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Environmental services and climate change

The Republic of Ghana – one of Africa’s stable democracies – faces on-going overexploitation of its natural resources resulting in huge financial losses and serious implications for the poor. The EU-financed project “Tropical Forests and Climate Adaptation” tries to identify appropriate instruments to finance adaptation measures to climate change. One of these financing tools could be Payments for Environmental Services – PES.

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Climate change-induced impacts affect the composition and distribution of natural forests. All the proposed adaptation measures to climate change, like forest conservation and reforestation, help to better cope with the consequences of adverse climatic events. This in particular concerns the livelihoods of the local poor population in Ghana, which is highly dependent

on goods and services provided by the forest. Any change or loss of these goods and services through deforestation and environmental degradation would directly affect the local poor people and make them even more vulnerable to future adverse climate change impacts. This clearly shows that conserving and managing the biodiversity of forests can help vulnerable

◀ *High land use pressure at the outer fringes of the Ankasa Conservation Area (ACA).*

poor people to adapt better to a shifting global climate. Thus PES schemes aiming at maintaining these goods and services contribute to the adaptive capacity of the local population.

■ Potential providers of environmental services and land use change

Based on this understanding, and taking into account the current situation in the surroundings of the Ankasa Conservation Area (ACA), farmers, as potential providers of biodiversity related environmental services (ES), have to change their non-sustainable land and resource use practices fundamentally. This land use change primarily depends on the farmers' capacities and willingness to adopt more sustainable forms of land use (e.g. agroforestry systems). Due to existing strong financial incentives towards the conversion of forestland into cropland (cocoa, rubber), only few forest patches have been left over outside the ACA that could be interesting for a conservation-related PES scheme.

Farmers' concern that the government would claim the ownership over naturally occurring forest trees further limits their willingness to participate in forest conservation programmes. In relation to afforestation and reforestation activities, farmers are very anxious about losing access to their land if they do not cultivate it with food crops. In this case, they fear the reallocation of uncultivated fields by the landowner (chief) to somebody else. Neither do they benefit from tree-growing in the current benefit-sharing system and nor in most cases receive any compensation for damaging their crops when naturally occurring timber trees

The study on PES in Ghana

The objective of the EU-financed project TroFCCA (Tropical Forests and Climate Change Adaptation) under the auspices of the Centre for International Forestry Research (CIFOR) is to streamline adaptation into development through the assessment of vulnerability. A team leader and five young professionals from the Centre for Advanced Training on Rural Development (SLE) at Humboldt University in Berlin examined the marketable opportunities of Payments for Environmental Services (PES) as a potential financing mechanism for adaptation measures to climate change by using a multilevel approach combining a national stakeholder analysis and a local case study. The study was carried out in the Ankasa Conservation Area (ACA) in West Ghana.

are harvested on their fields by timber contractors. Subsequently, at an early stage, farmers tend to cut down all the timber trees. Due to limited land size and high land use pressure farmers look upon tree planting as a threat to their food security, and further economic considerations refer to the long production period until forest trees are mature and first revenues can be obtained.

■ Potential buyers of ES and up-front funding

In general, it is a challenging task to convince beneficiaries of ES to pay for

goods and services which so far have been provided free of charge. The design of a "Payments for Environmental Services" (PES) scheme, based on the effect of lowering the vulnerability of the local population, is of interest for the pro-poor oriented buyer (international donor). A PES creating incentive to convert farmland to close-to-nature forests to expand the area of the Ankasa Conservation Area (ACA) itself is of interest for the conservation-oriented buyer (conservation NGOs).

The willingness to pay is directly linked to the benefits the buyer gets from the provision of certain ES, his financial resources to engage in a PES

Local and national stakeholders relevant to a PES scheme for forest and biodiversity related adaptation measures.

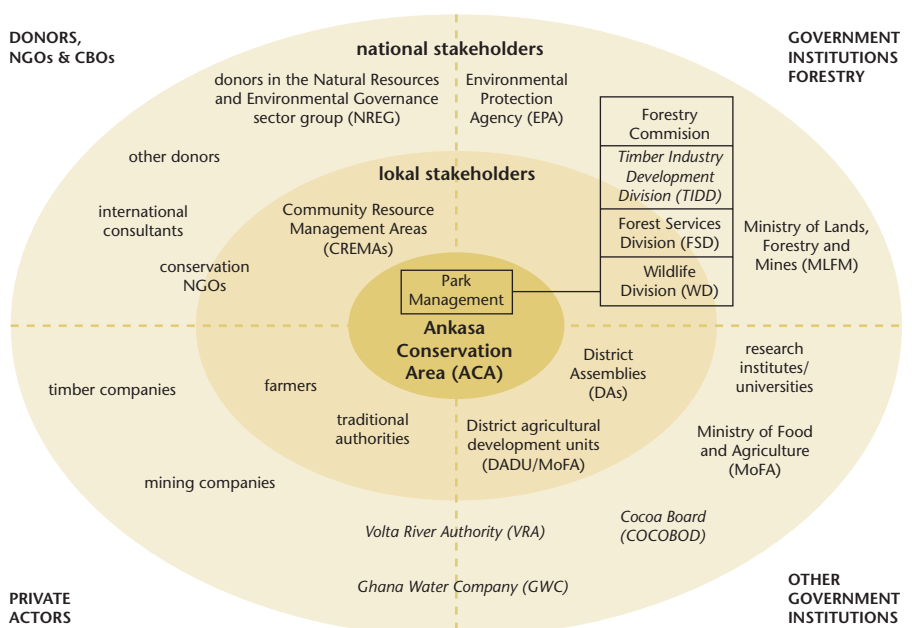




Photo: C. Stairs

scheme, and institutional arrangements like efficient monitoring models. One hypothesis of this scoping study was that willingness to pay is connected to awareness of the necessity to secure certain ES. With respect to biodiversity-related ES, interview partners named service buyers at global level like multilateral funds and international conservation NGOs. Financially sound private national and international companies, e.g. mining companies, were more or less ruled out since their interest in conservation issues is estimated rather low. The same can also be said about the Government of Ghana (GoG) which has so far made few efforts to conserve biodiversity. Another buyer for biodiversity could be the global chocolate consumer, who normally pays higher prices for organic products. Since organically produced cocoa is in line with environmentally

friendly land use practices, this price premium could be used to secure the provision of ES.

■ Institutional framework and arrangements

The Figure on page 39 demonstrates the great variety of national and local stakeholders involved in implementing future PES schemes in Ghana.

For the implementation of any PES scheme, land tenure security is of paramount importance. The major part of farmland around the ACA is stool land (60 %) which belongs to the traditional authority (chiefs) (see Box on page 41).

Many land users do not have any formal land titles, and tenancy agree-

The poor local population depends on various ecosystem services provided by the forest.

ments between chiefs and farmers are seldom celebrated in a written form. Tenant farmers usually do not have the right to change the crop on the leased land and must seek approval of the landowner. Abandoned or uncultivated land can sooner or later be reassigned to the stool or reallocated to other farmers. Therefore, all tenant farmers are indirectly forced to cultivate all their land with profitable cash crops.

On the other hand, the strong influence of weak state institutions in biodiversity and forest conservation issues, and hence in implementing and regu-

lating PES, would threaten the efficient functioning of PES schemes. Moreover, it would increase the transaction costs to such a high level that it probably could not be covered by voluntary payments from environmental service users.

At all levels, key stakeholders considered the present benefit sharing system of timber resources as one of the main obstacles to forest conservation because there are no financial incentives for land users to preserve or plant forest trees. All the revenues are shared among private timber companies, traditional authorities and the Forest Commission (FC), without regarding the local communities. Those stakeholders who are benefiting from the current situation will probably seize the opportunity to transfer these mechanisms from the timber sector to other environmental services. In this case, valuation and marketing of ES may have adverse effects, again accumulating the revenues among private companies as well as state and traditional authorities.

Institutional arrangements of a PES scheme comprise types of contracts

Land rights in Ghana

About 78 percent of the total land area in Ghana consists of both stool and family lands. Together with individual lands, family lands form about 35 percent of the total lands in customary ownership. The traditional land-owning authorities (stool chiefs, clan heads) hold allodial (absolute ownership) titles to land in trust for the community. Family lands are held in trust by the family heads on behalf of the family members. In Ghana, land can only be leased or rented, but not officially bought. Leases and rentals for economic activities must involve the permission of the allodial titleholders. However, the land must revert to the community or the allodial titleholder at the end of the lease. Family and individually owned lands are normally passed on to the succeeding generations through an elaborate system of inheritance.

and agreements in the local context, negotiation processes, management and sharing of payments and monitoring processes of contracts. At local level, the land tenure agreements between farmers and landowners are most crucial to PES.

Any land use change like afforestation and reforestation may only be implemented by adopting those agreements. Because of widespread land insecurity of tenant farmers, an agreement within a potential PES scheme has to be presented in written form and approved by witnesses, and it should include a clause of transferability to the successor. The celebra-

tion of contracts in PES models implies mutual trust between land users/landowners and service buyers. NGOs are trusted most by farmers, state institutions and traditional authorities. They could serve as potential intermediaries in PES schemes by facilitating negotiation processes, monitoring agreements, managing payment flows, and organising ES providers. The sort of payments made to potential service providers can be manifold. Beside payments in cash, access to loans and payments in kind were favoured by the farmers. It has to be ensured how payments within a certain period of time are transferred to the service providers.

Zusammenfassung

In der Republik Ghana – einer der stabilen Demokratien in Afrika – findet eine rücksichtslose Ausbeutung der natürlichen Ressourcen statt, die große finanzielle Verluste verursacht und besonders schlimme Folgen für die Armen hat. Das von der EU finanzierte Projekt „Tropenwälder und Anpassung an den Klimawandel“ sucht nach geeigneten Instrumenten für die Finanzierung von Anpassungsmaßnahmen an den Klimawandel. Ein solcher Finanzierungsmechanismus könnten Zahlungen für Umweltdienstleistungen (PES – Payments for Environmental Services) sein. Eine Studie der Humboldt-Universität Berlin hat gezeigt, dass PES in starkem Maß auf das Vorhandensein des richtigen institutionellen Rahmenwerks angewiesen sind. Hohe Opportunitätskosten, fehlende Sicherheit bei Landnutzungsrechten zwischen Landeigentümern und Landnutzern, ungleiche Verteilung von

Erträgen aus der Holznutzung und das fehlende Interesse an einem nachhaltigen Schutz der Biodiversität beschränken die Möglichkeiten effizienter PES-Systeme. Vermarktungsfähige forstliche Nebenholzprodukte und Wasser, als Koppelprodukte biodiversitätsbezogener PES-Modelle, stärken die Anpassungsfähigkeit der lokalen armen Bevölkerung an mögliche negative Auswirkungen des Klimawandels.

Resumen

La República de Ghana – una de las democracias más estables del África – afronta una persistente sobreexplotación de sus recursos naturales que trae consigo enormes pérdidas financieras y graves consecuencias para los pobres. El proyecto financiado por la UE y titulado “Bosques tropicales y adaptación al clima” trata de identificar los instrumentos apropiados para financiar las medidas de adaptación frente al cambio

climático. Uno de estos instrumentos de financiación podría consistir en los Pagos por Servicios Ambientales (PSA). Un estudio realizado por la Universidad Humboldt de Berlín ha revelado que los PSA dependen en gran medida de un marco institucional apropiado. Las posibilidades de utilizar con eficiencia los sistemas de PSA se ven limitadas por los altos costos de oportunidad, la falta de seguridad en los derechos del uso de la tierra disputados entre propietarios y usuarios, la distribución desigual de las rentas provenientes de la explotación maderera y la falta de interés en una conservación sostenible de la biodiversidad. Los productos no madereros de valor comercial y el agua – que son productos vinculados con los modelos de PSA relacionados a la biodiversidad – mejoran la adaptabilidad de la población pobre local frente a los posibles impactos negativos del cambio climático.