costs felt at the local level, regional level and global level. We need to be concerned at all of these levels if we are to achieve truly sustainable development. I hope we can learn from each other and gain a wealth of new experience in this discussion. We want this to be lively. You are all the experts. This is new territory. There are no ‘cast in stone’ approaches. We have to figure it out. We are the transition from a market-driven economy to a life-support-system economy and ecosystem -based management is the foundation of our future.

Marian delos Angeles, World Bank Institute

I am here on behalf of Dr Mei Xie of the World Bank Institute, Program on Environmental Instruments, and Capacity Development Group for the World Bank. We engage in our work in three ways:

1) We facilitate knowledge exchange and sharing;
2) We participate in skills development at the individual level, and;
3) More frequently we build capacity at the regional and country level with institutions that themselves are engaged in developing capacity.

Payment for ecosystem services is novel, difficult and challenging, and with promise to solve problems facing all of us. We welcome this opportunity to continue collaboration and we look forward to the discussions in the next few days.

Mr. Nguyen Tuan Phu, Head of Agricultural Department, Government of Vietnam.

Distinguished guests, ladies and gentlemen, allow me to extend my thanks to the organizers in allowing me to make some remarks in this important workshop. Welcome all of you to Vietnam, welcome to the workshop, and I hope we all will receive useful information from this workshop. It is timely and important to have the meeting in Vietnam and I wish the workshop a success.

I am going to give an example in my presentation from the Forest Service in Vietnam. Payments for ecosystem services in relation to Vietnam’s forest first came under consideration five years ago. For the last three years, this issue has been paid due attention by the Government of Vietnam and last year the prime minister conducted a study of PES and forest services. The study consists of three parts:

1) the first is on the demands for PES in Vietnam’s forests;
2) the second part is to understand the key issues surrounding support for forest environmental services that we are building up; and

3) the third is to understand the future and implementation for forest and environmental services in Vietnam.

For the first part, I'd like to mention the importance of the forest to the economic and social development in Vietnam. Vietnam is an ecological and biological corridor in Indochina ranging from 33 to 35 degrees latitude. It is very narrow and steep from west to east. During Vietnam's wet season, there is much storm damage and we are trying very hard to combat against natural disasters. We are thinking of creating schemes such as a green belt of forest in order to provide protection to the country and we recognize the role of forests in this process. Currently there is 12.7 million HA of forest in provinces and cities and with our forest development, we hope forested areas will reach 16 million HA, covering 47% of the land by 2020.

In terms of economic development, the forests create nominal and practical values. The practical values we can consider the real products to society such as wood and forest products. These products can be traded and valued at a market price. For the nominal value, also the indirect value, forests provide society with ecosystem regulation, protection from flooding, limitation of erosion, and existence values.

Human beings since long ago have benefited from the indirect and direct values from the forest; these gifts are affirmed by the government. Often times, humans benefit without thinking about the need to protect this benefit for long-term use. We need to protect the forest. Vietnam has experienced long-term exploitation of forest resources. As a result, the forest has lost some of its function in protecting the country against natural disasters. Natural disasters such as temperature increase, weather-related illness and storm damage might be attributed to forest destruction in Vietnam. In early July 2007, the temperature increased to 45 Degrees Celsius and many people were ill because of the heat. Vietnam also was struck by five consecutive storms causing the loss of thousands of dong. According to Ministry, on average, natural disasters in Vietnam cause 750 people to die or go missing every year. Many economic infrastructures were damaged and the value lost was equivalent to 1.5% of total GDP of the country. In particular, natural disasters are happening with more severity and intensity. The air has become so polluted that this has caused people to spend more money in an effort to protect the environment and protect the forest.

The demand is there to pay the environmental fees in Vietnam. Currently, people recognize the usable values of forest but the indirect values cannot be forgotten. If we want to have a peaceful life and we look to pay, we need to pay for the reforestation in order to produce the direct and indirect values that enrich people's lives.

The forestry workers directly invest capital and labor in their forest plantations. They also produce the usable values of the forest. All stakeholders in society can use these values. The forest owners' returns from investment can be seen in the forest. We consider the nominal and indirect values of the forest to be very special commodities. We need to develop the markets to supply the forest's indirect value and realize the market benefit from such values. The activities that supply the forest values, can be considered PES. It is these activities that have provided the foundation for the establishment of the policy for PES in Vietnam.

Relating to forest fees or forest environmental payments in Vietnam, we should bring to life the regulations and government action to increase the awareness and responsibility of different stakeholders regarding forest protection. We should mobilize the resources from protection and development of forests in order to reform the forestry sector and, step by step, to redirect government subsidies from development to protection. We need to ensure the people actually involved in forest protection and production, i.e. the forest service suppliers, can be duly paid for the value of the forest that they create for society. This in turn will help increase the efficiency of protection for the owner and increase forest environmental services to Vietnam. To develop this issue we need to have a consensus on some definitions.

1) We need to consider that the forest environment includes nominal use value, those indirect values and services generated by the forest. It includes first the regulation of the supply of water resources to populations and activity for enjoyment as a society.

2) Secondly, the important ecosystem services such as regulating the atmosphere and the absorption of carbon dioxide, reclamation of land and prevention against landslides and erosion. The forest provides important economic structure

to minimize the impacts caused by floods and tsunamis. The forest is important for ecotourism and recreation that revolves around the preservation of biodiversity. The forests' precious genes and resources need to be conserved for their important role in future forest management. The forests nominal value provides society not only with sustainable use of its resources but also with many environmental services. We need to alter the relationship between supplies and users in the context of PES so that the suppliers begin to reap the benefits of maintaining the ecosystem that provides such important environmental services.

We have identified two forms of forest ecosystem payments. The first one is the payment for the direct value, which is a business between the traders and the buyers. The forest owner generates and operates the forest value of the landscape. Those who want to visit the forest, even for recreational or scientific research purposes must pay the fee to enter the forest. We consider this a direct payment for the forest environment. The second payment is an indirect payment of service value. This is a business between trader and buyer but done through an intermediary agent. The forest owners find it difficult to sell the indirect values of the forest to people living in cities who enjoy the clean water the forest provides for them. Large community populations receive the benefits and they need to pay the supplier for maintaining these services. In such a case, the state acts as the intermediary for ensuring payment for the indirect value of the forest. The state identifies the receivers, organizations, householders, communities, villages, and individuals who are located in natural forest that have contributed to the first hand use of forest. They are the ones that need to protect the forest. They need to take the user fees and invest it in the forest because the protection of the forest is costly. Forest investment can lead to protection and allocation of a portion of the forest that is not to be exploited. We classify Vietnam's forests into three categories based on use and production. The first type is a protected forest, and biodiversity conservation in the forest is encouraged through PES payments. These forests are not exploited in Vietnam and are used for the purpose of environmental protection. Production forests, both natural and plantation forests, create production levels. The forest owner can receive payments of money for the way they support protection of the forests. The money depends on the amount of time the forest has not been exploited and includes a condition regarding reforestation to make sure the forests will work again. We call the payment mechanism the natural resources tax.

Now I'd like to move to my third point regarding the organization of PES payers in Vietnam. First the origin of PES policy in Vietnam begins with the government in Vietnam. The Prime Minister decided Vietnam needed to take a role and carry out a study of PES policy to be implemented in important river basins in Vietnam. These watersheds need protection to protect the water supply and maintain hydropower to the cities and industrial areas in Vietnam. Secondly all branches of the ministry were involved in the PES policy process including treasury and environment to set up the PES policy. One of the most important aspects in finalizing our PES policy was the identification of those people who have the experience and qualifications in PES to assist the study and work with the community. The policy has now been finalized and submitted to the prime minister for approval. I believe that if there's no big change in the next week the policy will be signed by the prime minister for application.

If this policy is promulgated, it will be an important step for us in protecting the environment and natural resources. We have received support from international organizations in developing our PES policy. Right from the beginning we have received financial assistance from international organizations and the Prime Minister has worked with the Ministry of Planning and Investment to encourage financial and technical support to see PES implemented. From this experience we have received a lot of practical value about the qualifications of financial support for PES. I would like to take this time to thank you, for your kind support to Vietnam to support this policy with experts, on technical aspects, on survey implementation, and on exchanging information with countries worldwide to implement PES policy in Vietnam. This official step of Vietnam to develop a policy of great support and collaboration for PES in Vietnam has enabled us to learn a lot from great international experience. I would like to take this opportunity to call on you for further support in Vietnam so that government has potential and sufficient resources to promulgate our PES policy.

1 The Economic Background to PES

Lucy Emerton, IUCN Global Economics & Environment Prog.

Ecosystems provide services to humanity such as clean water and protection from storms and erosion. These services are often undervalued by society as their value is not associated with any price seen in financial markets. These ecosystems are protected by certain members of society who depend on these ecosystems to make a living, but they are often uncompensated for their conservation efforts. They often bear all the costs and this leads to ecosystems being under-conserved at a great cost to society. There is no financial or economic incentive for land holders or resource managers to conserve their ecosystem if they bear all the costs.

Ecosystems are important to society for a variety of reasons and their values and services can be grouped into four categories: supporting, provisioning, regulating, and cultural services. Supporting services include nutrient cycling, soil formation, primary production etc. Provisioning services include food, freshwater, wood, fiber, fuel, etc. Regulating services include climate regulation, flood regulation, disease prevention, water purification, etc. Cultural values include aesthetic, spiritual, educational, recreational and many more. These ecosystem services provide the underlying framework for society's constituents of wellbeing which include security, basic material for quality of life, health, good social relations, and freedom of choice and action.

The total economic value of ecosystems includes use values and non-use values. Use values include direct values such as production and consumption (fish, firewood, etc.); indirect values such as ecosystem functions and services (water quality, shoreline protection) and option values such as the premium placed on possible future uses or applications. The non-use values of ecosystems are existence values, the intrinsic significance of resources and ecosystems in terms of cultural, aesthetic, heritage, and bequest.

Society should conserve these ecosystems for the services they provide because the outcomes of conservation efforts enable maximization of human well-being. Ecosystems provide production and consumption goods. These goods are commercially viable and have market values.

But ecosystems have value beyond their direct use, however we often under-value these non-consumptive, non-use and indirect values because there is no market for them. This causes managers to make decisions that are economically favorable and tend to maximize supply of direct uses. However, it is the indirect values, the option values and the existence values of ecosystems that are the most important. These values provide for essential ecological functions such as flood attenuation, climate regulation, catchment processes; this puts a premium on conserving them for possible uses in the future. Many drugs and pharmaceuticals depend on species in our ecosystems.

Often times indirect use values can be excluded from economic decision-making. Examples tend to include mangrove contribution to on- and offshore fisheries and coastal protection from coral reefs. Payments for ecosystem services (PES) recognize these indirect use values and their importance to society. PES attempts to enable people to conserve these ecosystems by providing a payment for protection. PES is one way to overcome high opportunity costs to conservation. In Thailand, the opportunity cost of conserving a forest is nine times higher than extractive commercial use. Undervaluation of our ecosystems is a big problem and we tend to ignore the economic values that come from indirect uses because there is no market for them. These market failures do not compensate the resource users for the costs they incur associated with conservation and PES attempts to offset these costs, even if just a little bit. PES is not the ultimate solution to all conservation problems but it can be used to help overcome high opportunity costs borne by a limited number of societies for their conservation efforts.

2 The Concept and Application of PES

Dr Katherine Warner; IUCN Vietnam

PES is an incentive-based mechanism for sustainable resource management, another income stream to conservation. It is a new system for generating private and public revenues, and can be used to identify new sources of funding for private landowners as well as government agencies tasked with conservation.

Implementation of PES can provide direct financial and economic incentives for ecosystem conservation by providing new systems for generating private and public revenues. Ecosystem services are the provision of natural resources and healthy functioning ecological systems that produce environmentally and economically valuable goods and services. The core principles of PES are that those who provide ecosystem services should be compensated or rewarded for doing so, and those who use the services should pay for their provision. For example, the downstream water users who benefit from the watershed protection services provided should compensate upland farmers for sustainable land use management practices. Some form of payment (either cash, or some other direct benefit such as in-kind contributions, preferential credit, lower tax rates, employment, etc) is paid to the ecosystem service provider, and financed by the ecosystem service user. The user is the buyer of the ecosystem service, and the provider is the seller of it. Initially there is a lot of emphasis on cash and the payment must provide tenure security. In order for PES to provide a meaningful incentive, the payments the sellers receive must be equivalent to the opportunity costs of foregoing alternative land use practices (minimum payment). Opportunity costs are the value of foregone opportunities or alternatives because the diversion of time or money towards some other option.

For example, the opportunity costs of a household maintaining a hectare under forest is the income foregone by not clearing and using the land for an agricultural crop. Buyers must be convinced that their payments for ecosystem services are cost-effective and less than the costs of unsustainable natural resource management. A critical element in a PES mechanism is that both sellers and buyers of ecosystem services must feel confidence and trust; for the sellers that they will receive the agreed upon payments and benefits, and for the buyers that the ecosystems services for which they are paying are indeed being provided.

For PES approaches to be successfully designed and implemented it needs to be supported by institutions, legal frameworks, and policies that define the ecosystem services, sellers or providers (who has the right to utilize and

benefit), buyers or fee payers, and financial mechanisms (including the fees and taxes that generate funds for payments) .

Implementation has a cost and to minimize transaction costs think of ways to build on existing payment mechanisms rather than setting up another flow of funds.

In Costa Rica PES was implemented between the public utilities company of Heredia, and farmers (landowners) who helped to maintain the watershed services (quality and quantity) from the forest. PES was implemented because grazing land is the major competitor to forest conservation and the PES payment was based on the opportunity cost for dairy and cattle ranching. This was collected by the addition of a US $0.20 water tax onto people's existing water bills. Monitoring was implemented annually by the water utility company and this proved critical in ensuring the success of the project.

One lesson learned from forest ecosystem service payments in Costa Rica was that PES became a driver for positive impact. PES increased and protected forest cover in private land while generating additional revenues for landowners; PES stimulated management and reforestation. This project shows the potential in economic opportunities for public-private partnerships in achieving conservation goals. PES drove public interest and awareness in forest conservation. Another lesson is that rights and responsibilities for buyers, sellers and intermediaries must be very well established and clearly defined. Transaction costs have to be minimized. Mechanisms fees to be collected and dispersed are based on trust. Monitoring and enforcement are also key components to success. In Costa Rica if you cut trees, have to pay back the funds you received because you are breaking your contract to maintain that part of the forest. PES can become a driver for positive impacts.

Discussion and Questions:

Q1: Can you describe in more detail the experience in applying PES in Costa Rica and if the fee was imposed on water users without their knowledge in advance. Were there any implications from this? Can you also describe successes and failures in other countries? Is success or failure linked to any political aspect? Are political factors a driving force?

A: The PES fee in Costa Rica was a minimal amount compared to the overall bill to be added and there was awareness of it. It wasn't that people could not pay it. It's about understanding the explanation for it and that the money paid was for the preservation of the watershed. People felt in the long-term it was worthwhile.

Successes and failures in other countries are few and far between because PES is a new concept. Costa Rica is a great leader, but there are some other nice examples in Ecuador; similar schemes where urban water users are charged through their bills to pay for upstream catchment protection. In Columbia, there was an example where irrigation farmers themselves decided they needed to ensure upper catchment protection and voluntarily contributed funds to upstream providers. In France, Vitel (the water company) is paying farmers to engage in sustainable farming practices around springs and sources of water.

Q2: In Vietnam, there is a market failure and it can't be addressed in practice until the government is willing to be an intermediary between the buyer and the seller because it is difficult for them to find each other. Without the help of the government it is very difficult to implement PES and address market failure. My question is how much should we pay? We need to cover the opportunity costs for certain services but what about pollution problems? How much should we pay enterprises to not pollute the water? Often times people cannot pay because it is too much or they might be unwilling to pay. Can you offer any advice?

Q3: How do you make PES broader than just upstream? Changing land use upstream is important but how can you tie it into non-use and indirect values such as biodiversity conservation and carbon storage? So far the benefits have only been about water quality and quantity; how do we capture the benefits for biodiversity conservation? For keeping the forests in the ground?

A: This is a really important point; by providing incentives for farmer's to conserve forest areas through selling watershed benefits other services such as carbon storage, the biodiversity of species is protected. In many cases you can look to bundle services from ecosystems and this will enable you to get the maximum income possible for ecosystem providers. The reality is that payment for

environmental services schemes can very rarely by themselves provide sufficient income to compensate for opportunity costs. At the end of the day, watershed protection fees are not going to match the opportunity cost of dairy production. How do you work out that these are all compatible with each other? How do you bundle these payments, especially those that may be incompatible with each other? Bundling is the key but it is also very controversial.

Where can you stack the benefits? Part of the reason why we are emphasizing water, is that you already have a buyer and you have a seller. A payment mechanism is set up for water and you are paying for water not biodiversity. Now this isn't' saying that you couldn't encourage or provide support to encourage greater biodiversity. It is just not what the water buyer is paying for. If we think about going in with what you can get initially and then building up from there, this is a good approach to take. If we look at forests, they are very compatible with carbon. You may be able to do it with biodiversity, but currently it is easier to identify with water and water is a more immediate issue. You can shift up from there. I'll give an example of stacking done in the US, in one of poorest areas of the US, the Mississippi delta. Farmers had been clearing forest and scrubs right down to the water level because of perverse subsidies for soy beans. Subsidies were such that the more area the farmers had, the more profit they made. Then through new programmes, and both public and private sector support, the farmers received a payment for putting the land into easements. This by itself will not offset the profit of soy beans, but in this case they also started stacking. A California utility company wanted to buy carbon credits, and was willing to pay for reforestation to offset their carbon. Another organization involved was the conservation organization Ducks Unlimited, duck hunters were willing to pay farmers to come and kill ducks because ducks like shrubby areas as well as areas with more trees. With this stacking of credits, farmers were able to almost offset what they were getting for soy beans. By itself not one of those would have been enough to alter farmer's behaviour. Intermediary groups such as farmer's associations and farmer's banks helped organize this. The utility company didn't get directly involved in the payments so the money went into a fund and then got distributed back to farmers. Ducks Unlimited paid money to the farmer's directly. This is an example of stacking with multiple buyers in order to generate efficient PES.

Q4: Peter Neil, World Ocean Observatory: I'd like to address the downstream fallacy. Upstream catchment protection and conservation does a great job to enable urban users and manufacturing but what about coastal development? There is no calculation regarding further development downstream and that strikes me as a fallacy in the model. You must look both upstream and downstream. If you double the cost, 20 cents up and 20 cents downstream, you could solve a multiplicity of problems. Why has looking downstream not been factored in and ocean issues addressed?

A: Unless I've misinterpreted, you've got a city paying upstream, and your questions is what about the downstream people who are damaging the ecosystem? This is a different scheme. With the city and upstream users we have a scheme where the upstream farmers are providing a clear ecosystem service so those in the city are paying for it. Yes, the actions of the downstream users are also very important for conservation terms and costs but PES is not the place to look for that payment because PES has to do with a direct relationship. Downstream there may be many other relationships that may warrant this type of scheme; there may be many. There are also many arguments that society should compensate people downstream for not causing damage, but we are talking about a specific market from upstream to city users. This does not deny that there are bad activities going on downstream but this is external from the PES scheme which links water quality and quantity in the city to upstream conservation practices.

Q5: In the Costa Rican example, how were the benefits returned specifically to the farmers and not to the ranchers or dairy producers that did not participate in the PES? Is this in connection to how PES does not offset the full cost of protection for natural resources?

A: Each individual farmer was paid with a check in the mail. There was no intermediary or association involved to give out the money and collect a transaction fee. This is a transaction cost to pay them individually and also to monitor. In this example we are also dealing with farmers who had a lot more land. They had hundreds of thousands not tens of thousands of hectares of land and in this case there was also a monitoring system and a postal system set up. This sort of infrastructure contributed to the success of the payment scheme.

Q6: In regards to bundling ecosystem services, Lucy presented the millennium ecosystem goals as a framework. Have there been any attempts to use it for trade-offs between ecosystem services to look at the relationship between different ecosystem services? What level of degradation can we accept in one service to maintain another one? Often economists and natural scientists fail to communicate and often in nature you have non-linear relationships. For example, you can get a crash in fish stocks if you don't preserve marine habitats.

A: Yes, there is a trade-off between ecosystem services plus the flip side of cumulative effects of ecosystem services. If we stick with the millennium assessment, your human wellbeing will decline as you remove or decrease quantity or quality of ecosystem services but you can't look at them in isolation. Regarding soil fertility and water quality, the relationship between them is going to be a curve and not a line, which is the flip side of what you are doing. Your other point is really important. There is not enough collaboration between social scientists and natural scientist in terms of PES. It is critical to establish that an ecosystem service is provided by a given land use. Forest services are a classic example: based on the assumption that if there is forest, it will automatically provide downstream hydrological services. In some cases it will and in some cases it won't. We are only just overcoming this at moment, but what are the methods necessary for rapid assessment? To get integrated assessments, you need economists, hydrologists, and ecologists to work together to answer these questions.

Q7: For developing countries are legal penalties and/or sanctions a good approach between buyers or sellers if they don't comply?

A: Fines for non-compliance have been used. In the Costa Rican example, if your contract is cancelled or if you didn't comply, you have to deal with some type of repayment or fines. If you are the farmer that signed an agreement to maintain this land and you get caught, there are repercussions. This is critical point, the need for compliance and monitoring is essential. If I'm a buyer paying for the watershed to be maintained and then it is cleared, then I'm paying for nothing and it will be more difficult to get me to do it again.

Q8: Much of what we've heard has had to do with watershed and forest issues and not the marine environment. Ecosystem service providers and managers and the respective ecosystem service beneficiaries tend to collapse when you move into the marine environment. This case is especially true when you consider 10-15 km offshore where ecosystem service providers and ecosystem service beneficiaries can be one and the same, particularly if you are looking at fisheries. When you are dealing with fishermen and their interest to manage their resource, the concepts of self-regulation don't have a very successful track record. If we look at Small Island Developing States (SIDS), this issue becomes very grey because you don't have such a concept of upstream and downstream when dealing with beneficiaries because they are sometimes the same person. Self-regulation has been extremely valuable when looking at water sports associations on small islands as they tend to be both provider and beneficiary. As you move into the marine environment these issues of buyers and sellers, and regulation, can get very grey.

A: If the beneficiary and the provider are the same person than clearly there is no potential for development of PES. In terms of economic theory, the market should be self-regulating and should correct its own failures and these failures should all be internalized because they are the same person. The problem with the marine environment is that, other than dive fees and tourism fees, the extent to which PES applies is really poorly developed. We are seeing some exciting ones emerge which are more analogous to Costa Rica. One concerns post-tsunami redevelopment in several Indian ocean countries, where nothing has happened yet, but there is lots of discussion about charging urban settlements or public settlements for the storm protection function of mangroves and reefs. Not necessarily for large scale disasters but for recurrent minor events where there is a clear link between the presence of well functioning reefs and mangroves and minimal storm damage. One example and it is the only one covering a fisheries payment for environmental services, is in Mauritania, where the MPA is at least partially financed by PES from the commercial fisheries sector. The MPA provides very important fisheries breeding and nursery habitats, which support the offshore fisheries.

3 Sustainable Financing: Examples and Perspectives from WWF

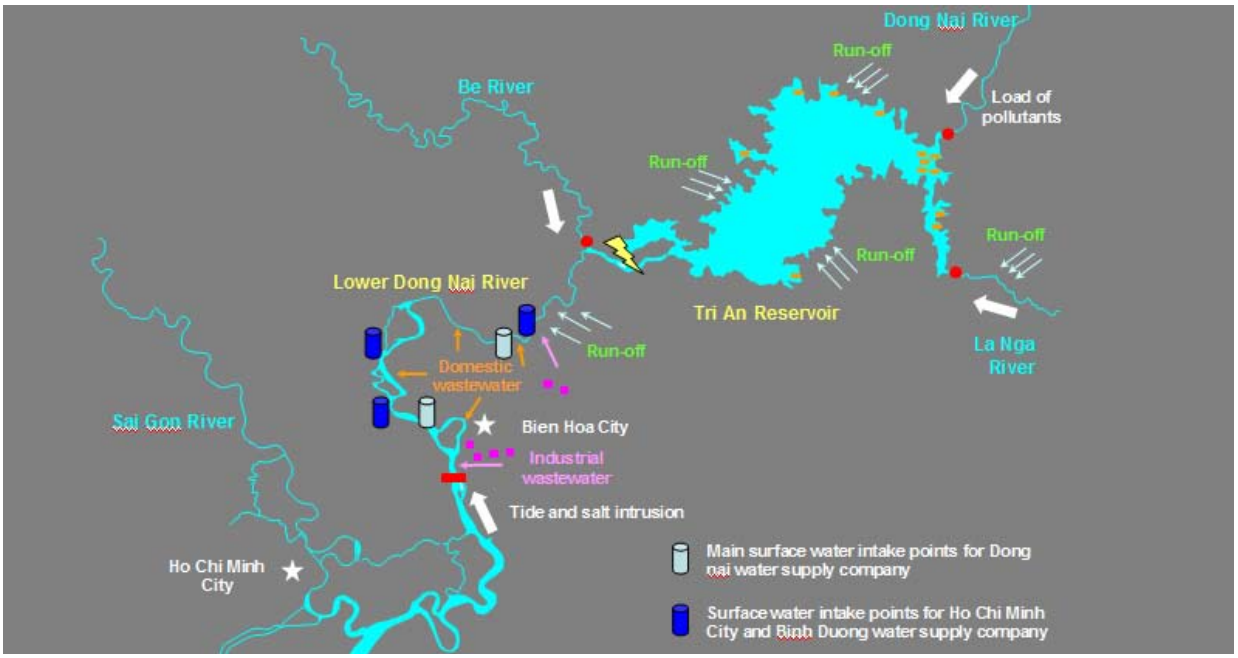
Richard McNally, WWF Vietnam

I will be trying to move from the theory of the morning to case studies and examples from WWF in the last 3 years. I will discuss work we are doing on protected areas, marine protected areas (MPAs) and work on ecotourism and carbon.

1) Bach Ma National Park, is located in the center of Vietnam. It is a critical watershed protection area and currently little revenue is captured by the park. In 2007, a TFF (Vietnam Trust Fund for Forest) study on sustainable financing for Bach MA National Park indicated that tourists were willing to pay entry fees of roughly 25,000 Dong. This new fee structure would triple the revenue of the park. The study also determined that the park could increase the price of bottled water to further include capture of economic rent.

2) Con Dao National Park is a remote island off the East coast of Vietnam with potential for sustainable financing. This island has the best turtle nesting sites in Vietnam and can increase revenue streams from eco-tourism. The island has best access for tourists to come and see these sites. Tourism provides a great potential to increase revenues to the park: entrance fees, diving fees, room surcharges, landing fees can all be placed in an island trust fund. The important issue is to ensure that the revenues be dispersed to the local communities relating to environmental protection on the island.

These two examples require there to be a clear mechanism to link conservation to needs of the park. In Vietnam investment plans are not put together by parks but by other institutes. There needs to be clear design plans based on the needs of park. Parks are dependent on state budgets and they are not large enough to cover regular costs of the park let alone conservation costs. There is good potential for revenues from eco-tourism but new legislation that allows for investment in National Parks is required. It will also be important to create eco-tourism standards to negate potentially negative impacts.



WWF is working on a new project implementing PES in the Dong Nai watershed to address water pollution in the lower Dong Nai river. The PES links the importance of protecting forest for industrial use downstream. The lower Dong Nai river is good for drinking water. Water treatment costs are increasing due to increased pollution from industrial areas. WWF is working with water supply companies to see where the pollution is coming from and to target different groups to reduce pollution. Forest management units and farmer communities involved in agriculture, aquaculture ponds, and local industries are being targeted.

Vietnam has a good opportunity for PES implementation because of government support. Land allocation and tenure rights are important but encroachment and confusion can undermine PES.

Q1: The Dong Nai River watershed supplies water to many millions of people. How will you apply the PES fee in the area? Will it apply differently to different users in different towns?

A: This scheme is different from the benefit transfer one; this will be coming from the water company. If you look at the increasing cost of treatment for the water company that will be imposed on the users and you look at the pollution cost upstream, it is more beneficial to compensate pollution producers. This will reduce treatment costs to the water supply company, and they can pay upstream forest users. This is the case of compensation as well as a PES. The other scheme looks at user fees and put a 1-3% fee of the water price. I don't know the calculations behind it but that's the general level of the fee.

Q2: PES is only one mechanism to combat pollution and there are other important regulations already in place, how have you balanced that?

A: In terms of regulation with PES, the regulation provided the set up for the market. If there weren't already some sort of regulations in place it wouldn't have worked. Regulation is critical to any PES scheme. If you have incentives for different buyers and sellers to pay for environmental services, than you need less regulation.

Q3: With the fees collected from tourism, how do you know if the park will be doing anything to protect its resources? With coral reef protection, you can have tourists walking on the reef and even if they paid the fee, this won't help protect and conserve the reef. What are your thoughts on this?

A: At the moment in the park, setting up an island trust fund is how we attempted to deal with it. We try to use models from other countries. It is important to have a transparent system of different stakeholders and this is difficult in the context of Vietnam. You can't simply set up a trust fund and not see where the money is being spent because the money might be spent for the wrong reasons. The idea of an island trust fund would enable transparency in fund disbursement however we haven't really got into the details of this.

4 User-Pay System in Sea Use Law of China

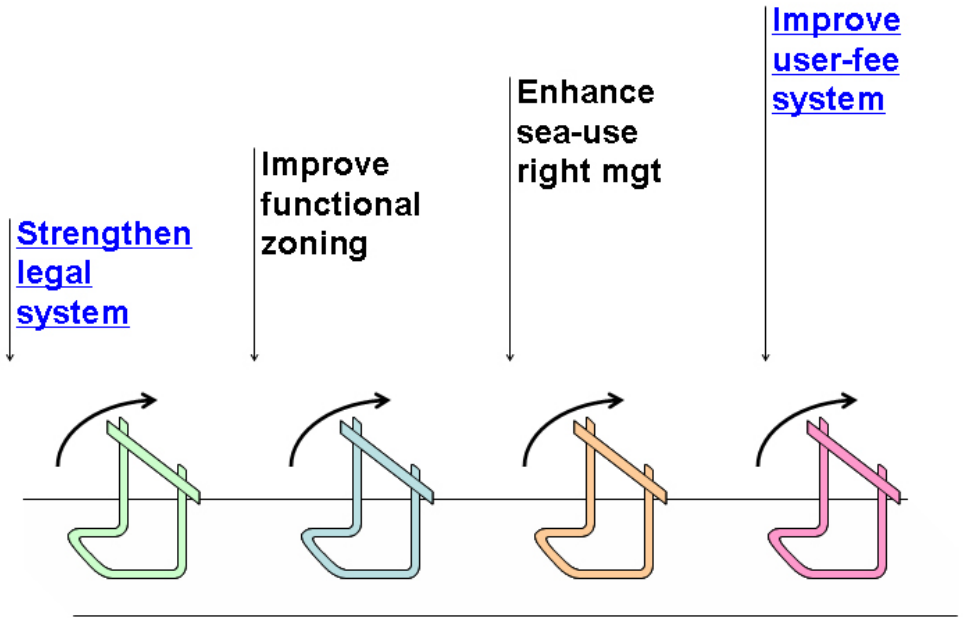
Isao Endo, UNDP/GEF Yellow Sea Project

The economy of China is booming, and that includes the port development, fisheries and tourism sectors. The Olympic games are coming soon and this had led to increased development. Marine pollution is a big issue because of excess nutrients. There are increasing numbers of users of the sea and this has led to intensive sea-use conflicts. China recently enacted a law to mitigate serious environmental problems on the sea, it is called the Law on Management of Sea Area Use.

The law has three main principals. The first is a sea use right that re-allocates the property rights of the sea. In China, the owner of the sea is the government; this law states that the property right will be re-allocated to those who are interested in using marine and coastal resources. The second principal creates marine functional zoning. This is ecosystem-based management whose law and management are based on scientific findings. Based on science, we allocate and designate the use by all stakeholders in coastal areas. The third principal is the user fee. The law says that anyone interested in developing the coastal area by using marine resources, including fisheries, has to pay.

With the sea use right, the government issues a certificate to those who use and develop coastal areas. Once you get a certificate you have the obligation to pay for the use. There is a unified standard sea use fee, which is developed by the central government. This depends on categories and uses of the sea area, by the land area used and the types of activities.

PES is a new concept to China. Our new law is similar to what this workshop addresses- it gets users of ecosystem services to pay for use. Fees are set on land value (30%). Does land value really reflect value of ecosystem services? I don't know but they use it anyway. The impact of law is that 1.1 million HA of ocean is allocated for certain use and the government has collected $3.5 billion yuang as the fee. This is equivalent to $500 million US dollars. User conflicts were indeed reduced and excessive use is controlled. We still need to improve this system. We need to strengthen the user fee system and legal system by preparing/consolidating supporting regulations and by-laws, which might be relevant to harmonization of the legislative structure. Currently the government just



assigns the user fee as 30% of land value and this might not really reflect the true value of ecosystem services, so we need to consider prices on ecosystem services.

Q1: How are the certificates distributed? If I want to put in an oil well that is one certificate, do I need another certificate if I want to go and do a recreational activity? How well are they managed? If 70% of the coastal waters have been rented, what does that represent? Could you expand?

A: The 70-80% area covered is on the coastline only, it doesn't cover the sea area. The certificate allows you to use the coastal and marine resources, you can be a developer and if you want to develop commercial activities in coastal area and if you want to reclaim the land, you have to apply for certificate and must get approval from central government.

Q2: What about monitoring? If you have been given a certificate, is it subject to monitoring to make sure activity is carried out as agreed in certificate?

A: Monitoring is done by local government. This is a problem. The government realizes the importance of monitoring and evaluation but there is a lack of funds and personnel as usual.

Q3: You mention a lack of funds but what happens with the $500 million? Is any of it spent back to marine conservation?

A: In theory those fees collected should be used for environmental protection, but right now I'm not sure how that fund/fee gets redistributed and for what purposes. In theory we should use the money for securing sustainable development in coastal areas.

Q4: Are there any incentives to sea users to use the resources sustainably?

A: For private users, I'm not really sure. There is an incentive for land owners, which is the state. There is an incentive again with the issue of property rights of the land. Apparently there is an incentive for the government to protect the land or coastal area if you are following economic theory. If property rights are clearly defined and if you can say this land belongs to you, there is an incentive to not use your resources excessively. So yes in that sense there is incentive for the user to facilitate use of marine coastal resources if property use rights are clearly defined.

5 Designing and Implementing PES: The Philippine Experience

Janet Arlene Amponin, REECS, Philippines

This is a site specific experience for PES in the Philippines and I will discuss the general steps taken leading up to the PES and the lesson learned from this experience.

With the site selection process undertaken, we kept in mind that PES would not be a solution for all environmental problems in the Philippines. The team decided to find an area where there were major threats to the forest and to view and assess areas to see if PES should be used to solve environmental problems and alleviate poverty.

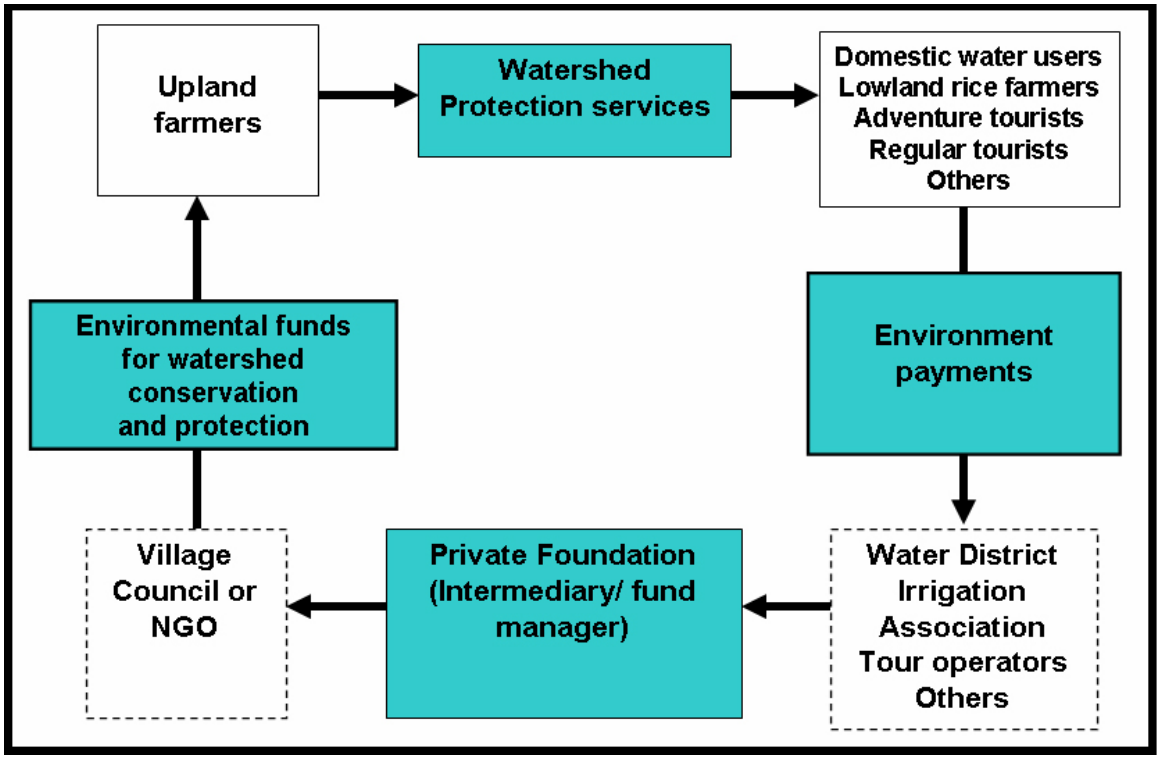
We used several criteria to assess the sites. These included a well-defined environmental service, having a distinct buyer and seller, and fairly good, stable watershed condition. We also looked for good institutional support.

The site we selected is one where tourists enjoy the area by kayaking, spelunking and white water rafting. We identified four types of beneficiaries and a high priority for conservation. Community farming is a major source of livelihood.

There is a protected area law, mandated to handle the area but it has a very constrained and has a low operating budget. Currently it is impossible to implement existing protection laws in the area. We reviewed the science, economics and institutions, and did surveys of beneficiaries to determine the value of watershed protection in the provision of water to water users. We also reviewed institutional aspect by looking into existing laws that could be worked on and where PES can be built up and incorporated. We sought help of various stakeholders to identify all the stakeholders and see who could be involved in PES implementation. We identified upland farmers as service providers. We found out that a private foundation was the most preferred group to facilitate PES implementation. Based on stakeholder analysis, cash payments were the best option for upstream farmers.

Lessons learned included the importance of proper site selection and the multi-dimensional character of PES. PES can be a solution for a given area, but it varies on the conditions present, including the science, economics and institutional set-up.

PES is not a cure-all and there is an important need to secure property rights. Community involvement is essential. Most people were not convinced of PES because of confusions and wrong notions about PES, this highlights the need for community education and outreach.



Q1: How long did this process take?

A: We started in 2003, so about 5 years. Now it's being implemented, we can't say if it will be successful because it is in the implementation phase but maybe after 1 year we might be able to draw some conclusions.

Q2: My question relates to opportunity costs. How do you determine opportunity costs if there is more than one opportunity possible? For example you could cut timber or replace mangroves with a shrimp farm? You can't pay for every opportunity cost foregone.

A: We didn't calculate opportunity cost in determining commitment of buyers, we depended on willingness to pay instead. We didn't ask farmers how much they were willing to accept but basically asked them if they are willing to accept the training courses that the buyer would be providing for them. In return they would be able to maintain agro-forestry farms that have already been established.

A: Opportunity cost is something you need to bear in mind. It doesn't mean in every case you need to calculate it, only what sellers consider sufficient and what are buyers willing to give. PES may work at a given place at a given time, but that may change with respect to space, employment conditions and other opportunities. If a big road comes in and an oil palm plantation opens up, costs will change dramatically and farmers may not be willing to accept training as sufficient compensation for environmental services. You are given a set of conditions at a given time and these can change.

A: This is why we had to take this into consideration. These incentives could not be used as investment to be able to do these destructive activities.

Q3: Just one of the potential buyers has gone into the current agreement. Of the other buyers that were involved in the planning and negotiations, what were the reasons they gave for not getting involved?

A: For the city located in the water district, right now there is already a high water tariff. Therefore increasing the fee is not possible; the people would react negatively to that. Given that they are already charging a high tariff, they are also operating on the red line so they are losing money and won't be able to pay for watershed protection. However, in our meeting, the water district manager expressed interest in entering into an agreement, but they can't do it right now. These are poor people; they are willing to use the fees already given to them for use of irrigated water, but are already unable to pay for a service that imposes an additional service to them, therefore it might not work.

Q4 I have a problem in understanding opportunity cost. Do we mean ethical opportunity cost or anything that can be gained from a piece of land or part of a sea? In the Caspian Sea, the fisheries are threatened by organized crime. They go to see and catch caviar and sell it at $3000 kilo in New York. If I wanted to design PES for Caspian fishermen, do I calculate cost of caviar or something else? I'm sure you can find example of planting coca or opium. Is it ethical to consider these opportunities too?

A: If you are sitting down to negotiate PES, it has to be worth your while to do it. Without thinking about legal framework, for fishermen, why would they bother?

A: You have to be very careful about opportunity cost as you can only take an opportunity cost on the foregone production of someone who legitimately has the right to use the area and the legitimate right to produce something from it. If people are farming illegally, they should not be compensated for their opportunity cost. Commonly, it is state land that is protected and there are laws against it. As for organized crime fishermen, instinct tells me they are acting illegally with respect to what they are catching and how they are catching it. They should not be compensated as they are not providing any service. If you negotiate with organized crime, the issue of legitimacy is an important one. PES has been set up with poor communities who are encroaching and acting illegally on activities they are carrying out. We shouldn't compensate them because we are rewarding them for illegality.

A: Legalities are defined by society and many have gone through colonial history. Governments are not that responsive to communities or laws. You can't just take the law as a given because laws change all the time. The opportunity cost is influenced by what the law can actively control. If you look at Central Park in New York and the opportunity cost of building apartment blocks on it, the opportunity cost would be huge. However, if zoning costs are so high that you can't build anything there, then opportunity costs are relatively low. As enforcement becomes more effective, opportunity costs go down.

A: We have to bear in mind that you are talking about different opportunity costs of production: land, labour, and capital. You can't attribute all three to one economic agent. Second is the cost the same when property rights are well defined or not? Probably not, opportunity costs can be determined year by year. If they are well defined and enforced, we can look at the present value stream of net benefits. There is a very big difference when you have property rights versus when you don't.

A: Here is an example of how we value the opportunity cost in the Manila Bay area. Only a few mangroves are left in the reclamation area, so property developers and public reclamation authority computed commercial value of land in coastal lagoons. The opportunity cost and value of mangroves and coastal habitats were calculated. We tried to do resource valuation covering mangroves, migratory birds, and endangered species in the area. We compared the commercial value to the calculated value of mangroves. The President realized there were only a few areas left and that other areas could be identified for development, so now the mangrove area is a protected area.

Q5: Would it be more effective other way around? To allow that developer to develop, and use that money to reclaim other areas where mangroves are depleted?

A: No, in 1994 only 700 Ha were left, and in 2005 only 350 Ha. Given the contribution of mangroves to fisheries in Manila, and the fact that mangroves protect investments in reclaimed areas, plus the value of shorelines protection added to carbon sequestration and other indirect use values, the worth of the existing mangroves was estimated to be very high.

6 The Pilot PES Policy in Vietnam and PES pilot sites in the Dong Nai River Basin

Jim Peters, USAID

The most important lesson to keep in mind is that PES is not a policy by itself but should be considered a tool. The key aspect of PES policy that we will focus on is to establish a basis of development for the legal framework for forest environmental service payments to be applied in Vietnam. Our project attempts to socialize and mainstream the forestry sector to the national economy.

We are planning a 2-year implementation from 2008-2010 to start experimenting with PES. We are hoping that this will allow room for learning and adjustment to address some of the issues that have come up in some other presentations.

Our project will get specific about defining the buyers, forest owners and service providers and will assign some roles and responsibilities for forest boards for protection and special use forests. This will involve all levels of the community from individual households to village communities and individual forest owners. The payment transfer mechanism will be piloted in two provinces in Vietnam. The price is already set out. The price of services to be charged to the environment is VND 20/ Kwh with the PES based on water regulation and soil conservation value of the forests in the watershed. The data are insufficient to provide inconclusive evidence that 1 Ha is worth a certain amount, but it does provide some basis for the fee and monitoring mechanism.

The idea isn't to set up a uniform mechanism but to leave the design up to the provincial level of stakeholders for them to implement in a way that makes sense for them. Conditions in northern Vietnam are different from those in Southern Vietnam even within this study and there needs to be some flexibility in establishing the mechanism to account for these differences.

The initial payments of investment will reduce operating costs and eventually reduce fees that are paid by beneficiaries of water utilities and ecotourism values maintained by the policy. This is a very important part of the investment strategy. In Da Tai, the local people got ownership rights and bamboo seedlings in an agreement not to plant cashew. Trust is a big issue. We are also in discussions about how to measure the impact of climate change on water quality, quantity, sedimentation, tourism values and the changes that may take place if a road is built.

Q1: How has the targeting of "pro poor and women" been accomplished?

A: Originally in the Da Tai pilot site, we did a PRA analysis that involved socioeconomic household expenditure surveys, cultural beliefs and values, and subsistence economy. The results indicated which people were doing certain activities with a set level of income. We also paid attention to households headed by females to make sure we considered their specific options, considerations, and risk assessment strategies. This went into the final decision about what types of commodities to promote such as bamboo, and what was available to women and ethnic minority headed households. We have a management

target that at least 30% of the financial incentives are generated either by women or minority households.

Q2: You examined the trade-offs between different activities that provide services in the catchment and the possibility of road construction. What is the nature of the early warning system you developed for these scenarios?

A: As another part of the programme, the policy takes a broader view of things we've evaluated. PES is an opportunity to create sufficient economic incentives to conserve biodiversity and part of that includes a threat analysis. Essentially we looked at socioeconomic development plans and then did a macro-economic analysis for the target provinces to be sure that we knew what was already planned and what trade offs would be. The next step would be to target biodiversity to include a socioeconomic plan in Long Dong Province. It has actually been agreed recently, that we would include management targets for biodiversity under the 2011 and 2013 development plans. Attention to these targets is written into the provincial development programme.

Q3: You distinguished between natural resources taxes and the polluter pays principle. In many cases taxes are levied for other aspects. But taxes never get re-used for environmental protection. If that were the case, could that not count as PES?

A: That's a tricky question. Some people might count it as PES but probably it is safer to categorize it as another resource that can be used to achieve sustainable resource management strategies in agreement for other services. This is more oriented for the seller that can derive economic benefit from conservation practices. Water resources taxes tend to be rents for resources that are being used but not particularly being used for forest environmental services. If you look at it this way, it's a penalty; those that pollute must pay to clean up the mess. This always creates confusion, but it is an important point. Yes, it is a potential resource to be invested for environmental management objectives.

Q4: My question is about the "pro-poor" distribution of the money? My question is about environmental services related to tenure. From my experience in the central highlands of Vietnam, where there is a huge financial incentive, it is very likely the elite are capturing most of the incentives and benefits. How did you implement the project to make sure that poor farmers were able to get benefits from the payment scheme?

A: The first answer is a strong commitment on the part of the government to ensure elites don't capture the benefits. This provides a threat also to maintaining agreements as well. The structure and the mechanism were set up and watched in the pilot activity to ensure that the benefits do reach the rural poor. If you asked Mr. Phu that question, he would say he's working on a corollary land policy in support of that. This is a second step of 3 pieces of legislation being put in to strengthen national forest strategy to give small local stakeholders a stake in local resources. There is lots of opposition to that because it requires a change in the system. But the economic argument Mr. Phu would make is that in order for forests to be protected, the private sector has to be mobilized. He had private experience in the agriculture sector and he wants to transfer lessons learned to the forest industry. Part of privatizing and getting the private sector involved requires equity on millions of people living in Vietnam's forests. It will take some time and negotiation and will be implemented better in some provinces and not in others.

Q5: One point- a company in Ho Chi Minh City pays back to the service provider upstream in other provinces, and normally the ecosystem is managed under one river system, and one management board, even if there are conflicts of interest. How do you involve those people in the process? Are you working mostly with national industry? How do those mix?

A: The pilot policy is specifically designed to avoid overlapping roles and policies in existing legal systems. Beneficiaries of environmental services in this region fall within Ho Chi Minh City Administration. All we are doing, is working with Lam Dong province as a pilot area to provide more information, more data, and better experience to negotiate some of those issues. There are many other considerations such as water quality issues related to point source pollution. There are millions and millions of dollars that are invested in fixing leaky pipes in city and for water treatment. We have done some initial treatment exercises with stakeholder groups and with people who manage New York city water system. We've conducted what's called a filtration avoidance determination by setting a water quality target and setting a land management plan at the top of watershed to reduce costs of water treatment. This effort is just beginning to address those issues.

7 When Villages Pay Each Other: Lessons from Local Incentive Based Mechanisms (IBMs) in Micro-catchments in India

Chetan Agarwal, Winrock International India

This study is based on three sites but is on a very small scale. The purpose of this study was to create a resource flow from service recipients to providers. We engaged farmers and children in the catchment along with hydrologists and developers. We looked at both the physical and ecological aspects. We included children in the process because that way people started looking at our project like it was something for the future. The payment was provided for outputs such as a smaller amount of sediment in the river and was driven by the opportunity costs of those downstream who were willing to do something about it. IBM's can lead to a greater voice for the marginalised as IBMs demand negotiation and dialogue. The lack of clear community right on common lands makes implementing IBMs on a larger scale a risky exercise both for upstream and downstream stakeholders. Future needs for the project include the assessment of biophysical threats and the relative amount of their inclusion in the PES agreement.

Q1: You said there were three things you could pay for. The first was outputs, for example: reducing sediment load. The second was inputs, such as changing the way the watershed is managed. The third was opportunity cost. What was your conclusion about what is the most favourable way of constructing these systems in terms of what you actually pay for and what can be monitored, measured and meet people's expectations?

A: Conceptually you start with market use such as “I want to buy something”. For water quality, a water quality market is the most efficient way to do this and there are water quality type approaches in US. For that to happen you would probably need a large agricultural source and some big point sources as well. If hydrological relations are well established and property rights are clear, and buyers and sellers are organized, then you could go for an output-based approach that takes risk into account. If you are working with poor small-scale farmers, they balance the risk and may encourage more farmers to sign up. If enough farmers sign up, then no individual farmer is accountable and the risk is acceptable. You need to look at the opportunity costs and you need to look at the poverty element of this. If you are working with poor stakeholders and you can marry the poverty objective functions, then you can get money from both objectives.

Q2: Why did the upland village not accept cash? What benefits did they get from the saplings?

A: I can’t really speak completely for them. My sense was that the amount was pretty small, and they didn’t want to reject it. It’s a social context as well, and perhaps they are inadvertently suggesting an alternative incentive to conserve the area, if they can receive payment in the form of saplings. Obviously the benefit of saplings is that they don’t have to buy them. Second the benefit is that when saplings grow up they’ll be trees and they get other benefits.

Q3: There was an intermediary initially involved but this could have gone on without an intermediary. The communities worked it out and sustainability could have continued. My second point is the externality in terms of a road coming. Internationally, we deal with this often. Roads, dams etc. destroy these arrangements between communities that have been long-standing. Was there awareness ahead of time that the road would be there? When this was being designed, did the community know about a road? We might not know the contribution that forests make to water but we have a good idea of what a new road does in terms of contributing to silt so that’s less of a mystery. Was the community aware of this?

A: The agreement was very sustainable and one of the key principles was that we only go as far as the community is willing to go. We won’t spend any money in a catchment for awareness activities. We didn’t pay for anything or pay a single rupee in the catchment. We wanted it to be a pure payment. The agreement is still holding but we don’t know if the road will have an effect. There was talk of the road and moving its location and then it went right above the dam, and roads become dumping sites.

Q4: You treat the payments like three alternative forms but couldn’t we look at them as one payment that gets transformed to another? Purchases of water measured according to sediment output can be used for inputs and investment as long as payments continue and trees are protected. Protection costs are financed again by payments. They are one form transformed to the other as beneficiary to provider.

A: You could look at it like that. Opportunity costs need to be considered. Usually people prefer to pay for one or the other but they could be transferred.

8 Sustainable Financing of MPAs: A Case Study from Nha Trang Bay MPA, Vietnam

Bernard O'Callaghan, IUCN Vietnam

The coastal economy is vital to the economy of whole country. There are 300,000 people living in Nha Trang and it is developing very, very, rapidly. The aim of the Marine Protected Area (MPA) is to protect and manage the marine biodiversity and to seek to do it in collaboration with local communities.

Only the sea is protected not the land. The MPA comprises nine islands and six villages. There are currently 5,300 living within the MPA boundaries. 80% of the men in the villages were fishermen and 79% of the women had no employment. Currently about 700,000 tourists per year go into the protected area.

Community involvement is essential in the MPA. Based on their involvement, it became known that if the MPA were created, local fishermen would lose access to resources and incomes would decrease. There were joint management activities, provision of livelihood support, and village development funds.

The sustainable financing was important right from the beginning. The idea was to give 10-15% of tourism user fees back to local activities.

How did the legal framework deal with the user "fee"? How did fit in with the national regulatory framework? Only the Nha Trang Bay Sightseeing fee, not the protected area fee was used. The fee remains at around 30 cents per person. The second fee, the Hon Mun service charge, is placed on divers and snorkelers visiting the waters surrounding the island of Hon Mun and costs $2.

These funds should not be substituted for existing funds and they are needed for community-wide benefits for the protected area. Vietnam has a system of fifteen marine protected areas. Now that funding is being generated at one, it will not be used to support the 14 other MPAs. Sustainable financing is needed in all fifteen MPAs. It is important to balance local with national needs. The

establishment of MPAs in the short term can have a long term impact on local communities.

It is these local communities that may protect mangroves and reefs but the benefits may go elsewhere. How do you make sure benefits are captured? This is difficult in marine systems because fish move. If they are protected in one area, they may not be protected elsewhere. Is PES a solution for marine ecosystems? Mauritania is the only example of direct benefits flowing to those protecting marine resources and those protecting downstream.

Shoreline protection is another marine ecosystem benefit but who is responsible for providing those services? Local communities are being asked to forego aquaculture and shrimping in some areas because of the protection values of mangroves. The value of mangroves can be up to $9000 per hectare for protection in China from typhoons. Seagrass beds and coastal wetlands are vital in maintaining water quality. While some areas being protected for tourism are also good for coral biodiversity. The problem is identifying the buyers and sellers in the marine ecosystem and they can sometimes be one and the same person thereby also causing problems.

Q1: It appears there was benefit sharing between different partners in different dimensions of the park. Why is the distribution like it is? How much can that contribute to the watershed?

A: 1) Villages in the area not managed by the province but by the city. 2) The protected area is very close to two rivers coming out through Nha Trang City. The province argues that they need financing to maintain the river management to assure reduction of impacts of improper discharge. This is a challenge to MPA management because within the MPA boundaries resources are managed, but it's the external

influences such as water quality and aquaculture that can have impact inside the MPA.

Q2: Was there negotiation between different partners?

A: Yes there was, including the province, city, and management authority, who wanted an adequate budget. The province realized there was so much money coming in and an operational budget was less than that.

Q3: Does success of the model extend to the other 14 MPAs in the country?

A: I think not. Not yet. Con Dao National Park in the South of the country is the next possible place and they may have only 10,000 visitors per year. This site is lucky and has several hundred thousand a year. Halong Bay has about 5.3 million dollars/year from tourism. About 45% remains for the management of Ha Long Bay. In Thailand user fees, are 200 baht for foreigners, which is about $5 but that's submitted to the national treasury and not for site management. Should it go to the treasury or to individual sites? There is concern that few sites can generate income and other sites cannot. Is Nha Trang ready to allocate funds out to other sites? I think not but that requires leadership from the national level.

Q4: We have a model PES in Cambodia but the number of visitors has not increased sharply. One of key successes is increasing the number of visitors and how the political economy is going to dictate using those funds.

A: The third challenge is that you have 700 thousand tourists a year going on boats: not to core zones but just out in boats and recreationally. Those people go into core zones and they are increasing. The small site has ten dive companies, five glass bottom boats, and a whole range of snorkeling boats. How do you manage tourism in the area? Is it a licensing system? Or do you hike the fees up to a level where only people who really want to go can access that area?

Q5: Originally the model was the Great Barrier Reef. Was it successful in multi-zoning goals and can you highlight if a huge hotel would impact the project in a positive or negative way?

A: 1) The zoning was a reasonable model of zoning in collaboration with different agencies, such as the MPA authority, and a bird nesting company in charge of some islands. A big hotel in one end of the MPA would cause a big challenge but the issue of water quality in rivers is also a big issue. This will remain a major challenge maintaining high water quality out of the rivers.

Q6: Isn't this an example of tourism services for 700,000 people? Are any of those contributing to the central attraction of what brings people there?

A: The dive leaders and dive instructors they say if the MPA project wasn't established they'd be finished and diving would be finished. There would be no benefits at all. MPAs were established and large development went in. This happened at Con Dao as well. It is important to try to influence the shape of things getting in and the shape of the environment. Vietnam is a newly emerging economy and the period of rapid economic growth and balance between the environment and growth is a real challenge.

I wanted to share a perspective on another region. We did a MPA workshop in the Red Sea before September 11, and there were half a million dive tourists in Sharm El Sheikh alone. One of the techniques being employed was to diversify tourism to develop inland destinations and to use zoning for the tourism to integrate different kinds of biodiversity-based tourism for the visitors. The types of things developed were cultural, historical, and archaeological sites. Dive tourism is what attracted visitors and the MPA especially enabled diversification of the tourist industry, which was then seen as a management technique to manage numbers.

9 Tools and Issues in Identifying, Designing and Implementing PES

Lucy Emerton, IUCN

We started off talking about concepts and economic theory. One of main issues was the idea of market failures. Market failures are the reason why ecosystem services are undervalued and under-conserved. The idea of PES is to find ways to provide incentives that change people's behavior and change the way people make decisions both in the way people make decisions and use natural resources. The thing that's distinct about PES is the idea of creating prices for ecosystem services as a means to build incentives and internalize the externalities to motivate people to change their behaviour. A variety of approaches and a variety of cases are being experimented with. The whole idea isn't very mature; there are a lot of cases about what is PES and what is not PES. The basic fundamental idea is about incentives that change behaviour. There are certain key ingredients that go into payment schemes: one is a science base that links the management of actions on ecosystem services to outcomes in terms of delivery for ecosystem services. You need some scientific basis for making that link. You need some idea of ecosystem valuation so you can build an understanding of how ecosystem services relate to ecosystem interest. You need to understand institutions and how they need to be formed and managed to accommodate the provision of the necessary capacities for transactions associated with PES. You need cost-benefit assessment analysis to incorporate opportunity costs. You need a negotiation of agreements, a price and what will be paid, and in what form. PES need to be monitored and needs to be enforced. There are perhaps no really firm answers about how to do payment schemes in this region. We are still trying to feel out what is it and how do you make them work - at the broad national scale in Vietnam or local watershed scales in the Philippines. We've heard about it in forested watershed, how can it be applied to marine ecosystems?

PES is really about negotiations and trade-offs. What's in best interest of one group isn't in the best for another group. Fundamentally it doesn't avoid the fact that we are dealing with certain trade-offs between conservation, development, and different degrees of protection and management. Another really important thing is the time factor. Opportunity costs change and so do people's needs and aspirations. Whether they are the managers or the buyers, the circumstances surrounding the PES do not remain the same. PES is a response to a given series of threats to biodiversity at a given time at a given level of market development but that can change. Rural communities are engaged in a low level of harvesting and natural resources are in a very different situation for trade-offs and opportunity costs.

Here is a quick recap that highlights the key points of PES. This is what we're looking at: the tools, issues, steps in identifying and designing things which are voluntary agreements. They are not mandatory and may be enforced by law but depend on voluntary actions of buyers and sellers, and involve cash or non-cash rewards being provided from the buyers to the sellers. This creates a market for ecosystem services in order to provide incentives and finance to land and sea managers thereby strengthening conservation and likeliness of success. Fundamentally as we went over in detail yesterday, we're looking at given ecosystems, which provide a given service, which is of economic value to somebody. We're looking at particular providers of that ecosystem service and particular beneficiaries of ecosystem service. By creating markets, we are transforming ecosystem service providers into sellers, and transforming beneficiaries of ecosystem services into buyers. What do we actually need to do in order to affect this transformation of providers into sellers, what are the tools and steps given that in most cases information and data are extremely constrained, on capacity, on time, on resources, there is a need to set in place identified PES schemes which are credible, not based on bad science but are realistic and can be designed and implemented in the real world not just in a text book. We will affect this transformation design and implement PES schemes, we will look at what are the services and which of those services if any are marketable.

10 Identifying Marketable Ecosystem Services

Jim Peters, USAID

How do you figure out which services are in your area and what will have sufficient demand to generate real economic incentives? The types of PES can be for biodiversity, water, carbon, and aesthetic values. Criteria to consider:

- What types of values are undervalued and what kinds of payments are most tangible?
- Who are the potential buyers/key decision makers?
- Should payments be based on supply or demand side?
- To what extent can different environmental management options address the needs of the buyers?
- What is the scientific basis for them?
- To what extent do payments/rewards offset opportunity costs – sufficient to change behaviour?
- To what extent can different payment options support and possibly be supported by government policy initiatives?
- We looked at establishing watershed values in Lom Don Province. There was hydropower used in this area and we went to the hydropower plant to investigate the feasibility of payments for avoided erosion and enhanced water quality.

Q1: What sort of budget and timeline do you need for market research?

A: We have a fairly large programme and so that activity and budget weren't isolated for it. It depends very much on who is doing the work. If international people were involved more, thereby increasing the cost, then it would take more time. In our case, it's been about a year or so and that was fast I would say.

Q2: We also need to talk about the scale of the ecosystem. In Nepal the ecosystem is very large. How did you choose the watershed so that it's not too big? What is the size?

A: The pilot watershed is 80,000 ha, but the entire river basin is much larger. The original map shows how we divided those up into manageable sections. There were eight existing hydropower facilities and so we targeted those areas as being the first ones and we didn't get the complications of downstream benefits. The benefits generated by pilot site, $1.25 million based on pilot policy, should be sufficient to support policy.

You mention Nepal and that much of their watershed lies in Tibet or China. And when identifying real ecosystem examples, we have had single country examples and almost by definition PES is going to have to work within a country. Think about MPAs and you will find that lots of benefits may extend either into neighbouring countries or benefit populations from neighbouring countries that come into territorial waters. I'll give two examples of projects of IUCN where we have failed to set in place PES. One is in Central America, it's a watershed called Tacana. The watershed lies in Guatemala in an area where very poor, ethnic minorities live and desperately need more conservation incentives whilst mainstream people down the river in Chiapas are rich. In principle they had a good PES scheme with poor farmers who need an incentive and rich downstream users, but it is actually impossible because it involves negotiating between Mexico and Guatemala and that won't happen. In the case of a MPA on the border of Kenya and Tanzania, we were looking at PES type schemes that would make payments to local communities and an MPA authority, in recognition of fisheries-breeding habitat. This worked in certain points but half of the fishermen benefiting were Tanzanian and so this became an issue of national sovereignty, laws and enforcement, which become impossible when one country or government authority could not enforce against another nation's population.

11 Assessing Ecosystem Services

Marian de los Angeles, World Bank Institute

The millennium ecosystem assessment goals break ecosystem services up into those that are provisioning, regulating or providing cultural services. There is always some kind of a model to value watershed services and their relationship to wetlands and marine areas. There are economic-ecological models, dose-response relationships for agriculture, aquaculture, health aspects, yield-effort curves, and production functions.

The challenge is understanding the processes of generating these services: the functional forms, drivers of change and attribution of factors. What is our own role in decline of ecosystem services and changes in environmental quality. Which ones should we focus on? What is the appropriate scale? For PES? The smaller the watershed, the easier it is to manage, but it may not have sufficient impact to justify the costs associated with PES. Climate change impacts need to be downscaled to allow for local climate variability etc, and allow for meaningful interventions and adaptations to take place.

Q1: Models are a really important tool in making assessments needed to link management and application of an intervention with ecosystem services and the benefits that are delivered. One of the things about models is that they are full of uncertainties and difficulties when you move from one place to another. What do you see then as methods and approaches to handling that uncertainty in the case of making the assessments needed to set up a payment scheme? How do you deal with it in the decision- making process?

A: You monitor. Whatever arrangement you have should be treated as initial arrangement and should be dynamic enough to allow for changes in the future. Some models have some degree of uncertainty and we are trying to use the model to guide decision makers in certain manageable policies.

Comment: For models of sediment, I can share an experience. I coordinated a global attempt to estimate production models on soil erosion and soil productivity and came up with a number of general relationships. They have a negative exponential form and what is important is to find a general shape of the relationship and then to extrapolate and calibrate to the environment you are working in. It is

interesting to hear in the previous presentations you can use data or adjacent area data to calibrate these models. It's feasible but as I mentioned yesterday, there is not enough communication between natural scientists and economists, and these problems could be solved if we did that.

Comment: The value of modeling, is that it's never precise. It doesn't predict the future. What's really useful is asking the right questions and increasing the level of certainty. It's about providing more evidence that these relationships are plausible and generating net positive effects. However, factoring in the variable conditions of climate change and other catastrophic events is nearly impossible. You do the best you can and explore these scenarios and leave it up to decision makers to assess risk and make decisions on added risk.

Q2: This is our challenge: PES is not only a problem of economics but also one of natural resource management, an ecological dimension of PES. Yesterday I talked with Mark and James and we have an economic rationale for PES but we need an ecological aspect of PES. Many economic fellowships find function. Ecologists cannot translate the function and the process to economists: our challenge is how to translate the ecosystem service to the economic relationship and carry out the calcualtion of monetary factors.

A: I agree with you fully. Most of us environmental economists focus on the demand side of the approach to valuation, and that's understandable and stems from our social science backgrounds. The social science connects us with ecological concerns. We start with one or the other, and since we're constrained with resources and data, it is always on the other side of the coin regardless to where you start.

Q3: There is a lot of government interest in what would be the largest PES scheme in the world for carbon sequestration. It all needs to be addressed to operationalize this investment being made to fast track models, economic, ecological, and monitoring, can you shed some light on it?

A: The World Bank is helping out here, the bigger players are the scientists who are coming up with these models that allow for the measurement of carbon sequestration functions for growing trees, or avoiding deforestation. Still the problem is bench-marking a starting point and we are getting there. Hopefully by the time we get there, the value of carbon emissions reduction credits will have run low enough to make payments worthwhile. Participation in small growers is worthwhile. There are a number of economies growing fast and they need carbon reduction credits. They would buy from those countries that would succeed in arresting their deforestation and protecting their growing forests, and we need another session on that.

Q4: We can't forget about the private sector. Just as an example, 10 years ago, there was a Japanese electricity company that was doing light leaf index monitoring for Thai mangroves in anticipation of a future carbon market. The industry is working on the issue and we may see the market that is emerging driven more by the private sector than by the bank or something else.

A: In the Philippines we had something similar: financing scientists for monitoring of mangroves, forests, and secondary forests.

12 Methods for Valuing Beneficiary Willingness to Pay: Contingent Valuation of Marine Turtles in East and Southeast Asia

Orapan Nabangchang and Truong Dang Thuy, IDRC Singapore

We did an economic value of turtles to observe use and non-use values, extractive and non-extractive, and bequest-values attached to turtles. We focused on wealthy urban areas and their willingness to pay to protect turtles (through conservation). We surveyed in 4 Asian countries to determine if people were more willing to support international or national conservation programmes and through what means. We found the mean willingness to pay for turtle conservation was between $1.4-0.17 dollars USD. Their willingness to pay was because they thought turtles were special and should be protected.

The practical implications of our results imply that the majority of people are not willing to vote to support a policy protecting sea turtles with a per capita cost of $1 going into a fund, as only 40% of people would support this policy.

With water you have a commodity with tangible private benefits, but with turtles, it's more of an existence value partly because it's a public good. This is a case of a market and policy failure because lots of people are willing to free ride and not protect turtles. The end story of our analysis of results is that developing countries are not willing to pay for marine turtle protection.

Q1: In Ho Chi Minh City the unofficial income is $5,500 per year and in Hanoi it's much less. Why did you decide to combine the two cities? How did you determine household incomes? Did you ask each respondent or was it based on a government statistic? I was wondering about the utility bill and why you choose to try to get PES by means of the utility bill? It seems unlinked to me, maybe a user fee is more direct? Seafood charge? You could charge shrimp

aquaculture, which has a direct link to degradation of turtles from shrimping, dredging and trawling.

A: The income-related data was collected directly from the respondents. Income is under-reported as in any survey. People in Ho Chi Minh City under-reported their income to a greater extent. We looked at the data on income and found no difference between Ho Chi Minh City and Hanoi between income and willingness to pay so we decided to combine them.

A: We used the willingness to pay through the means of the utility bill based on the responses of several focus groups.

We asked the focus groups what kind of payment vehicle was more realistic and the options ranged from a tax to water utility to electricity bill. The reason why respondents preferred the utility bill is because as a percentage of what was already being paid the surcharge is very small. In Thailand, the cost for water is 400 baht per month and if I asked them to pay 100 baht extra it was quite a lot, but for the electricity bill, as a proportion of the overall bill, it is less. Although not linked to marine turtles as such, we did have to explain that the electricity generating utility would only be collecting the money and wouldn't get anything out of it. Electricity authorities were not popular in a lot of cities.

13 Why Pay? Why Reward?

Marian de los Angeles, World Bank Institute

Here we are talking about two sets of actors: buyers and sellers. It costs to provide and to consume goods and services, and there are uneven benefits and costs of conservation. The previous subsidies for conservation have not worked. It takes time for payments to be agreed upon and implemented. Regular payments are needed along with a pay as you go system that provides service. You should pay and reward because this encourages both providers and users with the need to act responsibly. It provides a mechanism to engage both actors.

Comment: For me the trade off matrix is the reason why people are looking at PES and going 'wow this is a powerful tool.' The ideas behind the trade off matrix look for opportunities to get additional value to society's benefit overall. You get additional value out of financial transactions, which reduce environmental degradation. This is what we need to look at. They key take-home message from this session is the trade off matrix and the logic behind it.

Policy Instruments			
USING MARKETS *(economic instruments)*	CREATING MARKETS (RIGHTS) *(economic instruments)*	DIRECT REGULATION *(command and control)*	ENGAGING THE PUCLIC *(transactions costs concerns)*
Subsidy	Property rights	Standards (technological, product, performance)	Public participation
Taxes & Charges	Tradable permits & rights	Permit, quotas	Information disclosure
User Fees	Tradable quotas	Ban	Voluntary agreement
Deposit-refund schemes	Int'l offsets		Liability Rules
	Common Property Resource Mngt.	Zoning	

14 Determining the form of PES Payments

Jim Peters, USAID

There are many different forms of PES payments such as cash payments, conservation easements, awards for protection contracts, land use tenure and ownership rights, production inputs and/or technical support for sustainable livelihoods.

In our Indian example, they did labour exchanges as a form of payment. The key concept is that the payment must meet basic needs. How do you identify which payment is appropriate? You need to do a cost-benefit analysis of different options and alternative livelihoods. You need to look at the availability of resources to address the costs.

For bamboo production, land management is actually a value. When you talk to local-level stakeholders about bamboo vs. cashew production, in just planting bamboo you establish an official recognition and a local recognition of what is being done. By planting bamboo people had more control over their own part of the landscape as a result of this activity. You also need to keep in mind that many issues are intangible. The poorest of the poor can't always carry out agreements. People get sick and need to pay off school fees. Once you are generating high levels of benefits, the opportunity cost rises. Monitoring is very important to keep track of things, along with an early warning system.

Q1: What is a realistic payment for environmental services?

A: It depends on the available alternatives that people could do instead and what's the value of that. In the case of cashew vs. bamboo, bamboo is a sufficient payment because it has an expected higher level of return. Activities to be done in the short term can have immediate incomes and returns. Cashew is a benchmark for establishing land management practices to achieve equal or better returns in that case. The forest contract and direct payments still need to be calibrated. This is a new area for us, we haven't done socioeconomic surveys.

Q2: Two months ago I visited a province located in this area, and people there told me they are going to change from bamboo forests into crops such as cashew. I asked them why? They told me they couldn't sell bamboo. The PES scheme and what you presented is very fragile. If

people do not get to sell their products, like bamboo, there is huge pressure to change into other land use practices like cashews.

A: This brings up an important point- we work very hard to bring private companies into this area to create contracts under which they guarantee the purchase of products that are produced. Local level people have value added to their activities, not just harvesting and sending it out. For this strategy to remain a success, we need a commitment from the private sector to go in and guarantee the purchase of contracts. We've already been able to double income on existing bamboo of very low value already there. Villagers are getting 2x the value and using ¼ less bamboo resource by shifting simple technology to hand cutting. The benefits are immediate. Within 6 months, money was changing hands and generated a lot of support for longer term projects. It developed a trust scenario.

Q3: A critical element is negotiation. How do you determine a realistic payment? It's partly based on looking at what are the costs and benefits, but also what are people willing to accept. This is a classic case with protected areas. We expect people to forego income and pay school fees, and we compensate them with new schools or a well. It's this negotiation of what are buyers willing to pay, what are sellers willing to accept. Can you reach a point where those two things match up ? Can you match them up for conservation? Like the case study looking at what different villages in the Philippines were willing to accept in terms of livelihood support. Some options were not actually very environmentally friendly such as hog farming for example. This may not be an appropriate payment as they are getting a reward for degrading the ecosystem further.

A: One more point about negotiation. Once an agreement has been negotiated, monitoring is very important. At the local level they don't understand what they are getting into with a PES agreement but at the end of the day, it must be practical.

15 Monitoring in PES

Chetan Agarwal, Winrock International India

For land use and land management practices, this means are changes actually being made? Is conservation actually happening? If payments are based on the fulfillment of conditions, then it is essential to monitor. You need to determine if you are getting the environmental service outcomes that you want, such as cleaner water and less sediment.

It is also important to monitor if people who are getting the payments are actually better off.

Q1: There is a contrast between monitoring and satellite monitoring, which is technologically intensive and institutionally limited, but it might be cheap. I wanted to contrast with the example you showed yesterday: a scheme developed between two villages up- and downstream, and then a road got built. With the new road, sediment increased from outside the scheme. What was the monitoring mechanism in place that led to the conclusion of what was going on?

A: The lesson learned is one of the monitoring of the scheme itself. The lower village went up every couple of months to the upper village and walked around. This was quite cheap too. Going for a walk is not very expensive. The early warning system and opportunity costs provide something that you can monitor.

Q2: What types of techniques could be used if you set in place a PES scheme? What could you use? What could you look at?

A: I would probably just use biophysical variables, which would be an indication of water quality and would indicate that people upstream are taking their work seriously.

Comment: PES is a partnership although we use the words buyers and sellers even if in a watershed it is more of a partnership instead.

Comment: We came up yesterday with the importance of building trust within PES and joint monitoring is one means of doing that.

Comment: In my opinion, we must identify performance indicators, like the case in water quality management. We usually have pollution reduction levels within water quality parameters.

Q3: Jim raised this yesterday, but can you hold the sellers of the providers of services to account for particular water quality indicators or are you better off holding them accountable for management actions?

A: Holding people accountable for water quality or for management, which will be most practical or workable for a PES? I think there are examples of schemes that where both methods work better.

Comment: I'm just going to respond to some observations. Integrating, monitoring and analysing the results did allow for a willingness to pay to translate into a user fee system for implementation of waste management and conservation in a particular area. In a tourist destination site, such as in the Sulasulawesi Sea, a willingness to pay survey among tourists and households determined that the user fees would be put into a trust fund. There was also an ordinance passed by municipal council mandating that uses of the fund were specifically for the development and operation of the sewage treatment facility, MPA and upland areas. We used the results of environmental monitoring to provide a rationale as to why you would invest in resource conservation and waste management. This is really a combination of different activities to come up with a system for protection of environmental services. In terms of payment, we have two ways: in one case for sea turtle conservation, and in another area, one municipality had a GEF small grants program but only for 1 year, given in 2000. Initially we had to change the perception of the poachers and we started with a public awareness campaign and in 10 months, the poachers were the ones turning over the eggs to the sanctuary. Now in 2008 they continue the programme. In adjacent communities there is a resort, which established its own turtle sanctuary, and they pay fishermen to turn over eggs to the sanctuary. These are two adjacent municipalities with two different projects for the goal of turtle conservation.

16 Results of the Group Exercise

A group exercise and role-playing game involving all workshop participants was organised in order to help each person think about the fundamental issues and obstacles when identifying PES schemes, such as:

- What services are generated by the ecosystem in question?
- Who are the groups responsible for providing these services, and how?
- Who are the beneficiaries of the ecosystem services, and how do they benefit from them?
- Which of the ecosystem services might be marketable?
- Who are the potential buyers of these marketable ecosystem services?
- What form of payment might be levied on the buyers of the environmental services?
- How might the payments be allocated to and distributed among the ecosystem service providers?

The Forest Break Out Group

The Forest group identified many buyers and sellers of ecosystem services in their watershed scenario. They generally identified city residents as those who would most benefit directly and forest farmers who were the providers of the goods. The identified a new water tariff that could be used as a mechanism for PES that the hydropower company could impose to its customers. Discussion from this group revolved around the numerous beneficiaries of clean water and the practicality of including all groups in the PES scheme. Trust was also important in the forest negotiations and there were also concerns over tenure rights. The negotiations here brought up the theme that not all payments need to be in cash, they can also be in kind via training and tenure rights. There was a general willingness from all participants to work towards a common goal and to take the outcomes of the initial negotiation phase and re-negotiate at a later date. All parties were interested in maintaining a dialogue to keep the PES negotiations moving forward.

The Wetlands Break Out Group

The Wetlands group had an easy time identifying who the users were, but had a more difficult time identifying who were sellers. They identified that mostly government entities would be the sellers. The wetlands group determined that a governmental conservation authority would dispense the money to the communities. Discussions revolved around tenure rights for the poor community as a means of payment, different financial mechanisms that were to be used, and the place for comunity-based management in the PES process. There was no negotiation process involved for the wetlands scenario.

The Marine Break Out Group

The marine group spent a lot of time trying to identify the problems in the area and the reason behind implementation of the MPA. They eventually decided to assess the scenario using the Millennium Assessment categories breaking up the environmental services into regulating, supporting, provisioning, and cultural services. The buyers and sellers were easily identified and it was determined that a tourist user fee would be the best way to create a PES. Discussion centered on the difference between a PES and a user fee. In some countries a PES and a user fee are the same thing in protected areas and in other cases it is not. This is dependent on what the money is used for and what activities it supports. The negotiations for the MPA highlighted the importance of trust in working towards a common goal. It was clear from the negotiations that all parties involved, the tourism operators, the MPA Authority and the village wanted to work to implement a PES for the MPA. However the village was very wary of the MPA Authority and resentful of the tourism operators. The MPA Authority and tourism operators seemed to be slightly more trusting of each other than of their village counterparts. This session highlighted the need for transparency in the decision-making process and also in the distribution and allocation of funds in the PES.

17 Discussion on Marine PES

Comment: A lot of us came here because we didn't understand what PES was all about. We have had PES systems within marine environment for years but it wasn't called PES. There are many systems in place but the total value of money raised goes back to conservation. The point is that we've been in the PES business for many years but we didn't know we were. An example we often give is that recreational fishers pay a license of $20 per year and that's a purely transactional cost. It has nothing to do with management, environment, or ecosystem services, but if that fisher wants to fish for salmon recreationally, he or she has to buy a stamp that permits them to fish for salmon. The money raised by that stamp goes to an intermediary whose job is to put the total amount of money towards rehabilitation of salmon habitat. We have a whole banking system where people grow habitat and sell habitat and they rent it, in those cases that's PES. There's no money changing hands.

Comment: I believe that an MPA is one type of PES for the marine environment. If people catch fish, they earn a very small amount of money but if they keep the reef beautiful and people come and watch coral reefs, they can make more money for tourism. This has been the case in Nha Trang Bay and tourists pay an entrance fee. This is one kind of PES. We should also consider that visitors have negative impacts and also have carrying capacities before they start to affect the marine environment.

Comment: I wanted to alert you that there are many PES schemes in protected areas. In many developing countries, fees have been set for a long time with provisions for review. If one were to be tuned into the idea of paying for a service, the mechanism has to be flexible enough for those values to change through time.

Comment: Returning to the example in the marine role-playing game, I do believe that environmental services provided by mangroves and coral reefs are more valuable than the ones we identified today. Local communities have been using mangroves for ages in many ways. One of nicest fish back home is fished on mangrove timbers, but there's two ways to do it. One is cutting green ones and the other is cutting older-growth ones. We have a tendency to oversimplify- you can do everything or nothing. Normally mangroves are based on acidic soils and it's the worst thing to do to try to chop mangroves to build aquaculture ponds. We did it ages ago and now they are losing money and mangroves. With our MPA fees we never ever thought about services. We thought about

protection for local economies. The problem is to make the awareness within the community on how ecosystems provide valuable services. Not many people know how to evaluate non-market values. When you go to a field and try to figure out how much beauty the place has and how much it will cost to destroy it, it is almost impossible evaluate it correctly. When there's no awareness and no tools to create a market, than it is quite a long way to go to create a PES.

Q1: What are the lessons and what are the examples from using PES in upland situations that can be applied to the marine situation? The other challenge is how can we link the marine to the upland?

A: The example given for salmon, there is a fee paid on the extraction of salmon to fund management of uplands and habitat associated with salmon streams. That model could be applied to the GBR and managing catchments that drain there. In that sense, we've made a couple steps forward in terms of challenges we originally set out for ourselves. The second thing that comes to mind, is the classical framing for PES, which comes down to a contract made between a private buyer of services and some private providers of services. In our group work this afternoon, we focused on this idea of applying the construction of markets to providing incentives. It is useful to have a conception of payment systems that is broader. In a broader sense, if the goal is to protect salmon that could include a whole variety of buyers and not just particular private groups. It's about markets that drive incentives and mechanisms.

Lucy: I think that would be a disastrous question to ask PES specialists. There's a lot of theoretical nit-picking about markets for PES and PES itself. Pragmatism is important along with tools to strengthen livelihoods, conservation and incentives. Economists spend a lot of time nit picking about technicalities.

Q2: It was mentioned yesterday that PES doesn't work on transboundary issues. However in the area where I'm working there is a transboundary protected area, which has 5 of islands in Philippines and 2 in Malaysia. All the islands support 1 population of turtles and there's an interest in the part of a Malaysian tourism group to develop the Filipino side but there are some bilateral mechanisms that are operating and four country trade agreements. Is this a case where a PES might not work?

A: Yes, I think this is the case where they don't work. Not that transboundary PES doesn't or can't work, it's just in many cases there's not the enabling mechanisms to allow transboundary payments to be made and received. Secondly, there are a lot of barriers to trade for these markets. In the case you give, there are mechanisms but in other cases where there are not enabling mechanisms very often you're talking about getting an intermediary involved. So bilaterally government to government is not going to work or government to private sector is not going to work, but if you get an intermediary like CI, than it can work.

Q3: Other possible examples of PES in the marine environment could be the selling of fishing licenses in EEZs. Isn't this another form of PES? We see this a lot of in the Pacific. What about the problem in this case of monitoring migratory fish stocks?

A: You're essentially looking at markets for goods and services in ecosystems. I mean some may argue it is not PES but doesn't it depend on how the money is used?

A: Exactly, if the money goes to the central treasury and then goes to the defense budget, then it is not PES. But if the money goes into maintaining mangroves, then it might be PES. It should also be linked to the entry of fish. If fees are too low and there are too many users then it's not an incentive for conservation.

Comment: What about tertiary loading? There are too many sediments going into the water and that means oysters aren't getting sunlight and crabs aren't getting what's needed. What we did was create a 'save the bay' license plate with the fee going to the Save the Bay Authority and they pay for oyster fry to be spread out in the bay.

A: That's a great example. We were looking at Milne Bay in Papua New Guinea, and what we were doing was looking at the alternative economic incentives until fishery stocks can be replenished. We did a pretty good economic study based on subsistence and commercial production values and were able to rank different communities to enable self-sustaining systems.

Q4: I know you don't want to get into a definitional quarrel but at times I feel like PES runs into the face of externality issues, because at times we are paying the person upstream not to pollute while he has no right to pollute. I really have problem with this concept and I know you are

trying to create a market because upstream has higher marginal social cost and rather than charging him to reduce or to capture that difference you are charging the person downstream and rewarding person upstream.

A: To me, PES is a reward for providing an ecosystem service and a compensation for the costs you incur in providing that service. It is not a reward for not polluting or not degrading. If you are an irrigation farmer discharging your agro-chemicals into the river, which runs downstream, I should not be paying you not to pollute because then I am rewarding the avoidance of illegal behaviour. To me there is a key difference, I am paying you to provide an ecosystem service. I am not compensating you for not carrying out illegal services. Legality does come into it. We should be rewarding people for voluntarily engaging in good practices. Imagine it's illegal to dump herbicide in a river, it's not illegal to spray herbicide in the fields. It's not illegal to have soil run off from the fields into the river. The management option is to plant riparian vegetation. Downstream if you are worried about herbicide contamination of water, you can put up with it upstream or you can help to pay costs of putting in vegetation.

Q5: What is legal and illegal? Laws change and the source of laws and tenure rights on national landscapes change. What was illegal 20 years ago is legal now especially in developing countries.

A: It depends on what your value system is and whether you buy into complete private ownership private rights model or whether the farmer who is doing the right thing owns the land. Even if he does, he still pollutes water that is drunk downstream. Does he have a civic duty to not do it? Should you be compensated or rewarded for doing what's right? It's up to each society what those rules should be.

18 Legal and Policy Frameworks for PES: International Experience

Patti Moore, IUCN Regional Environmental Law Prog.

We will be talking about public payments schemes and self-organized private project schemes. Some barriers are not all legal, lack of market information is an issue as are high transaction costs. There are some fundamental legal requirements for PES to be put into place such as clearly-defined ecosystem services and clearly-defined rights to buy and sell. Constitutionally or nationally by law, the community can be at a disadvantage if it doesn't have these rights defined in a legal context. Legal recognition of communities is also very important. Property rights are very important. If don't have rights/recognition then you can't have an upstanding contract.

What Vietnam is looking at right now requires legislation for public payments. It could be a law or regulation but some kind of legally-binding rule that specifies how budgets will be allocated is needed. This will also establish administrative responsibilities. The legal aspects are essential in defining the basics for PES agreements: the services sold, the buyers, the sellers, and the consequences of non-compliance.

Costa Rica has enabled a national fund that uses contracts. Ecuador uses a public payment to guarantee water rights. Mexico also has a public payment type in

regards to collaboration between the national water commission and forest commission. These are all Latin American examples and mostly for watershed conservation.

PES is based on existing land use laws or changing land use for sustainable management. It is important to know if there are restrictions in national law on changing land use. PES always requires some kind of legislation or regulation simply because of allocation of national budgets and how government authorities are involved. Contract law is the legal basis for the PES scheme but it may not be sufficient.

Q1: I would like to know more about involvement of the private sector. The private sector here has not been discussed. In Indonesia, we have oil companies that are not very regulated where they can drill: sometimes it's close to shore and sometimes it's far away. These companies give payments to local communities but how can we make this more of a PES system? If you were to advise some government in Indonesia, what would you advise?

A: I have to express ignorance on the finer points of Indonesian law. Everything is very country-specific and even locality-specific. So the big general things that you would advise any government to do are outlined here.

1) You would advise government to enable direct payments and be sure that you can have this direct relationship between sellers and buyer be it public or private.

2) Ensure that you have a facility for a public payment type. Make sure that those are very clearly enabled in the law. You need to make sure that the rights to property and rights to resources are very clearly specified.

Q2: How do you monitor these things?

A: Two things with public payment schemes. Is there participation and is there transparency in the process? Is there predictability or law in the process? You need a public payments law that addresses these things. If where you have no experience so far with PES, there is a recognition that there needs to be some kind of overarching framework that sets out the structure for doing this so that traditional communities are not taken advantage of in the process. This is why we put in safeguards. You can start from the law you already have so that, given the constraints of existing legislation, you have to create safeguards that things need to happen so that buyers receive services and sellers receive payments.

Q3: What is the scale at the national level to look at when you are trying to develop PES schemes?

A: I'm not so sure it's a question of scale, but realizing that PES is not the new wonder cure for all of the problems in financing conservation, it is a new tool and it's an innovative tool, in its own context. The idea is that PES is one tool available to us, but should only be used where other types of financing mechanisms won't work. It may be appropriate at a very large scale or a very small scale, but a lot of other conservation tools may be appropriate at both scales too.

19 Setting in Place PES: Negotiating Arrangements

Janet Arlene Amponin, REECS, Philippines

PES deals with people who have different and opposing personal interests. The challenge for PES is to be able to tie up these challenges so that people realize interests are secured by PES arrangements put in place. PES was set up in the Pena Blanca protected landscape and seascape in the Philippines. This talk outlines the challenges faced during the negotiation process such as selecting the sellers and finding a buyer and intermediary. Lessons learned include: negotiations are a long process, the binding of contracts avoids potential problems, the need for a credible intermediary, and that local dynamics and politics need to be considered.

Q1: Did all farmers in the management area agree to the PES? If not, what about them? Your example was a one-year contract , can you predict what the impact will be a year from now?

A: Both the PES proponents and buyer recognized that one year is too short a time to have an impact on the environment and livelihood of communities and we made sure the buyers realized that, but on our end we also acknowledged that a small step is better than no step at all in terms of implementing PES. We have plans to scale up the PES scheme in the area by adding additional service providers and service beneficiaries to the agreement. Only 10 farmers committed on the agroforestry farms and the other farmers did not. We realize that it will take time for them to reap the benefits from agroforestry farms, and it may not guarantee them to stop illegal activities and timber poaching. This is why the project also helped assist them in livelihood development. They were trained in various livelihood activities.

A: I think another lesson learned is that PES is very new to all of us but imagine how new it is to local business men and rural upland communities. Setting up a limited one-year agreement is very important for learning and awareness and serves as a pilot arrangement. It shows that PES is a reality and other potential buyers who may be problematic can see “OK, somebody is allowed to do this”.

Q2: Transaction costs were high so who paid for them? What would you recommend for similar schemes in the future?

A: Just a clarification: we have four players and the market was created for buyers and sellers. In the case of the Philippines, the role of government is very essential in this case.

Comment: Pre-investment is also important, often times the communities will be paid for outcome or impact, and they may not have the initial investment necessary to get there. Payments may or may not have that initial necessary investment, so that’s also something worth considering.

20 Elements of a PES Agreement

Patti Moore, IUCN Regional Environmental Law Prog.

A PES agreement needs to specify the environmental service and the buyer and the seller. The agreement needs to state the obligation of the seller to maintain the environmental service at a specified level. It must also specify the duration of the agreement and what happens when it ends.

A PES agreement needs to specify the payment type and amount. The agreement must specify the consequences if the terms of the agreement are not met by either the buyer or the seller and how to resolve the disputes. Lastly, the agreement needs to specify whether and how the agreement can be modified.

Q1: I have a question about self regulation and in particular legal issues. What if the arrangement is that those who are doing the conservation and exploitation are part of the same body? Then legally this is difficult to define. My second point is regarding the user rights. Normally we are talking in the context of local people in the watershed area or in the marine park. Those people are not officially allocated land.

A: The short and easy answer is that you eliminate conflicts of interest or the opportunity for conflicts of interest from the outset. These types of arrangements are not permitted under law. I realize this is difficult in a country where a person is both buyer and seller. Every arrangement is very, very specific.

In the particular case of Vietnam, because of the situation, you have to go back and very carefully look at 300 regulations for forest ecosystem services. The temptation is to do this the fast and easy way. In reality, the regulatory environment is vastly complex and that means you have an even stronger implication for this groundwork. I'm not saying these things are easy but I'm saying this is the way to do it well.

I want to reinforce what was said. Initially in Vietnam, it was time-consuming to trawl through the rules, regulations, ordinances, and decrees, not just on tenure but also land rights, budget laws, fees and charges.

Just looking back at the regulatory instruments in Vietnam that would have a direct influence on PES, we have more than 40 and some of them contradict each other.

Q2: Five years is a lot of investment on a very small scale to look at time frames that government and companies want to operate on. They want information quickly and they don't want to go through the steps for consultation. Do you know any example of a private sector contract done properly?

A: The short answer is no, but it depends on what you want to call a good contract. We've run into this not only for questions relating to ecosystem services but also with issues of sharing benefits from access to genetic resources. One of the most fundamentally important things is to ensure some degree of equality in the negotiating standpoints of the two parties. To get a fair agreement, there needs to be a good intermediary. First you have a good intermediary backing them and then you can use the intermediary to follow up on monitoring.

Q3: Most of what was said here is about national initiatives, do you have any experience with transboundary situations?

A: I don't know in the context of PES, but we all know that there are multiple agreements for sharing international waters and individual rivers. For PES, I don't' know of it. It doesn't mean that it doesn't exit but it means that I don't know.

Q4: Arlene's case was time intensive, but the case study from Jim Peters at the national level was much shorter. In the shorter example, were there enough voluntary elements with actual service providers in the community? Did that actual lengthen the negotiation process? Was it enough to negotiate a true PES agreement?

A: As far as I know, there were two different things happening. If you are talking about bamboo, that was very fast implementation and there is now a pushback because people didn't know exactly what they were getting into. Those switching to macadamia had problems because the government came in and said no, and tore it out. The farmers were under tremendous pressure for the planting season and we documented this. The timing for farmers planting bamboo was very important and needed to be taken into consideration in the PES.

21 Lessons Learned From PES

Sultana Bashir & Sameer Karki, UNDP Bangkok

We have looked at the six objectives from the beginning of workshop and have identified the components of PES, looked at its development, and the process for stakeholder involvement and negotiation. One key challenge is to expand our knowledge from watersheds to marine. It is here that we can still learn more.

We have learned what is and what isn't PES. PES is not simple. It requires trust building and negotiation. PES won't solve anything but it is a usable tool. We have learned that there are risks associated with not doing it properly and it needs to adapting to people's aspirations and needs, which change over time.

We have learned when and how to use PES. We know not to use it in isolation and to make sure it is part of a larger level of planning. We have learned that society undervalues ecosystem services and part of this is a need to internalize the costs of maintaining ecosystem services. PES policy involves support from a variety of fields and is multidisciplinary in nature. PES requires an honest broker that can ensure fair deals, empowering people to negotiate. This will ensure that PES doesn't exploit the poor and disadvantaged.

There are several things we have identified that need to be addressed such as philosophical, cultural, and political differences of opinion. Who decides what goods should be marketed? Who is to bear the burden of high transaction costs and trust building? Who finances pre-investment? PES is opportunistically driven by events such as the Asian tsunami. How do we ensure opportunism doesn't drive agendas too much in one direction? How do you avoid donor-driven agendas? How do we ensure pro-poor PES and reconcile these efforts with agendas to alleviate poverty and conservation?

We struggled with the idea of PES schemes in the marine environment. Marine issues that inhibit PES include the transboundary nature of ecosystems and fuzzy jurisdictions. However we've also had some discussions where it will work in marine ecosystems in areas such as tourism, fisheries, and coastal protection.

Getting it right won't be easy but is worth trying because resources are scarce for conservation generally. PES could be a financing mechanism that works in some cases. It will be useful to have good practice guidelines for helping us through different steps and stages.

22 What comes next after this workshop?

Comment: I am interested in wetlands. I will be trying to identify economic tools that can be applied to evaluate the value of wetlands. I haven't seen any guidelines on the applicability of PES, but more information would be great. This network here has provided us with a way to interact in the future and learn from each other, and it will be important for us to keep in touch.

Comment: There is a host of literature and guidelines on PES, ranging from highly academic and not very practical to very practical and pragmatic. There's lots of review on lessons learned form PES from Latin America. We need to look at wetlands and provide guidance for other biomes and ecosystems.

Comment: I'll be taking the lessons learned home to our office projects on pollution and wastewater discharge.

Comment: I like the idea of checklists. In the PAY book at end of each chapter there's a check-list, and I hope we can include these in the workshop report. If these could be altered to show how they could be adapted to marine and wetland settings that would be very useful. There are networks in existence that may be helpful.

Comment: Are there any case studies from Africa concerning issues apart from marine, but something on drought-related environmental issues? Could the World Bank maybe organize e-learning from PES?

Comment: There are a lot of examples from East Africa from national workshops. I can share some with you. There is some good stuff going on in Kenya , Tanzania, and Uganda. PES is most well-developed in Latin America. It's slightly developed in Asia, and in Africa it's right at the beginning. But there is some good work being done. There are also some on marine issues in West Africa.

Comment: I'm taking home the importance of the need to have good science underpinning the design element of PES. It seems to me, for the marine environment, maybe we need to do more perceptual thinking and a need to identify plumes of ecosystem services. We are aware of Large Marine Ecosystems but I don't think it was well categorized and presented. MEA was supposed to cover marine issues but was not fully developed.

Comment: A lot of us are involved in community-based resource management but the idea that you hold people accountable for their actions is a something people are afraid of. When the government supported community forests in Nepal the expectation on the government side was implicit. In this case, there was a need to make it explicit. We have tried watershed management where we tried to bring upstream and downstream communities together, but we needed a clear negotiation agreement for the output base of the contract. This will be important to keep in mind for other case studies.

Comment: The IIED has done a big review of PES. One conclusion is that you shouldn't get too hung up on the payments part. Don't forget the process part and the process that brings the mobilizing action and better management and more explicit evaluation on both parts.

Comment: I will try to find an opportunity to incorporate PES into my project. This is difficult because my project is on waste management from livestock in east Asia. Even though now I can't figure out how to put it here, maybe I can share PES with my colleagues and my working group in three countries. If you would like to draft a code of practice or other replication strategies, we can try thinking about it. This would be useful.

Comment: We need some good practice guidelines for PES schemes and for marine environments. There are many PES-like examples. I would also like to see the next step of putting it all together. Instead of us saying this is difficult, it needs to be encouraged based on these PES-like practices that are already in place; we need to see possibilities of doing PES in the marine environment. We have many developments that integrate conservation aspects. We look at overlapping boundaries as a constraint, but the international community spirit has had some success with overlapping boundaries such as in the Sulasulawesi Sea. They have provided a common ground for cooperation.

23 Closing Remarks

Lucy Emerton, IUCN Global Economics & Environment Prog.

A number of issues and shortcomings of PES have been identified and I strongly believe that PES has the potential to become a win-win solution. It is good for providers, which include local communities and resource managers of which both are very important for development of local communities in a way that is sustainable. PES is good for service users because you can enjoy the business they want. PES will help resource users to manage the ecosystem in a sustainable way, but PES is not just a goal. It is a process that involves participation from many stakeholders in decision making. From this meeting we have learned that transparency and governance of issues are very important to PES success and we have heard of many examples over the past three days. All will help to better understand PES. We hope this workshop was useful for you all.

Annexe 1

Further Reading (Links)

Pay: Establishing Payments for Watershed Services
http://data.iucn.org/dbtw-wpd/edocs/2006-054.pdf

Katoomba PES Network: A directory of networks that are actively involved in PES issues:
http://www.katoombagroup.org/networks/index.php

The Katoomba Group's Ecosystem Marketplace Reference Library:
http://ecosystemmarketplace.com/pages/section_overview.library.php

The World Bank's page on Payments for Ecosystem Services:
http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/ENVIRONMENT/EXTEEI/0,,contentMDK:20487926~menuPK:1187844~pagePK:210058~piPK:210062~theSitePK:408050,00.html

Center for International Forestry Research (CIFOR) PES webpage:
http://www.cifor.cgiar.org/pes/_ref/home/index.htm

RUPES programme of the World Agroforestry Centre (ICRAF): A programme for developing mechanisms for rewarding the upland poor in Asia for the environmental services they provide:
http://www.worldagroforestry.org/sea/networks/rupes/index.asp

USAID Basins and Coasts News Special Issue on PES:
http://www.imcafs.org/coastsheds/

Annexe 2

Conference Programme Day 1

IW-LEARN Regional Workshop on Payments for Environmental Services (PES)
Melia Hanoi Hotel, Hanoi, 3-5 April 2008

Thursday April 3

0830-0900	Registration (30m)	
Opening session (Chair: Mark Smith)		
0900-0910	Welcome from IW-Learn, World Bank Institute and IUCN	Janot Mendler de Suarez, Deputy Director & Project Coordinator, GEF IW:Learn Marian delos Angeles, Senior Environmental Economist, World Bank Institute Mark Smith, Water Management Adviser, IUCN
0910-0930	Welcome and introductory presentation	Mr.Nguyen Tuan Phu, Head of Agricultural Department, Government of Viet Nam
0930-0945	Overview of workshop aims and schedule	Mark Smith, Water Management Adviser, IUCN
0945-1030	Participants' introduction	Facilitated by Lucy Emerton, Head Global Economics & Environment Programme, IUCN
1030-1100	*Tea/coffee*	
Session 1: introduction to PES (Chair: Marian delos Angeles)		
1100-1130	The economic background to payment for environmental services	Lucy Emerton, Head Global Economics & Environment Programme, IUCN
1130-1200	The concept and application of payment for environmental services	Katherine Warner, Head, Lower Mekong Country Cluster, IUCN
1200-1230	Questions and discussion	Facilitated by the Chair
1230-1330	*Lunch*	
Session 2: Asian case studies of PES (Chair: Orapan Nabangchang)		
1330-1350	Sustainable Financing and Payments for Watershed Ecological Services: Examples and Perspectives from WWF	Richard McNally, Vietnam Programme Manager, WWF
1350-1410	The user-pay system in the Sea Use Law of China	Isao Endo, Environment Economist, UNDP/GEF Yellow Sea Project
1410-1430	Designing and Implementing Payments for Environmental Services: The Philippine Experience	Arlene Amponin, Research Associate, Resources, Economics and Environment Center for Studies (REECS), Philippines
1430-1500	Questions and discussion	Facilitated by the Chair
1500-1530	*Tea/coffee*	
1530-1550	National PES policy and pilot sites in the Dong Nai watershed, Viet Nam	Jim Peters, Chief of Party, Asia Regional Biodiversity Conservation Programme, Viet Nam
1550-1610	Experience of PES in India	Chetan Aggarwal, Group Coordinator, Incentive Based Mechanisms Group, Winrock India
1610-1630	Experience of PES in Hon Mun MPA, Viet Nam	Bernard O'Callaghan, Programme Coordinator, IUCN Viet Nam
1630-1700	Questions and discussion	Facilitated by the Chair
1745	**Cocktail reception**	**Melia Hotel (room to be announced)**

Annexe 2 (continued)

Conference Programme Days 2-3

Friday April 4

Session 3: Tools and issues in identifying, designing and implementing PES schemes (Chair: James Oliver)		
0900-0910	Introduction to the session	Lucy Emerton, Head Global Economics & Environment Programme, IUCN
0910-0930	Identifying marketable ecosystem services	Jim Peters, Chief of Party, Asia Regional Biodiversity Conservation Programme, Viet Nam
0930-0950	Assessing the services provided	Marian delos Angeles, Senior Environmental Economist, World Bank Institute
0950-1030	Methods for valuing beneficiary willingness to pay: contingent valuation of marine turtles in East and Southeast Asia	Orapan Nabangchang, Senior Economist, Environment and Economics Program for Southeast Asia (EESPEA)
1030-1100	*Tea/coffee*	
1100-1120	Determining needs for rewards	Marian delos Angeles, Senior. Environmental Economist, World Bank Institute
1120-1140	Determining the form of payments	Jim Peters, Chief of Party, Asia Regional Biodiversity Conservation Programme, Viet Nam
1140-1200	Monitoring the provision of services	Lucy Emerton, Head Global Economics & Environment Programme, IUCN
1200-1230	Questions and discussion	Facilitated by the Chair
1230-1330	*Lunch*	
Session 4: Group exercise on identifying PES schemes (Chair: Jim Peters)		
1330-1500	Group exercise and case study on identifying PES schemes: • Upland forest catchments (facilitated by Mark Smith) • Marine Protected Areas (facilitated by Elizabeth De Santo) • Freshwater wetlands (facilitated by Lucy Emerton)	
1500-1530	*Tea/coffee*	
1600-1700	Present back from groups	Facilitated by the Chair
1700-1730	Plenary discussion on identifying PES	
1900	Bus leaves from Melia hotel for dinner at Moon River Restaurant	

Saturday April 5

Session 5: Setting in place PES agreements (Chair: Ly Thi Minh Hai)		
0900-0920	Legal and policy frameworks	Patti Moore, Head IUCN Asia Regional Environmental Law Programme
0920-0940	Negotiating agreements	Arlene Amponin, Research Associate, Resources, Economics and Environment Center for Studies (REECS), Philippines
0940-1000	Elements of a PES agreement	Patti Moore, Head IUCN Asia Regional Environmental Law Programme
1000-1030	Questions and discussion	Facilitated by the Chair
1030-1100	*Tea/coffee*	
1100-1200	Role playing game on negotiating a PES agreement: • Upland forest catchments (facilitated by Mark Smith) • Marine Protected Areas (facilitated by Elizabeth De Santo) • Freshwater wetlands (facilitated by Lucy Emerton)	
1200-1230	Discussion and present back from role-playing game	Facilitated by the Chair
1230-1330	*Lunch*	
Session 6: Wrap-up (Chair: Mark Smith)		
1330-1345	Summary of key insights and lessons learned from the workshop	Sultana Bashir, GEF Sameer Karki, UNDP Gaya Sriskanthan, IUCN
1330-1430	Feedback from participants on practical lessons for project management	Facilitated by the Chair
1430-1500	Close of workshop, workshop evaluation	Janot Mendler de Suarez, Deputy Director & Project Coordinator, GEF IW:Learn Mr.Nguyen Huu Dung, Vice Director of Forest Protection Department, Ministry of Agriculture and Rural Development
1500-1530	*Tea/coffee*	

Annexe 3

Participation List - Page one

	HANOI WORKSHOP ON PES APRIL 3-5, 2008				
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Annexe 3 (continued)

Participation List - Page two

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Annexe 4

Participant Evaluation in figures

1.	General logistical organisation	Strongly disagree	Disagree	Agree	Strongly agree	Responses
1.1	Overall, the workshop was well organised			12	14	26
1.2	The venue facilities were suitable		1	9	16	26
1.3	Overall, the organisation facilitated learning			14	12	26
			0.3	**11.7**	**14.0**	**26**

2.	General technical issues	Strongly disagree	Disagree	Agree	Strongly agree	Responses
2.1	The reading/preparation materials helped me to get more out of the workshop		3	17	3	23
2.2	The content of the workshop matched the announced objectives of the workshop well		1	18	7	26
2.3	The workshop enabled an exchange of experience and information on environmental flows			10	16	26
2.4	Sufficient time was allocated for discussion		9	12	5	26
2.5	The excercises facilitated my learning			15	9	24
2.6	I am now more aware of sources of expertise and information on environmental flows			12	13	25
2.7	My knowledge of environmental flows and how it is relevant in my work has improved		1	15	10	26
2.8	I have acquired a significant amount of information that is new to me		4	11	11	26
2.9	I feel able to use what i have learned back home		2	15	9	26
2.10	Overall, the workshop was very useful		1	11	13	25
			2.1	**13.6**	**9.6**	**25.3**

3.	What I liked the least was:	
	More discussions and exchange of experiences and less presentations, e.g. in Day 2 (slight repetition of issues), little interaction (not a seminar)	5
	Too strongly focused on watersheds and forests and few examples on the marine environments in terms of PES applications	3
	Case studies were not representative (there are more sucessful examples) nor adequate to distill general principles, applicability or pros and cons	2
	Uncertainty when addressing country-specific challenges and hurdles	2
	Dissemination was tailored to UN/IUCN-related staff rather than to an ordinary audience of prospective practitioners	1
		out of 18 responses

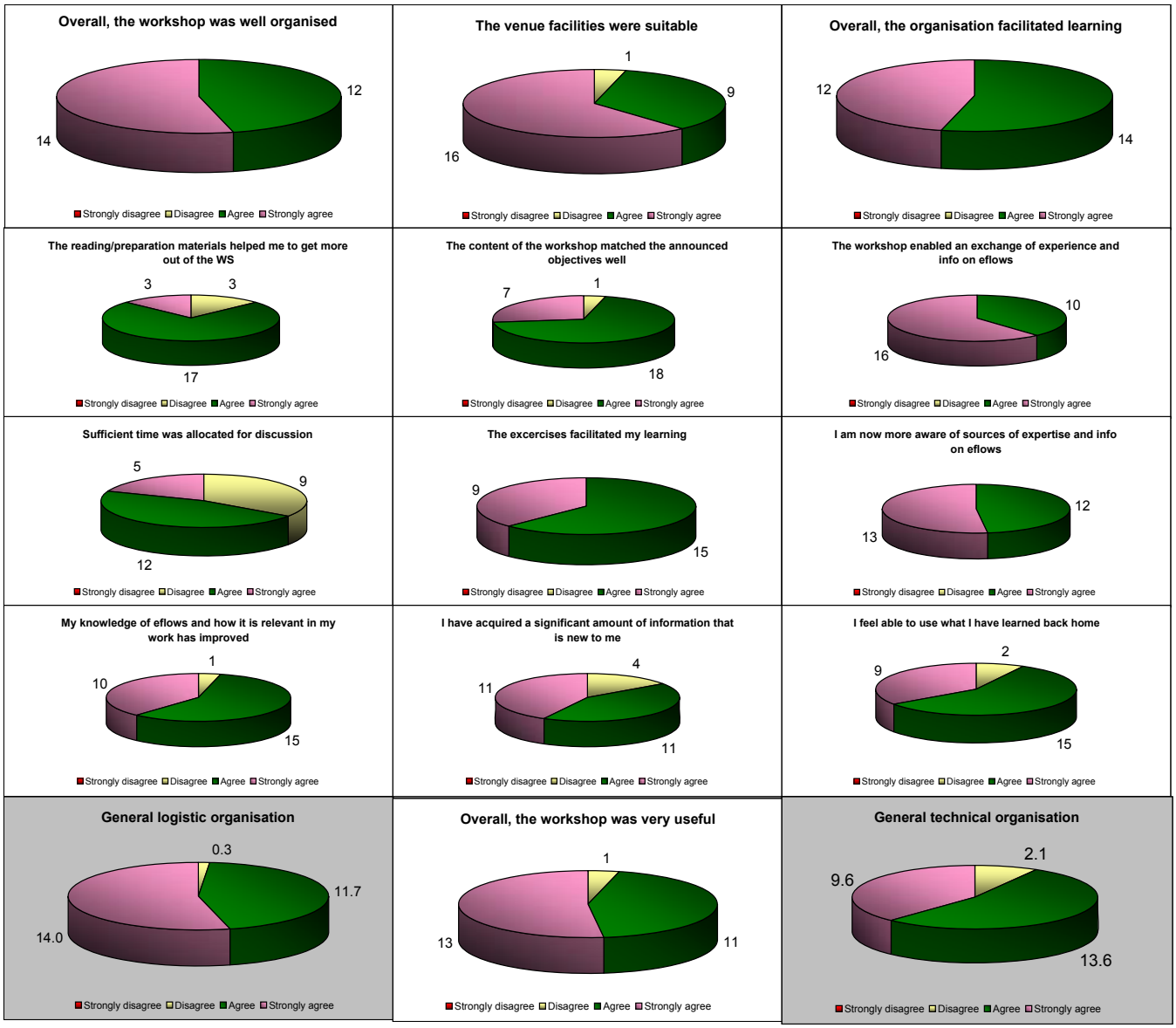
4.	The workshop delivery or organisation can be improved by:	
	e-learning, e-sharing, mailing list (CD, hard copies of presentations, reading materials, and possibly contacts for references, or send them out prior to the	6
	More discussion/interaction or a better mix with presentations ("move away from PowerPoints!")	6
	More success stories, good practices or completed cases (especially in the coastal/marine environment - 1 entire session to devote?)	4
	Examples from more countries and representative sectors to have a broader and more comprehensive negotiation/agreement	2
	More time for group exercise and more exercises per session	2
	Announce the workshop earlier and more extensively	1
	Better speakers	1
		out of 20 responses

5.	What I liked the most was:	
	Group work, interactive nature & role-playing	8
	Experiences from other countries, highly international participants and diversity of topics	5
	Facilitation dynamics, level of expertise and liveliness of facilitators	3
	Informative nature and presentation of several PES case studies	2
	Elements of PES agreements, negotiation and techniques to get buyers involved	2
		out of 22 responses

6.	One example of how I would like to apply what I have learned in my project or work is:	
	The design of projects on sustainable financing in Thailand, Vietnam or the Philippines as well as in a community-oriented way	4
	Arrangements for getting agreements between buyers and sellers, e.g. hatcheries and other settlers to establish eco-friendly practicies upstream	2
	To present and advocate PES to others along the learning curve, e.g. governmental officers, conveners, stakeholders, minority groups, etc.	2
	To encourage pro-poor PES and find out ways to support livelihood diversification with PES-like schemes in protected areas	2
	The applicability to marine areas and for REDD	2
	The trial of PES for one catchment of a sustainable forest management project	1
	The development of a PES mechanism in marine shallow-waters ecosystem in Seribu Islands, Jakarta, Indonesia	1
	The design of economic instruments/incentives	1
	As one of the pilot scheme within an about-to-be-implemented IWRM project	1
	The integration of PES principles/elements in the Vietnamese Biodiversity Law under preparation	1
	Recommendations to the local government units and the Board of Water Quality Management to include PES in their Action Plan	1
	The improvement of the current user's fee system in river basin management, coastal management and waste management	1
	As a financing alterantive to increase the conservation work on an island	1
	To get communities commit to change in return for development assistance	1
	To teach subordinates how to use this information during negotiation and upfront planning of PES	1
	To review PES-like schemes and allow for the incorporation of more effective concept	1
	To better understand the difference between pay schemes and contractual PES	1
		out of 22 responses

Annexe 5

Participant Evaluation in pie charts



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