January 2012

منظمة الأغذية والزراعة للأمم المتحدة | 联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Продовольственная и сельскохозяйственная организация Объединенных Наций | Organización de las Naciones Unidas para la Agricultura y la Alimentación

AFRICAN FORESTRY AND WILDLIFE COMMISSION

EIGHTEENTH SESSION

SECOND AFRICAN FORESTRY AND WILDLIFE WEEK

Cotonou, Republic of Benin, 16 to 20 January 2012

THE IMPORTANCE OF GOVERNANCE AND BENEFIT SHARING IN THE SUSTAINABLE MANAGEMENT OF AFRICA'S FORESTS, TREES AND WILDLIFE

Payments for Forest Ecosystem Services: Challenges and Opportunities in Africa

Summary

The objective of this discussion paper is to provide an over view of forest related PES schemes in Africa and highlight the design elements and conditions that enable PES initiatives function effectively. At the end, it also identifies some issues for discussion and elaboration with the objective of maximizing the positive ecological and socioeconomic outcomes of PES initiatives.

Definition and Rationale

1. Forests render many ecosystem services such as mitigation of greenhouse gas emissions, protection of watersheds, conservation of biodiversity, and sustenance of critical life forms. While these functions are increasingly being recognised, their economic values are poorly reflected in market considerations. As a result, forests are undervalued and often this leads to their degradation or conversion to other land uses. Payments for ecosystem services (PES) schemes try to correct this market failure through the creation of appropriate economic incentives that enable the transfer of financial resources from the beneficiaries of ecosystem services to those who provide them.

2. In view of the growing demand for forest ecosystem services, PES schemes are gaining popularity the world over[1]. With forests at the centre of global responses to the challenge of climate change, PES has become a valuable means to generating new revenues for sustainable forest management and local economic development. While many national governments and international agencies are playing important catalytic roles in the development of PES markets, some of them are also receiving significant private financing (e.g. nature-based tourism, voluntary carbon markets). Yet, compared to their potential, they still remain largely

[1] TEEB (2010) estimates the overall market value of payments for water-related ecosystem services and other ecosystem services as USD 5.2 and USD 3 billion in 2008, respectively.

local and small-scale. Many of them are also strongly dependent on the financial and technical support of governments and international donors.

3. Particularly in the context of Africa, PES offers a tremendous potential as the values of ecosystem services in the region are high while the costs of providing them are relatively low -a critical element of success for any PES mechanism. However, it is important to note that simultaneously some of the fundamental drivers of deforestation and degradation need to be addressed (Martin 2008), applying a combination of regulatory, financial, and market based tools to achieving such policy goals (Merlo and Rojas Briales, 2000). The region is already losing forests at an alarming rate although forests constitute a vital source of livelihoods and income for a majority of the population.

The Structure of PES Mechanisms

4. Although PES mechanisms vary widely in the nature and price of commodities sold and the magnitude of transactions, they all share the premise that the continued provision of an ecosystem service could be enabled by establishing an appropriate compensatory mechanism to service providers. They thus seek to attribute a certain value to the ecosystem service that is sought and create appropriate payment/ compensation system (Mayrand and Paquin, 2004). A PES mechanism thus has six basic elements as discussed below (Fig -1).

a) Ecosystem services

5. The first challenge in developing a PES scheme is to identify and define ecosystem services (for e.g., watersheds, biodiversity, carbon sequestration, and landscape beauty that are to be generated or sustained under the system. Identifying the services that can attract demand from users/beneficiaries often requires significant knowledge of the system as well as consultation with relevant stakeholders. In general, the service provision is linked to land use practices such as forest conservation, reforestation, and sustainable utilization. It could also include agroforestry and silvopastoral practices. The key to effective PES mechanism lies in identifying which services are needed by which beneficiaries and at what level.

b) Service seekers/users

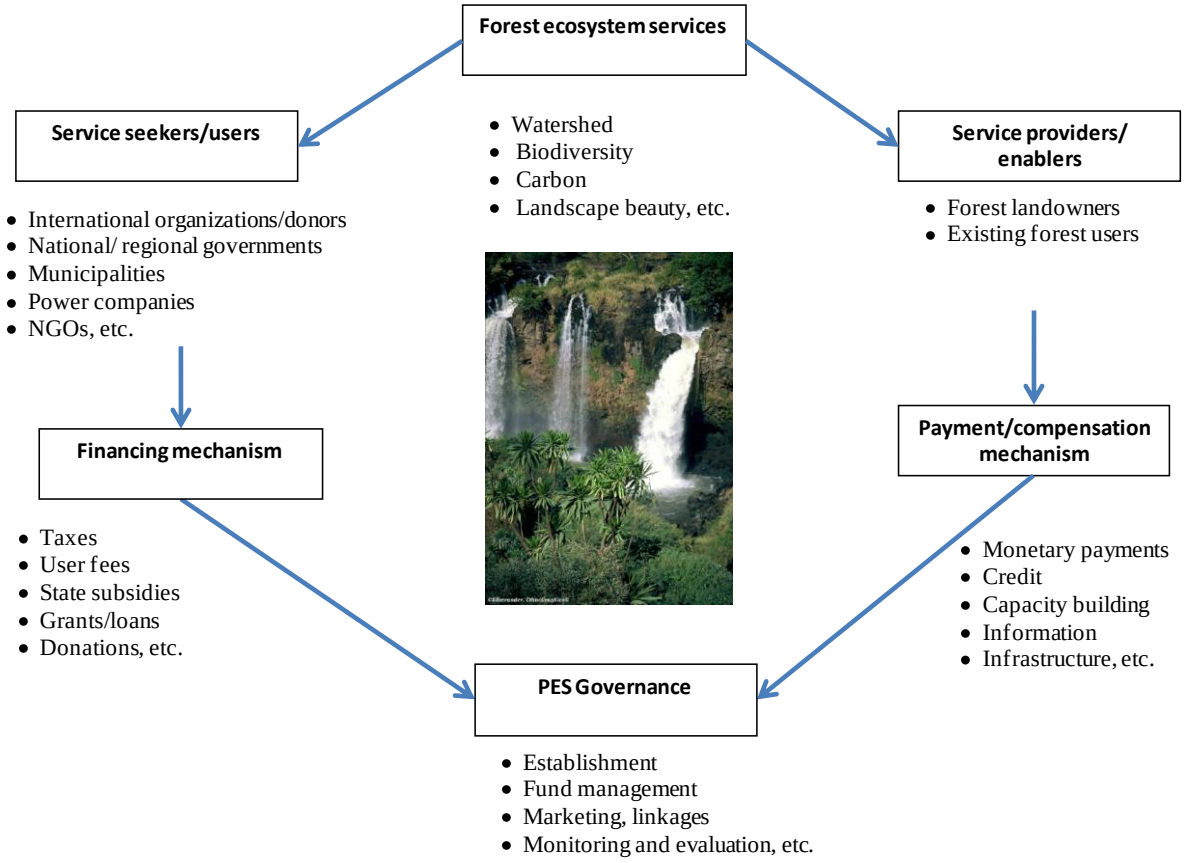
6. PES is only possible if there is a demand for the ecosystem service. The service seekers (beneficiaries) could be local (for e.g., water users in a watershed), national (for e.g., state or industry) or international (multinationals or international organizations). The nature and magnitude of ecosystem services generated also often decides as to who could be the service user. For example, while it may be relatively easy to identify and mobilize beneficiaries at a local level for watershed services, it may be more difficult to do so for other services. Some of the reasons why no market develops for ecosystem services even when there is demand include: lack of coordination or collective action among service providers, absence of an enabling institutional framework, or cultural hesitation (Matta and Kerr 2006, Mayrand and Paquin, 2004). The problem of how to avoid potential free riders could also hamper the development of a PES mechanism. In many such situations, the implicit demand is transformed into an explicit willingness to pay through specific interventions such as stakeholder meetings, information provision, and creation of appropriate institutions. These arrangements are often facilitated by intermediaries such as NGOs and the state. New regulations (e.g. user fees) or other policy interventions (e.g. Kyoto Protocol) could also drive the development of markets.

c) Financing mechanism

7. A key component of a PES scheme is the creation of a financing mechanism that will pool funds from beneficiaries and manage them. Sources of finance include state subsidies, taxes, user fees, grants or loans by international institutions or donations by international NGOs or philanthropic organizations. Rather than one-time contributions, stable and continuous flow of revenues ensures the long-term sustainability of PES schemes. Also finances received based on comprehensive services valuation processes are more effective and efficient than those that are allocated without any systematic criteria. Certainty of contribution is also very essential, particularly in the initial years for the initiative to takeoff. Since the start-up costs are very high, the

PES schemes are often initiated with external support (government, donors). However, it is essential that the system soon incorporates payments from service receivers to ensure a constant flow as well as establish the logical linkage between service provision and payments.

Figure-1: Basic elements of a PES scheme



d) Payment mechanism

8. A PES scheme also involves designing a payment mechanism to deliver funds to forest land owners or other stakeholders who enable the provision of the service. These stakeholders normally include local communities, forest users and other forest dependent people. Payments to them often reflect the amount enough to compensate the cost of conservation or the opportunity cost of foregone land uses or practices (for e.g., giving up grazing in forestland by a right holder). In practice, a great diversity of payments is seen, such as payment based on the number of hectares or for a specific land use practice. The initial negotiations and consensus building processes are rather key to determining the nature and the level of payments. The disbursements of payments should be timely and spread over a period of time. Some PES schemes also provide non-monetary benefits to service providers/enablers in the form of training, infrastructure or market development.

e) Governance structure

9. In order to oversee the overall functioning, PES schemes have a governance structure. Besides holding negotiations, specifying eligible activities and payments levels, monitoring and evaluation, the governance structure ensures the day to day management of the scheme. Initial activities may involve research, consultations with land users and beneficiaries, assessments of current land uses and practices, and designing contracts. It is also important to assess the existing institutional environment to ensure that the proposed regulatory and fiscal measures are consistent with them. In some cases it may be essential to modify the existing policies (e.g. free access to resources). Clear and well defined property rights and tenure systems are

also essential. Further, a number of institutions/activities related to research, marketing, capacity building, fund management, and networking support a PES scheme.

Forest-based PES markets in Africa: an analysis

10. Developing markets for ecosystem services involves translating the services into commodities that can be sold to interested parties (beneficiaries). For successful PES schemes, it is important to understand well the nature of markets the ecosystem services is targeting. This requires accurate information on the market, including the value of services to potential beneficiaries. The current status and prospects of forest related PES markets in Africa are discussed below.

a) Markets for watershed services

11. The watershed service based PES mechanisms are one of the earliest, although the relationship between forest services to watersheds is complex and often not fully understood. These PES schemes are generally local or regional and the demand for them comes from downstream water users, including farmers and hydroelectric power producers. They do not involve trading in water quantity or quality but rather financing land uses/practices that could generate/ promote watershed benefits. Detailed monitoring systems are often put in place to indicate that the PES system is providing the services for which beneficiaries are paying.

12. There are not many notable examples of large-scale payments for watershed services projects in Africa. This may be due to the limited demand for such services. Also, its provision is indirectly enabled by governments through public budgets (e.g., Malawi's national electricity supplier has been paying local NGOs to protect watersheds surrounding key hydroelectricity plants). There are however some isolated PES projects that aim at protecting watersheds and promoting water quality. These include, for example, the "Working for Water" programme in South Africa (a levy on water supply finances removal of alien tree species and restoration of native vegetation in the upper catchments), and others being pioneered by WWF and CARE in Tanzania, Uganda, and Kenya (for example, the Lake Naivasha environmental services contract under the Equitable Payment for Watershed Services (EPWS) scheme, the Uluguru mountains project in Tanzania).

Box-1: The Uluguru Mountains PES Project in Tanzania

The Uluguru mountains are the source of the Ruvu River, which sustains about 2.8 million people in Dar es Salaam, the capital of Tanzania. In recent years, several conservation projects have been initiated to mitigate the negative impacts of unsustainable farming practices in the catchment. More recently, the focus of these efforts has been making direct payments to farmers for their conservation and restoration efforts.

http://presa.worldagroforestry.org/blog/2010/09/20/joining-hands-for-the-uluguru-watershed/

However, as many countries have started witnessing declining water resources, increasing conflicts over water sharing, and newer opportunities to generating additional revenues, there is a growing interest as well as demand for watershed based PES schemes in Africa.

b) Biodiversity services

13. Biodiversity services are also frequently involved in PES schemes and they range from protection of entire ecosystems and natural habitats to specific species or genetic resources. They could also take the form of conservation concessions or bio-prospecting projects. In a conservation concession, governments or local resource users agree to protect a natural ecosystem in lieu of a structured compensation. In most cases, conservation organizations spearhead such mechanisms (e.g. the Royal Society for the Protection of Birds is pioneering a $10 million endowment to bring the Gola Forest Reserve in Sierra Leone under a conservation concession).

14. The value of biodiversity conservation services, such as saving an endangered species, for example, is difficult to establish. Similarly, the benefits arising from bio-prospecting are based on future discoveries. In view of the difficulties associated with valuing a potential service, establishing a PES system for biodiversity is often complex. As in watershed services, biodiversity services are thus not sold directly but rather specific land use measures or practices that protect species, ecosystems, and genetic diversity are financed. While biodiversity services could be a potential source of additional revenue in Africa, there are currently very few successful documented cases. A few examples of biodiversity based compensation mechanisms are given in Table-1. It is often a challenge to sustain schemes that were initiated with external donor funding and transition them successfully to local self sustainable systems. There are also a number of private initiatives that endeavour to develop markets for biodiversity related products and services.

Table-1: Examples of biodiversity based compensation mechanisms in Africa[2]

Country	Service	Funding/ Financing mechanism
Cameroon	**Bio-prospecting (e.g. US National Cancer Institute research on HIV/AIDS)**	**Pooled trust fund**
Ghana, Cote d' Ivore	**Biodiversity friendly shaded cocoa**	**Critical Ecosystem Partnership Fund***[3]
Malawi	**Sustainable biodiversity enterprises**	**USAID/DANIDA supported Malawi Environmental Endowment Trust**
Nigeria	**Biodiversity access rights**	**The African International Cooperative Biodiversity Group (ICBG), supported by a coalition of US and African institutions**
South Africa	**Unique landscapes and biodiversity**	**The Green Trust (WWF-SA Nedbank Green Affinity)**
Uganda	**Unique Mgahinga-Bwindi Impenetrable protected area**	**GEF, USAID, World Bank, and WWF supported fund**
Zimbabwe	**Wildlife and its habitat and landscape beauty**	**CAMPFIRE**

15. Bio-prospecting initiatives particularly face institutional (rights of access, intellectual property, national sovereignty, trust) and benefit distribution challenges (equity, role of traditional users). These initiatives also involve substantial initial investment risks and uncertainty (e.g. Bio-resources Conservation and Development Programme initiated Fund for Integrated Rural Development and Traditional Medicine in Nigeria)[4].

[2] Source: *http://www.cbd.int/doc/external/iied/iied-case-studies-en.pdf*

[3] A trust fund which pools finance for biodiversity conservation in critical ecosystems (biodiversity hotspots). Other countries in West Africa include Sierra Leone, Liberia, and Togo.

http://www.cepf.net/about_cepf/Pages/default.aspx

[4] *http://www.nextdaysite.net/bioresourses/index.htm*

Box-2: A self sustaining community based resource management system

Payments to local communities are promoting the ecological viability of Lake Chilwa, a Ramsar site of international significance in Malawi. Initially funded by the Danish International Development Agency (DANIDA), the community-based management system that manages bird catching and fisheries has managed to generate modest revenues from the issuance of licenses and fines to sustain the process on a self-supporting basis.

Source: *http://www.rmportal.net/library/content/translinks/translinks-2007/earth-institute/SustainableResourceMgmtMalawi_CaseStudy_Translinks_2007.pdf*

c) Carbon markets

16. Carbon sequestration services of forests are one of the emerging and most potentially very promising markets. Despite the uncertainty over post-Kyoto Protocol agreements on reducing greenhouse gas emissions, the carbon markets are rapidly evolving on various trading platforms (voluntary and mandatory), with transactions occurring at various levels. The services rendered could be: carbon sequestration through afforestation and reforestation or avoided emissions through conservation of existing forest cover (Reducing emissions from deforestation and forest degradation - REDD). REDD (often dubbed as the first global PES experiment) related projects also include financing protected areas, reduced impact logging, and enrichment planting. It is however important to note that in the realm of the overall carbon offset markets, forest-related projects have so far played only a minor role.

Table -2: An overview of carbon related funding in Africa[5]

	REDD based initiatives			**BioCarbon Fund**	**Community Development Carbon Fund**
	UN-REDD	**FCPF**	**FIP**		
	UN collaborative programme to support the preparation and implementation of national REDD strategies in developing countries.	**Programme for REDD related capacity building activities and associated pilot projects.**	**REDD readiness and upfront bridge financing to address deforestation and degradation**	**A fund to demonstrate projects that sequester or conserve carbon in forest and agro-ecosystems.**	**Supports projects that create "development plus carbon" credits in poor areas in developing countries.**
Supported by	**FAO, UNDP and UNEP**	**World Bank**	**World Bank**	**World Bank**	**World Bank**
Extent of participation in Africa	**3 (DR Congo, Tanzania, Zambia) out of 12 pilot countries are in Africa and 6 counties hold observer status.**	**14 out of 37 countries**	**3 out of 8 pilot countries**	**6 out of 15 agreements signed involve Africa**	**7 out of 31 agreements signed involve Africa**

[5] *Source:* Adapted from Yarri, K (2011).

17. Other initiatives also include:

- Africa Development Bank's African Carbon Support Programme launched in 2010 to assist member countries access carbon finance[6].
- Congo Basin Partnership and other bilateral partnerships.

18. While the potential for forestry related carbon finance seems to be particularly significant, as large areas of the region's forests are degraded, the current level of Africa's participation in these markets is very low. It accounted for just 3.2% and 1.2% of projects in CDM and voluntary markets, respectively, in 2008 (Yari, 2011). Even within Africa, East Africa accounts for a major share of the projects. Many donors and governments are also interested in integrating poverty reduction objectives with the carbon projects. There are also some large-scale, commercially oriented projects promoted by private enterprises.

19. Many constraints seem to impede successful implementation of carbon related PES in Africa. These include complexity of rules, low institutional capacities and high transaction costs. Where some market transactions took place, net benefits accrued to local people so far seemed to be very low. Lack of standards, uncertainty over long-term sustainability, carbon price fluctuations, and weak institutions (for e.g. tenure insecurity) are some other major barriers.

Some carbon finance projects are also mired in controversies[7].

20. The current emphasis in REDD is dominated by strategies for scientific research and institutional setting geared toward carbon counting and trading rather than helping national governments with appropriate payment schemes that ultimately benefit communities involved in forest conservation and restoration. As the market is still emerging, more time and in depth studies are however required for a detailed analysis of the potential.

[6] *http://www.unepfi.org/fileadmin/documents/reddysetgrow.pdf*
[7] *http://www.guardian.co.uk/environment/2007/jun/10/ethicalliving.carbonemissions*.

Table-3: Examples of country-level developments related to REDD and other carbon finance projects[8]	
Burkina Faso	**National Committee on Climate Change established; REDD Readiness proposal and strategy for FIP developed.**
DR Congo	**Ibi Bateke carbon sink plantation project, intends to establish 4120 hectares of fast growing forest plantations -as an afforestation and clean energy project.**
Ethiopia	**The Humbo Ethiopia Assisted Natural Regeneration Project, plantation in about 10,000 ha to protect fragile landscape as well as to deliver economic benefits to local people.**
Ghana	**Set up Designated National Authority in 2005. Advanced on REDD, already submitted REDD Readiness proposal. Currently undertaking a carbon mapping exercise. Katoomba Group, TNC, and Forest Trends promoted Cocoa Carbon project**
Kenya	**Kasigua Corridor REDD project claimed as the first one of its kind issued under the Voluntary Carbon Standard (VCS). This covers 500,000 acres which includes the wildlife migration corridor between Tsavo East and Tsavo West National Parks[9].**
Liberia	**National Forest Working Group formed in 2007. Conservation International led a study on low carbon economy for Liberia. REDD Readiness Preparation proposal submitted to FCPF.**
Mali	**Mali Carbon Fund (covers other energy related projects also) since 2007.** **Acacia senegal (Gum Arabic) plantation project under Biocarbon Fund, considered as a prospective model for replication in the Sahelian belt.** **K-TGAL project funded by the Netherlands along with Senegal and Guinea Bissau.**
Nigeria	**Observer status in UN-REDD. Currently developing REDD Readiness proposal. Focus of the activity is in Cross River State.**
Sierra Leone	**Some earlier studies focusing on the potential of Gola Forest Reserve. Several ongoing efforts to develop a REDD pilot project with local communities involved.**
Uganda	**Nile Basin Reforestation project**

d) Landscape and scenic beauty

21. Landscape beauty services are associated with aesthetic, cultural or other unique aspects of a given area and often involve the protection of natural heritage sites, wildlife sanctuaries, and coastal areas. They are demanded both at national and international levels and very often, the ecotourism industry is one of the main beneficiaries. Although the governments have been the main suppliers of these services through the system of protected areas, local communities and indigenous people are increasingly being involved in their management and provision (Box -3).

22. Ghana, for example, is said to be generating about $1.5 billion annual revenues through ecotourism. Lack of proper market access and development, a heavy dependence on donor/external support, and weak management are some of the main factors that threaten the financial viability of ecotourism markets (Goodwin

[8] Adapted from Yarri, K (2011)

[9] *http://www.wildlifeworks.com/WWCarbon/WWCarbon/Welcome.html*

and Santilli, 2009). Combining ecotourism with other entrepreneurial activities seems to enhance the viability of some of the nature-based tourism initiatives. Enhancing market prospects often requires strong role of intermediaries.

Box-3: Ecotourism as a means to helping local communities

In an ecotourism project, local communities and protectors of forest ecosystems receive compensation for foregone forest uses and for the tourist services rendered. Examples of ecotourism initiatives that seemed to have benefited communities in the region include:

- Buhoma Village Walk, Uganda
- Kahawa Shmba, Tanzania
- Meket Community Tourism Project, Ethiopia
- Nambwa Campsite, Namibia Ecotourism
- Illngwesi Co.Ltd, Kenya
- Kwa-Zulu Natal Nature Conservation Service, South Africa

e) Marketing bundled services

23. Of late, the concept of marketing bundled services is fast evolving. The services are sold either in merged bundles or on an individual service basis from a basket of options (where land users sell different services to buyers or in combination). The bundled services approach is being used by several organizations to bring additional revenues, for instance, by combining watershed protection with carbon sequestration services. The pick-and-choose type allows investors to invest in land uses that they are specifically interested in (e.g. hydroelectric power utilities pay landowners to their specific requirements while those interested in ecotourism make a different payment to suit their needs). In such cases multiple indices are developed to base payments.

Factors contributing to the success of PES

24. While there is no standard approach to PES schemes, they are usually adapted to the very specific conditions in which they are introduced. In fact how best they achieve this adaptation and integration determines their success (Mayrand and Paquin, 2004). Some of the enabling factors include:

a) Applying appropriate design elements

25. Successful examples of PES systems indicate that the ecosystem service provision in question is clearly defined, visible (understandable) and the service providers and users are properly identified and informed. The service providers (land user communities) have clear and secure property rights, and are organized (e.g., a cooperative). The charges and payments are not set arbitrarily but after systematic consultations and evaluations. The contractual arrangements are consensual, flexible, and are in sync with existing institutions. The compliance of the provision (e.g. land use change) is regularly monitored and the governance systems are transparent, and adaptable over time, i.e., open to learning and improvement.

b) Managing transaction costs

26. The transaction costs involved in managing a PES schemes are central to its success. The main transaction costs are related to consultation, developing agreements, contract management, and monitoring. Generally, they are high when contractual obligations are complicated or individually done as opposed to collective contracting or contracting through intermediaries. These costs will be relatively high for poor households and those with small landholdings. Creating or strengthening existing cooperative institutions and directing some of the incentives to whole community structures may help reduce some of these costs.

c) Ensuring equity in benefit distribution

27. It is quite possible that introduction of markets elements and competition could lead to further marginalization or exclusion of weaker groups from natural resources on which they have traditionally depended. For the success and sustainability of PES schemes it is essential that they effectively integrate the concerns of forest dependent and indigenous communities and extend benefits to them. Concerted efforts to secure benefits to these poor people using PES platforms could in fact contribute to the broader goal of sustainable development.

Box-4: Encouraging pro-poor policies in PES systems

The pro-poor Rewards for Environmental Services in Africa (PRESA) programme set up by the World Agroforestry Centre assists smallholder farmers and residents living in the highlands of East and West Africa benefit from fair and effective PES agreements. One of its objectives is "building a community of practice" to catalyze and provide support to key stakeholders interested in pro-poor rewards for environmental services in Africa.

Source: *http://pgres.geos.ed.ac.uk/masters/ee-studytour-pdfs/EE-pro-poor-rewards.pdf*

d) Diversifying revenues

28. PES schemes can also act as effective platforms to provide support for market development and revenue diversification. Such strategies to integrate related goods and niche markets (e.g. certified forest products, handicrafts, organic food) have the potential to bring additional revenues for local communities involved in PES schemes. Bioprospecting activities can also be part of such revenue diversification strategies.

e) Building local capacities

29. Community capacity building is a key component of a PES scheme. By supporting capacity building, they can help communities effectively participate in decision making and market development. There is also a vast information gap in the market between potential buyers and suppliers and often this leads to the exploitation of the latter by intermediaries. Strengthening community capacity may reduce such vulnerabilities. Enhanced market participation, improved access to finance and insurance services, and the development of appropriate local marketing structures may also be needed to help the poor effectively seize emerging market opportunities.

What next? Scaling up PES schemes and placing them on a stable ground

30. In conclusion, it can be said that PES schemes offer tremendous potential to promote sustainable forest management and local economic development. They usually rely on simple and flexible structures that can be self-supporting over time. They also hold the potential to be effective and cost-efficient because they rely on rewarding positive compliance. Compared to subsidies and other hand-outs, PES systems also make the contractual obligations more direct and visible. Such systems could lead to more sustainable outcomes.

31. More importantly, with forests becoming a critical component of strategies to combating climate change, large PES schemes involving forest ecosystem services are **inevitable**, and constitute a major source of revenue in future. Hence it is important that the policy makers and forest practitioners make concerted efforts to encourage PES-based management. Creating such an enabling environment principally involves addressing major challenges undermining their success and sustainability such as perverse incentives, high transaction costs, asymmetries of information, absence of clear property rights, and limited local capacities.

Points for discussion

32. The objectives of the discussion are to reflect current experiences related to forest-based PES schemes in Africa and clearly identify key strategies and actions to place them on a firm ground. Some of the key questions that could be discussed are:

- How do countries perceive the potential for payments for forest ecosystem services to promote sustainable forest management?
- What are some specific programmes or strategies where payments for forest ecosystem services were successfully mobilized?
- What new and innovative approaches can be applied to expand the scope and effectiveness of payments for forest ecosystem services in Africa?

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