

NATURALCAPITALMARKETS.ORG
Die Natur als wertvolle Wirtschaftsgröße sehen



Summary WEBINAR February 17th 2014

„Payments for ecosystem services“

On Monday, February 17th 2014, the second webinar of the project „Natural Capital Markets“¹ took place with 95 registrations. Ulrich Stöcker, project leader of the German Environmental Aid, hosted the webinar, informed about the BfN-supported project, and gave a short introduction to the theme of the hour-long webinar. In context of the project a study was made, which examines and critically discusses the two best known biodiversity markets, biodiversity offsets and payments for ecosystem services (PES). Besides that, directions for action for the target groups (companies, financial institutions, and NGOs) were created that give specific and individual directions for each group. For political decision-makers a policy paper gives summarized recommendations on how to deal with these markets. On the website www.naturalcapitalmarkets.org all outcomes can be downloaded end of March 2014 and further information regarding this theme can be found.

Joost Bakker, Global Nature Fund: factors determining successful Payments for Ecosystem Services

First, Joost Bakker (Global Nature Fund) gave an introduction to the main theme of the webinar which was “Payments for ecosystem services (PES)”. His presentation "Factors determining successful Payments for Ecosystem Services" was based on a soon to be published study of the Global Nature Fund (GNF) and the German Environmental Aid (DUH) which is part of the project “natural capital markets” (www.naturalcapitalmarkets.org). The study critically assesses biodiversity offsets and payments for ecosystem services (PES) and gives, among other things, recommendations to companies, financial institutions and NGOs that want to become active in PES markets.

Bakker defined PES as “direct, voluntary, conditional payments by the user of ecosystem services to the supplier of these services”. That means that there no credits and no taxes. In addition, PES are conditional because if no ecosystem services are supplied no payments are made.

An example of PES: downstream companies use water (breweries, households etc.) which makes them users of the ecosystem services. Upstream land owners can now be paid for water treatments to guarantee the high quality of the water supply. That makes companies situated upstream the

¹ Online information platform for biodiversity markets

“suppliers” of ecosystem services. PES are often coordinated by the governments although many different forms of organizing a PES programme exist. There are payments for watershed services (PWS), programmes with bundled ecosystem services but also state based PES programmes such as tourism or agri-environmental measures (EU). In Vietnam for example, tourism companies in one region by a fixed amount that goes toward conserving the beauty of the natural environment. In 2011 most transactions were carried out for PWS (about 7.5 billion US\$). Although most PES programmes are located in Latin-America, the highest transaction volumes occur in the USA and Europe because the land is more expansive there.

Although about 200 billion US\$ are needed to protect biodiversity according to some studies, the current expenditures amounted to 50 billion US\$ (2012). That is a financing deficit for biodiversity of about 150 billion US\$ per year. This raises the question of market mechanisms can bring in private sector funds to contribute to biodiversity conservation. Part of the natural project is to analyse whether PES and offsets really can protect biodiversity and bring profit for the participating companies at the same time.

Not many programmes are established by the private sector. The reason is that the conditions for PES are very limited. The conditions for successful private sector PES programmes are:

- The demand for a particular ecosystem service
- The ecosystem the company is using is decreasing in quantity or quality
- The value resulting from the PES programme is significantly higher than the management costs of a PES programme
- The supply of the ecosystem services is site specific
- The company participating in the PES programme needs to have the assurance that other actors do not negatively influence the natural capital

The value depends on the rarity of the ecosystem service and the importance of the ecosystem service for the company.

Bakker’s conclusion was that opportunities for PES programmes are limited for the private sector and (financial) support from governments and NGOs is needed if PES programmes are to be expanded. Further he considered the regulatory framework to be very important and reasoned that instead of seeing PES as a way to increase private sector fund for biodiversity conservation, PES programmes should be seen as a more efficient allocation of government funds.

The upcoming study of the GNF and the DUH, policy papers, webinars and toolkits for companies, financial institutes and NGOs give some background information and guidelines. In addition the website www.naturalcapitalmarkets.org provides further information on PES. (Study and Toolkits will be available on the website in March)

Susan Edda Seehusen, Conservation Strategy Fund, Brazil: Payments for ecosystem services in Brazil – Challenges and perspectives

The second speaker of the webinar was Susan Edda Seehusen (Conservation Strategy Fund, Brazil). She gave a lecture on “Payments for ecosystem services in Brazil – Challenges and perspectives”. Her presentation focused on PES in Brazil in general as well as on specific projects on biodiversity protection and ecosystem services. Moreover she outlined the role of different actors regarding PES (like companies, NGOs, and government apparatus).

At first Seehusen pointed out that Brazil uses a lot of ecosystem services, such as water provision, carbon storage as well as biodiversity. Then she described the challenges that are related to these ecosystem services from an economic perspective: Ecosystem services (ES) are considered as public goods and positive externalities but the consumers of these services do not pay the suppliers for

providing these ecosystem services. In addition, since ecosystem services are public goods it is hard to exclude someone of benefiting from ES. This leads to market failure and a tendency to overuse and undersupply ES. PES can be an economic instrument to deal with this challenge. Therefore it is necessary to find someone who is interested in providing the ES. Users of ES have then to be identified who are able to pay the PES.

Seehusen went into detail on the Brazilian project “Pagamento por serviços ambientais na Mata Atlântica” that is sponsored by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, the GIZ, the KfW development bank, and others. The project assessed 78 projects in the Atlantic Forests Region dealing with PES. Of these 78, 33 were related to carbon storage, 40 to water provision and five to biodiversity protection. The problem for PES that was identified in the study was to define financial sources that could be accessed as buyers of ES and to define the transactions/levels of payments (valuation of ES, calculation of opportunity costs).

Next, Seehusen introduced the “Água no Parque” project, which is a PES project implemented with CEPAN, a water utility company. To persuade the company to implement a PES scheme, a comparison between the water treatment costs in a protected watershed and an unprotected river was conducted. The results clearly indicated the lower costs in the protected watershed. The information was presented to CEPAN and the company recognized the financial benefits of the protection of the watershed and its surroundings.

Another challenge in Brazil was to find out who provides the ecosystem services (suppliers of the PES). Within the so-called Bolsa Floresta Program the government defined different protected areas and the inhabitant communities. The Bolsa Floresta (Forest Allowance) Program is a pioneering PES scheme that rewards traditional communities for their commitment to stop deforestation by distributing payments for ecosystem services to families, communities, and family associations. In order to be eligible to receive the grants, families must attend a two-day training programme on environmental awareness and make a zero deforestation commitment. In addition, they must enroll their children in school. By the end of the workshop the participants sign a voluntary commitment to zero deforestation (for primary forests). They then receive a monthly payment of 50 reais (US\$30). Community associations can also receive payments of up to 4,000 reais (US\$2,500) to support legal income generation activities that do not produce smoke, such as bee keeping for honey production, fish-farming or forest management.² The empowerment of the association and social control cost US\$ 50,000. It was a first try to structure the value chain for sustainable production. The main objectives of the project were to pay for sustainable productions, to invest in health, education, transport and communication, to empower the association and social control, and to enroll the families in the reduction of deforestation.

Recently, Brazil changed the forest code. One gain of the new code was that it defined economic instruments for the protection and restoration of native vegetation. In addition hydroelectric firms should now pay for the provision of water to PA.

In the ensuing discussion the question was raised whether there are any PES schemes in Brazil that are combined with sustainable certification of commodities and therefore achieve an impact beyond the borders of the farms. Such a combination is aimed for in several projects, however it is mostly a combination with the generation and commercialization of carbon credits, e.g. in cocoa production. These projects would however, not be classified as PES, but rather as certification projects.

Rayna Popova, WWF DCP Bulgaria,

² The REDD desk

Rayna Popova (WWF DCP Bulgaria) was the third speaker of the webinar. She presented the background and three case studies of the Danube PES project. The project aims to:

- demonstrate and promote PES and other sustainable financing schemes in the Lower Danube river basin;
- encourage related sustainable financing schemes (SF);
- demonstrate how national and local-level PES/SF schemes work;
- contribute to rural development and conservation in the Lower Danube basin in Romania and Bulgaria;
- promote the integration of PES/SF schemes in River basin management plans for the Danube, its sub-basins and other major river basins;
- derive lessons of relevance for the Danube basin at large and for other international watersheds.

Three private PES schemes in Romania and Bulgaria effectively reward provision of Danube-related ecosystem services and are integrated into the Danube river basin and sub-basin management plans. Two public PES schemes are still in progress.

The first case study represents the public payment for reducing the environmental impact of the aquaculture sector and fisheries in Bulgaria. In this case the government is the main buyer of ES. PES funds (in the form of state aids) stem from the national budget (fees, penalties in the fishery sector) and are paid to the pond managers as providers of the ecosystem services. They allocate these funds to registered operators, based on volume and costs of fish feed. The support to the sustainable aquaculture scheme is provided for transition from use of conventional to environmental fodder (extruded and granulated). It aims at compensating farmers for additional costs associated with the use of environmental fodder (extruded and granulated), in comparison to the conventional one. Further, the support will be granted on annual basis, in return for invoices fodder is purchased. In accordance with the farmer's registration, surveys of the species and numbers of the fish bred will be conducted

The second case study deals with sustainable tourism in the Rusenski Lom Natural Park, which is located in the northeast of Bulgaria. The main goal of responsible tourism is to attract funds from users of natural capital in the Rusenski Lom Natural Park. These funds will be collected and will be spent for conservation activities. Therefore the number of visitors is controlled and biodiversity conserved to reduce the negative impacts of the tourism on habitats and species.

Different stakeholders (NGOs, WWF, Rusenski Lom Natural Park, local authorities, and businesses) signed the partnership agreement and built a monitoring committee which accepts and rejects the annual work plan and budget and monitors the Club of Friends of Rusenski Lom Natural Park. The club on its part, annually proposes conservation measures to the monitoring committee and discusses the budget for the next year.

In case study three, Popova presented the "Persina pilot" as an example of market payments supporting wetland restoration and cutting CO₂-emissions. The Persina pilot site is a nature park located in central north of Bulgaria that includes the protected area Kaikusha Marsh. The biomass from wetlands was chosen because feasibility studies show that in Bulgaria about 30% of straws, 65% of cornstalks, and 80% of other solid agricultural waste can be used for energy production, an estimated 800,000 tons annually. 40,000 ha of biomass are produced from the existing protected wetlands in Bulgaria, respecting the biodiversity needs (cut only 20% per year) an estimated 24,000 tons annually in production of pallets and briquettes. The environmental benefits from the Persina scheme are diverse:

- sustainable management and use of biomass from wetlands and farmlands on about of 7,100 ha (incl. model area of 150 ha protected areas – Kaikusha marsh);
- reduction of CO₂ in the atmosphere associated with stubble burning and decomposition of biomass in the fields/wetlands;
- improved water regime of the Kaikusha marsh and restoration of its regulatory functions with respect to water, maintenance of fish stocks, CO₂ fixation and maintenance of the biological diversity;
- improved soil fertility on more than 5,000 ha of agricultural land;
- improved water quality on more than 2,000 ha wetlands.

But also economic benefits from the Persina scheme stand out: interest from business for the use of biomass is created by generating revenue from the sale of pellets and briquettes and land users have economic opportunities to utilize residues in farmlands as a source of additional income that also covers the costs of collection and transportation of residues. In addition, an alternative is offered to the local population to shift from fossil fuels (like coal and firewood) to pellets and briquettes that reduce the energy costs in the households by an average of 30%. Furthermore, social benefits like new employments in green jobs occur. This makes the farmers the providers of ES and the producers of pellets/briquettes the buyers of provisioning ES.

Cost and benefit analysis and financial indicators show that the investment is effective and the idea could be realized on a big scale as the net present value is bigger than zero, the internal rate of return is ~ 68%, the profitability index is about 6.3% and the payback period is 2 years.

As a conclusion, the wetlands are the ecosystem with the highest-productivity which provides many opportunities for additional income for the local population. Further, they serve as a local energy source, and show the highest absorbability of CO₂.

Nevertheless, it requires double efforts to develop the scheme in a big scale because wetland restoration is an unknown and unpopular theme for which little political support exists.. Therefore it is necessary to ensure multiple sources of income – carbon financing from the ETS could be such an additional profit. That makes the support by national and local institutions highly necessary.

The next webinar will take place in mid-March. The topic and exact date will be announced soon on www.naturalcapitalmarkets.org/webinar

Minutes: GNF

www.naturalcapitalmarkets.org