

Transboundary Agro-ecosystem Management for the Kagera River Basin (Kagera TAMP)

Options for enhancing economic viability of sustainable land management practices and incentives for reversing land degradation

Markets access, small enterprise development and payments for environmental services as economic incentives for the use of sustainable land management practices play a small but crucial part in the Kagera TAMP. The project logical framework includes these issues as follows:

Outcome 4: Improved land and agro-ecosystem management practices are implemented and benefiting land users in all agro-ecosystems in the basin.

Output 4.3: Market opportunities and other cost-benefit sharing mechanisms for the provision of environmental services identified, demonstrated and promoted among land users, including payments for environmental services.

Relevant issues identified in the project document include: non-timber forest products, their processing and marketing, eco-tourism, improved marketing of products from endemic plant and animal species, as well as, introducing a scheme for payments for environmental services notably to promote carbon sequestration. This note aims, in Part I, to raise awareness of and emphasise the importance and potential of linking smallholder farmers to markets and payments for environmental services and, in Part II, indicates the role the TAMP could play and activities that could be carried out in relation to these issues. In particular it proposes capacity building workshops that will enable the project team and district staff to successfully tackle these complex matters.

I. Importance and potential of linking smallholder farmers to markets and payments for environmental services for the economic viability of sustainable land management practices

Farmers in the Kagera watershed, as many farmers in the developing world, manage their livelihoods in a complex environment. Many factors, such as food security, risk reduction, income generation, prestige, and so on influence their decisions about resource allocation and resource use. The decisions they take about how to use their natural resources is not only influencing their livelihoods but also the livelihoods of others. These effects can be local (erosion – siltation), regional (water quality, flood control) or even global (biodiversity, carbon sequestration). For the single farmers many of these external effects are not visible and she/he is not taking them into account when making decisions about the use of their natural resources. By linking farmers to markets and payments for environmental services such effects get economically integrated into the decision framework of the land-users. Enhancing the economic viability of sustainable land management practices and incentives for reversing land degradation seem to be viable options for the TAMP to achieve its goals for combating land degradation, conserve the globally important biodiversity and at the same time open up new income generating activities for the local population.

Table 1 displays a classification of environmental services and economic incentives that could be used to compensate the land users. Generally the environmental services provided by an

undisturbed ecosystem can be grouped into four classes. For two of them – landscape beauty and watershed services – the benefits are more local, for the other two – carbon sequestration and biodiversity conservation – the benefits occur on global level. Considering the different options of economic incentives for the land users that conserve the functioning of the agro-ecosystem through the use of sustainable land and water management three different groups of economic incentives exist. A better market access for products derived from sustainable land use is the most direct incentive mechanism but not always the easiest one to achieve. The two others involve compensation payments to the land users and are only distinguished by the fact that this payment occurs directly to the service provider or more indirectly through a generally governmental mechanism.

Table 1: Classification of environmental services and economic incentives that could be used to compensate land users in watersheds

Economic incentive	Environmental Services			
	Landscape beauty	Watershed services (water quality and quantity, siltation...)	Carbon Sequestration	Biodiversity conservation (plants, animals)
Market access	<ul style="list-style-type: none"> - Eco-tourism, community tourism (guided forest walks, overnight in village, culture shows...) 	<ul style="list-style-type: none"> - Create markets for products from sustainable land use (forest products) - Labelling 	<ul style="list-style-type: none"> - Not applicable 	<ul style="list-style-type: none"> - Link biodiversity products to markets (landraces from different staple crops, medicinal plants, tropical fruits...) and ensure their sustainable production - Handicrafts derived from sustainably produced forest products - Labelling - Eco-tourism, community tourism (guided forest walks, safaris...)
Direct compensation mechanism	<ul style="list-style-type: none"> - Community percentage of hotel fees in or near nature resorts 	<ul style="list-style-type: none"> - Payments for water related services (e.g. from Hydro-electric plant, drinking water manufacturer, fishery, downstream irrigated agriculture...) - Payments for land related services (siltation, erosion, riverbank protection...) 	<ul style="list-style-type: none"> - Private carbon sequestration payments (e.g. loans for planting trees) 	<ul style="list-style-type: none"> - Community percentage of entry fee to biodiversity rich areas (animal parks, particular plants...)
Indirect compensation mechanism	<ul style="list-style-type: none"> - Direct payments from taxes 	<ul style="list-style-type: none"> - Trust fund for compensating up-stream land-users (nourished by percentage of drinking water price, taxes, 	<ul style="list-style-type: none"> - Clean Development Mechanism (CDM) of the UNFCCC 	<ul style="list-style-type: none"> - Direct payments from taxes - National, regional or global compensation payments for protected areas

Market access and small enterprise development for smallholder farmers

Markets matter to the rural poor – in fact they are a main driving force behind decisions on use of land resources. It is increasingly clear that in tackling rural poverty, market-related issues – including access to information, institutions, linkages and trade rules – are vital considerations (Albu and Griffith, 2005). Moreover market options are key issues in identifying ways to bring about a change in behaviour from degrading to sustainable practices as they can provide the economic rational for individual households. The environmental rational may not be enough to mobilise SLM by individuals because of the lag time to reap economic benefits from better land use, moreover, in many cases it concerns common property resources and community level decision making. Moreover, failure to address market issues means that the benefits of associated developments, such as growth in economic demand, improved technologies, better infrastructure and better political governance threaten to by-pass the rural poor as only people integrated in several markets can profit from these developments.

In most cases, resource-poor rural households do not have a good understanding of how the market systems within which they operate work. Typically they have little information on market conditions, prices and quality of goods; limited experience of market negotiation and little appreciation of their capacity to influence the terms and conditions of their engagement with the market. There is increasing evidence that building skills and social capital are critical elements for improving small agro-business opportunities. Involving farmers in markets requires creating some business and organisational skills for producers and producers' associations to negotiate with buyers, calculate costs and benefits of various options, manage contracts, ensure quality control, and so forth. It is also clear that if farming communities are not to sink further into poverty greater investments are required to assist them to develop their skills, expand their linkages within the marketing environment and build trust-based relationships with different actors.

To link SLM with improved marketing possibilities for smallholders a two step approach is required, first, products that result from improved resources management strategies/activities that can be produced, locally processed and sold on local and regional markets have to be identify, and second opportunities such as value adding, horizontal or vertical integration in the market chain – the various steps between the producer and the consumer – have to be looked at. For example an FAO project, funded by the United Nations Foundation and the government of Norway that facilitated the creation of small enterprises in communities around the Bwindi Impenetrable National Park in Uganda – a UNESCO World Heritage Site – to generate income while conserving the park, named in 1994. Thanks to this project the communities that used to live off the park's forest resources have developed small-scale enterprises and now earn income from a wide variety of products, such as handicrafts, honey and mushrooms, while conserving the park. This pilot project shows that it is possible for communities living around high biodiversity or protected sites to create alternative sources of income using the natural resources in a sustainable way.

Biodiversity products

In general, a market linkage approach for more sustainable land use can be particularly beneficial for biodiversity conservation. By linking biodiversity products that are produced in a sustainable manner to local, regional or even global markets, the plants or animals of their origin can be conserved in an economically viable manner. The issue that has to be tackled is the introduction of new or slightly different products to the market. This needs the efforts of various actors in the market chain, not only from the producer. This implies that linking farmers to markets is always a multi-stakeholder process by which the knowledge of different

market chain actors can be taped, put together and used to the benefit of all the stakeholders. For biodiversity products the labelling to the particular product is probably essential marketing strategy. Only by limiting the supply either to a very specific plant, processing technique or to a well delimited geographical region the supply can be limited and the price level of the product can be kept at a level that is of interest for both the producers and the other actors in the market chain.

Eco- and community-tourism

The market linkage approach is also very useful for regions next to protected areas or other regions where eco- or community-tourism or the sale of traditional handy craft products to tourists could be an option. Some tourists want to combine their trip to a nature park a rural area to gain an on the ground experience of the live of local communities. Offering simple housing, even in family houses of the village with shared meals and offering some additional services such as a guided walk in the nearby forest or to a mountain top, a boat ride with bird watching on the river or more traditionally selling local products or giving a performance of local music or dance are options of community tourist activities.

As mentioned above the tourism option does not have the same potential for all the communities. Communities living in a beautiful landscape in or next to a nature park or reserve definitely have a higher potential for attracting tourists to their village. In any case the attractive landscape has to be maintained by the people living there. Only if they manage the natural resources in a sustainable way this environmental service can be maintained. Also hotels or nature resorts are surely interested in keeping the landscape attractive and might thus be ready to cooperate with local communities by the transfer of a percentage from the overnight costs directly to local communities.

Payments for Environmental Services (PES)

Even though the theoretical foundation of the payments for environmental services (PES) was set several decades ago (Coase, 1960), the practical implementation of these market-based instruments for managing natural resources has started recently. A number of payment schemes at community and/or watershed level have been already implemented, mainly in Latin America and Asia. These schemes stem from the fact that natural or human-managed ecosystems provide positive environmental externalities that normally are not taken into account in individual economic decision making processes. The term “environmental services” refers to these positive externalities, that are generated through the use and management of resources by the various actors such as: sustaining the land resource base – the quality and quantity of soil, water and biological resources, maintaining the hydrological regime, restoring soil nutrients and organic matter, managing or reducing risk of disease and pest outbreaks, mitigating climate change impacts, reducing contamination by pollutants and so forth.

Environmental services originate in natural assets (soil, water, plants, other living organisms and the atmosphere) providing humankind with economic, financial, ecological and cultural benefits. More often than not these benefits are taken for granted. The hydrological services provided by forests, such as clean and regulated water flow, and reduced sedimentation, for example, are only noted when natural disasters, flooding, siltation of reservoirs and scarcity of water occur as a result of the removal of forest cover (Platais, 2002). That such services should be lost despite their value is easy to understand: land users typically receive no compensation for the services their land generates for others, and consequently do not take them into account in making land-use decisions. Recognition of this problem has led to efforts to develop systems in which land users are compensated for the environmental services they

generate. This typically would create additional income streams for land users who are often poor and would in addition make benefits of environmental and natural resources explicit. However, for a PES mechanism to contribute to poverty reduction the land tenure issue has to be taken into account. Often the poorest people are landless and lack appropriate property rights to the land they are cultivating and on which they are settled. PES mechanisms that work for those who own or have access to land should not have a negative impact on those who are landless and/or disadvantaged.

The Millennium Ecosystem Assessment (2005) found that the harmful effects of environmental service degradation are being borne disproportionately by the poor, and are often the principal drivers of poverty and social conflict. The report concludes that “any progress achieved in addressing the MDGs of poverty and hunger eradication, improved health, and environmental sustainability is unlikely to be sustained if most of the environmental services on which humanity relies continue to be degraded”.

These factors have contributed to the increased attention in recent years that is being paid to the concept of PES, and their uses as an innovative tool to finance investments in sustainable land management (SLM). PES schemes are flexible compensation mechanisms by which service providers are compensated by service users.

PES in watersheds

Some PES schemes involve compensation of global environmental services such as biodiversity conservation and carbon sequestration. In contrast to these global mechanisms, PES schemes in watersheds the providers and users of the service are located in the same watershed. PES in watersheds usually involve the implementation of financial mechanisms to compensate upstream landowners in order to maintain or modify a particular land use, which is assumed to affect the availability and/or quality of the downstream water resources.

In tropical watersheds (in developing countries), the most economically vulnerable groups tend to be located in upstream areas, where land is often less productive and more prone to erosion due to steep slopes and shallow soils. Nevertheless, these rural land users and communities upstream are often providers of environmental services benefiting user groups and communities downstream with a better socioeconomic situation (these may include downstream urban areas). By applying land use practices that provide a good vegetative cover and reduce runoff and erosion, the poor upstream communities may contribute to a range of environmental services that include: improved rainwater retention and recharge of the water table, stable water regime in streams and rivers, quality water resources, improved wetland function and risk of flooding, reduced risk of landslides, sustained land productivity and so forth.

PES are expected to provide incentives for improved resources management by individuals and communities but also to contribute to poverty alleviation and to reduce the overall cost of improving the condition of natural resources, by means of creating rural/urban economic linkages and economic incentives for good land stewardship (Pagiola, 2005). PES instruments might also play a critical role in raising awareness about the multiple environmental and economic benefits that natural ecosystems provide. Hence, PES may work as (win-win) multipurpose instruments, contributing to improve the conditions of different types of natural resources at the same time (e.g. forests and water), raising awareness about the economic role of ecosystems and contributing to the redistribution of wealth between different regions or social groups (Landell-Mills, 2002). For example in Tanzania, the World Bank (2005) proposed the introduction of watershed management fees from hydropower stations, eco-

tourism fees, sale of carbon sequestration credits (CDM of Kyoto Protocol), and sale of genetic resources as new revenue sources for poverty alleviation in poor rural communities.

A number of different types of markets for environmental services have been described, from voluntary contractual arrangements to marketable permit systems. FAO has conducted a review of incentive measures and PES for watershed management with a view to mobilising individual and concerted efforts for enhanced resources and ecosystems management at the scale of the watershed that can be consulted at this website:

<http://www.fao.org/ag/agl/watershed/watershed/en/mainen/index.stm>.

In the Land and Water Discussion Paper No. 3 “Payment Schemes for Environmental Services in Watersheds” (<http://www.fao.org/docrep/006/y5305b/y5305b00.htm#Contents>) the chapter “Recommendations for the design and implementation of PES schemes in watersheds” is providing a checklist for issues that have to be dealt with when designing a PES scheme.

In the centre of any PES mechanism stand institutions that organise the supply of the services, the financial transfer and the control and enforcement of any contract (Figure 1). To have efficiently operating institutions their setup has to be well adapted to the environment they are operating in.

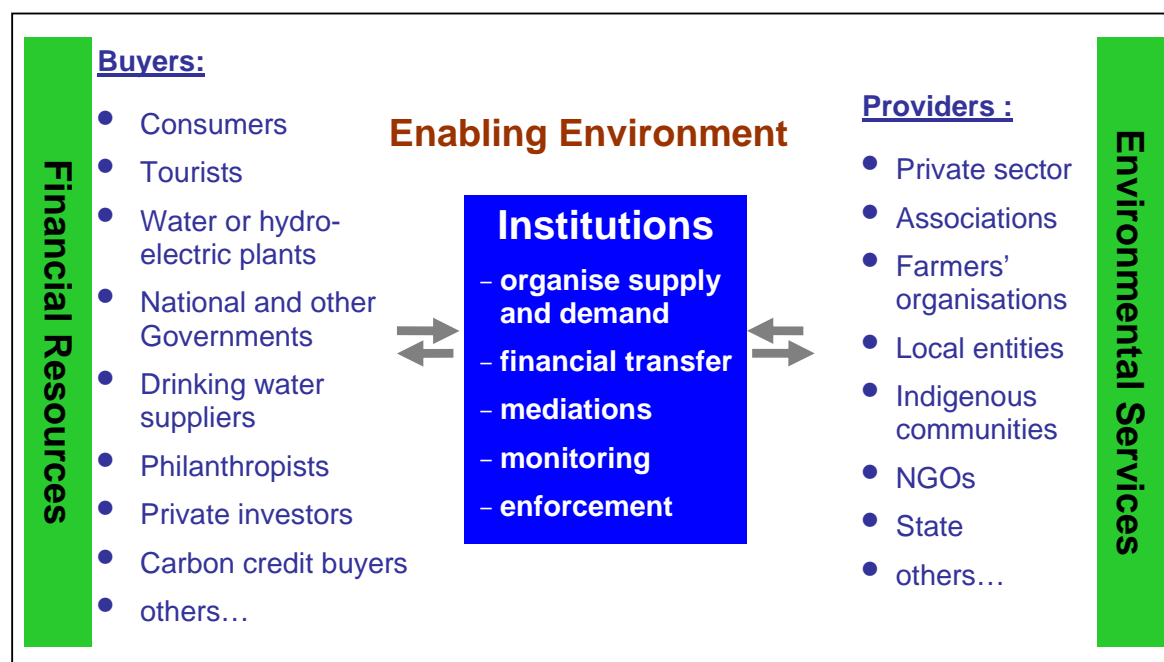


Figure 1: Institutions are in the centre of PES mechanisms

This implies that PES schemes are very country or even site specific and that it is very difficult or probably impossible to define a blueprint for a PES scheme that would work in every country or every region. Table 2 lists PES schemes and projects that are currently operating in different parts of the world with different objectives and different mechanisms.

Table 2: Case studies of PES schemes and projects

Subject of PES mechanism case study (CS)	Title	Country	Author	Document / Link
3 CS on water-related services 1 CS on biodiversity 1 CS mixed (water-related services + carbon sequestration)	Getting started before you begin: Experiences from ES benefit transfer schemes in Indonesia	Indonesia	Beria Leimona ICRAF Southeast Asia Regional Office Bogor, Indonesia	http://www.unece.org/env/water/meetings/payment/ecosystems/Discpapers/Beria_ICRAF_Indonesia.pdf
4 CS on water-related services (drinking water + hydro-electrical plants)	Payment schemes for water-related environmental services: a financial mechanism for natural resources management experiences from LA and the Caribbean	Costa Rica, Ecuador	Benjamin Kiersch, Leon Hermans, Gerardo van Halsema Land & Water Development Division FAO, Rome	http://www.unece.org/env/water/meetings/payment/ecosystems/Discpapers/FAO.pdf
Water-related services (agricultural use)	Water user associations in the Cauca Valley, Colombia: A voluntary mechanism to promote upstream-downstream cooperation in the protection of rural watersheds	Colombia	Marta Echavarría Ecodecisión Quito, Ecuador	http://www.fao.org/landandwater/watershed/watershed/papers/papercas/paperec/colombia.pdf
Water-related services (hydropower plant)	Cooperation between a small private hydropower producer and a conservation NGO for forest protection: The case of La Esperanza, Costa Rica	Costa Rica	Manrique Rojas Eco Asesores Integrados S.A. Ciudad Quesada, Costa Rica and Bruce Aylward Independent Consultant Falls Church, VA 22046 USA	http://www.fao.org/landandwater/watershed/watershed/papers/papercas/paperec/costa2.pdf
Water-related services (agricultural use, industrial use, hydropower plants, drinking water)	The watershed council as a mechanism for upstream-downstream cooperation: The case of the Río Machángara, Cuenca, Ecuador	Ecuador	Pablo Lloret Zamora Consultant Cuenca, Ecuador	http://www.fao.org/landandwater/watershed/watershed/papers/papercas/paperec/ecuador.pdf
Country-wide scheme	An Assessment of Mexico's	Mexico	Jennifer Alix-Garcia, Alain de Janvry,	ftp://ftp.fao.org/es/ESA/R

	Payment for Environmental Services Program		Elisabeth Sadoulet University of California at Berkeley and Juan Manuel Torres, CIDE	oa/pdf/aug05-env_mexico.pdf
Country-wide scheme (incl. mitigation of GHG emissions; hydrological services, biodiversity and scenic beauty)	Program of Payments for Ecological Services in Costa Rica	Costa Rica	Dr. Edgar Ortiz Malavasi Instituto Tecnológico de Costa Rica Dr. John Kellenberg The World Bank, Washington	http://epp.gsu.edu/pferraro/special/lr_ortiz_kellenberg_ext.pdf
Different issues in different countries	Compensation for environmental services and rural communities: Lessons from the Americas and Key issues for strengthening community strategies	Mexico, Brazil, Costa Rica, El Salvador, New York State	Herman Rosa, Susan Kandel and Leopoldo Dimas Payment for Environmental Services in the Americas (PRISMA)	http://www.prisma.org.sv/pubs/CES_RC_En.pdf
Different issues in different countries	From Goodwill to Payments for Environmental Services	Bhutan, Bolivia, Brazil, Ecuador, Malawi, Namibia, South Africa, Uganda, Tanzania, Zimbabwe	Pablo Gutman (Ed.) WWF	http://assets.panda.org/downloads/fin_alt.pdf
Country-wide scheme	Financing Sustainable Use and Conservation of Forests in Central America: The Experience of Costa Rica	Costa Rica	Carlos Isaac Pérez	Carlos Isaac_Paper_Central America 131106.doc

PES including carbon trading

Given the high degree of land degradation in many African countries and the heavy dependence of rural and even urban settlements on wood resources for energy, afforestation and reforestation projects (carbon sink projects) make intuitive sense. The low technology requirements to grow trees should make this type of project very accessible even to rural communities. Yet the trends in African CDM participation for this type of project are particularly disappointing, with very few and scattered interventions and hence small or negligible impact.

Carbon trading is the area in which PES have been most effectively developed as there is a reliable financing mechanism for such services. Other areas also deserve greater attention. The economic rationale of PES schemes dealing with the promotion of particular land use changes in watersheds is straightforward: by means of establishing market transactions between downstream and upstream inhabitants of a watershed, the downstream effects on land and water resources are taken into account when upstream land users make decisions about their land use and management practices.

The Clean Development Mechanism

The Clean Development Mechanism (CDM), one of several mechanisms under the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC), has as its objective to help developed countries meet their agreed emission reduction targets through Certified Emission Reductions (CER) in developing countries. The emission reductions achieved in a given developing country are traded to the developed country. In this process, the CDM activity should contribute towards sustainable development in the host country (the developing country), while enabling the buyer of the emission credits (the developed country) to meet its targets. The rationale for doing this as a strategy for reducing overall global emissions is that the project should be “additional”, meaning that the activity would not normally be implemented if it were not a CDM project. The requirement for additionality is aimed at ensuring that emissions are reduced beyond business as usual so that the project in fact contributes towards curbing global warming. Any relaxation of this condition would dilute the intentions of the Kyoto Protocol.

It is clear that the development of successful CDM projects requires substantial effort and sustained local capacity building. Capacity building needs to be tied to specific project ideas, project funding and national institutional frameworks. It needs to link all project steps including identification, development and investment.

Identifying and quantifying the environmental services

Environmental services have often been taken for granted and have therefore been considered free. At best they are undervalued. Although most environmental services are positive externalities and many economic activities depend on them, those who are dealing with markets usually ignore them. Economy is looking mainly at raw materials and products. These only represent a small proportion of the total value of ecosystems.

The *total economic value* of ecosystems incorporates all of the different present and future, marketed and non-marketed goods/services that ecosystems generate in relation to water. It is usually made up of four categories of ecosystem values (FOEN, 2005):

- (a) *Direct values*: water-based or water-dependent raw materials and physical goods which are used directly for production, consumption and sale, such as timber, fodder, fuel, non-timber forest goods, fish, meat, medicines and wild foods;

- (b) *Indirect values*: ecological services that maintain and protect natural and human systems, such as maintenance of water quality and flow, flood control and storm protection, carbon sequestration, nutrient retention and microclimate stabilization, and the production and consumption activities they support;
- (c) *Option values*: the premium placed on maintaining a pool of water-based or water dependent species, genetic resources and landscapes for future possible uses, some of which may not be known now, such as leisure, commercial, industrial, agricultural and pharmaceutical applications and water-based developments;
- (d) *Existence values*: the intrinsic value of water-related ecosystems (“it exists”) and their components, regardless of their current or future use possibilities, such as cultural, aesthetic, heritage and bequest significance (“it can be passed on to descendants”).

In conventional economics, measures of economic value should be based on what people want or prefer. The maximum amount of one thing a person is willing to give up to get more of something else is considered as a fair measure of the relative value of the two things to that person. This can be described by their “willingness to pay”. For example, people would pay more for their water if it were clean. It can also be the amount of money people would pay to avoid flooding. The willingness to pay should be a prerequisite for any payment for environmental services.

II. Proposed activities for the Kagera TAMP

The Kagera TAMP can play a key role in enhancing the economic viability of sustainable land management practices and the introduction of incentives for reversing land degradation as they are very much in line with the overall goal of the project as mentioned in the project document (see box).

As mentioned to attain these goals various levels of stakeholder have to be integrated.

Important activities such as PES schemes depend a lot on the political will that is why the first activity proposed in this document is an awareness raising workshop for policy makers in the four countries. Further activities will involve capacity building for the project team as well as for district level staff. Those on their side will then be able to pass on their knowledge and implement concrete activities on the field level.

The overall goal of the Kagera TAMP is to support the adoption of an integrated ecosystems approach for the management of land resources in the Kagera Basin which will generate local, national and global benefits including: restoration of degraded lands, carbon sequestration and climate change mitigation, agro-biodiversity conservation and sustainable use and improved agricultural production, food security and rural livelihoods. The adoption of improved land use systems and resource management practices by the range of land users will be supported by stakeholders at all levels and by participatory and inter-sectoral approaches.

Source: Kagera TAMP project document, September 2006

Awareness raising workshop for policy makers in the region

Aim of the workshop and possible participants

For this awareness raising workshop on options for enhancing economic viability of sustainable land management practices and incentives for reversing land degradation selected members of the project team (including the National Project Coordinator (NPC) and the National Project Managers (NPM)) as well as representatives from the four national executing agencies (Ministry of Agriculture and Animal Resources (MINAGRI) in Rwanda; Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) in Uganda; Division of the Environment, Vice President's Office (DOE/VPO) in Tanzania, and Ministry of Agriculture and Livestock (MINAGRI) in Burundi) and other regional, national and probably district level policy makers should be involved. The workshop will updated the participants on the current thinking and arising issues on market access, small enterprise development and payments for environmental services for South-east Africa.

Possible program

Session	Topics	Human resources
1. Introductions	<ul style="list-style-type: none"> • Welcome addresses • Introduction of the participants • Explanation of the organisation of the workshop 	Organizer of the meeting (FAO HQ and RO)
2. Sustainable Land Management	<ul style="list-style-type: none"> • Why SLM is needed - explain situation (Erosion, sedimentation, flooding, reduced land productivity, deforestation, water quality and quantity...) 	FAO (AGL) NPC, NPM
3. Market access and small enterprise	<ul style="list-style-type: none"> • Market information systems • Horizontal and vertical integration in the market chain (Farmers' organisations, value adding 	FAO (AGL/FONP)

development	processes) <ul style="list-style-type: none"> • Eco-Tourism (accommodation, guide services, handicrafts, local agri- and forest products) 	
4. Voluntary PES and Carbon sequestration under the CDM	<ul style="list-style-type: none"> • Theoretical background of PES <ul style="list-style-type: none"> - what are ES, how important are they and why are they under threat - why paying for something that has been free until now • Present minimum 2 case studies from PES schemes that are already in place or currently being designed (focus on examples from Africa) • Present challenges and opportunities for PES in the Kagera region • Explain the origin and functioning of the CDM • Examples of CDM projects in the countries 	FAO (AGL/ESA) and national environmental Project designers, (see list of PES project below) CDM expert (FAO-Heiner von Luepke) national experts Project designer, participating ,farmer
5. Policy implications	<ul style="list-style-type: none"> • Encourage the use of SLM (economic incentives) <ul style="list-style-type: none"> - what policies regulations are already in place - what kind of policies and regulations could create a more enabling environment 	Working groups

Payments for Environmental Services

It is widely recognised that for developing a successful PES scheme there are important challenges to be met, such as identification and quantification of the environmental service, establishing viable and feasible contractual arrangements and efficient transfer of payments to providers of environmental services, monitoring the performance, as well as ensuring the sustainability of the schemes.

Except for the geographically mobile carbon services, the spatially specific character of environmental services (ES) will imply that the buyers or intermediaries will usually take the initiative, approaching providers because they realize the latter control a strategic and increasingly scarce environmental asset (Wunder, 2005). It is proposed that a Kagera TAMP workshop is organised among stakeholders (land users and those requiring the ES) to identify potential ES and potential buyers of PES in watersheds.

Building the initial trust or “social capital” for PES

Building the required trust, and setting up the rules, monitoring and rewards for PES mechanisms, may be cumbersome, take time and require an ‘honest broker’ like an NGO as intermediary – yet success is still not guaranteed. Indeed, communities may not accept a *quid pro quo* agreement when they are accustomed to multiple donors and agencies offering benefits for free. Decades of paternalistic rural development projects may thus have created expectations that are hard for innovative initiatives to break, even if both sides might be better off in the long term. Here a training workshop will be indispensable to build up the necessary capacity of facilitators that would be able to build up the initial trust and mobilise social acceptance and ownership.

Carbon trading and the Clean Development Mechanism

While opportunities provided through the Clean Development Mechanism (CDM) may be known at national level and among environmental stakeholders. In specific sectors and in most rural areas, there is a serious lack of knowledge and experience on how a project can be initiated and developed in the frame of the CDM. To improve this situation, the required capacity building needs to be tied to specific expertise, interventions/projects, funding opportunities and national institutional frameworks. It needs to link all project steps including identification, development and investment (Desanker, 2005). The Kagera TAMP could provide an ideal framework for the development of the needed capacities to design, implement and monitor CDM schemes.

Capacity building workshop for project team and district staff

Aim of the workshop and possible participants

The concept of payments for environmental services (PES) receives interest not only by environmentalists but increasing also by agricultural development programs that are aiming at more sustainable land management practices as they have the potential to create incentive measures for managing natural resources and addressing livelihood issues for the rural poor at the same time. The basic idea is that those who “provide” environmental services by conserving natural ecosystems or using their natural resources in a more sustainable way should be compensated by beneficiaries of the service. A number of schemes are currently operating around the world involving governments, business, government aid agencies, and non-governmental organizations. The biggest experience on PES exists in Latin American countries and to a limited amount in Asia. In Africa most of the few existing PES schemes are still in their infancy and detailed knowledge and experience on PES is scarce. This capacity building workshop tries to bring the project team and the district staff together with practitioners that are successfully implementing PES schemes in Africa (check with participants from Katoomba workshop held in Uganda, 17-22 September 2005).

As mentioned above the participants of this capacity building workshop should be the project team and the district staff and other persons from the region that are likely to play a key role in implementing a PES scheme in the region. Ideally the participants already have some facilitator skills as building trust among the different stakeholders will be a very important part in the setup of any kind of incentives mechanism.

Possible program

Session	Topics	Human resources
1. Introductions	<ul style="list-style-type: none">• Welcome addresses• Introduction of the participants• Explanation of the organisation of the workshop	Organizer of the meeting (FAO HQ and RO, NPC, NPM)
2. Foundation of PES	<ul style="list-style-type: none">• Theoretical background of PES• Explanation of terms such as:<ul style="list-style-type: none">- Positive externalities- Public goods are non-excludable and non-rival- Free riding	FAO (AGL/ESA) and national environmental management agency
3. Voluntary PES	<ul style="list-style-type: none">• Present minimum 2 case studies from PES schemes that are already in place or currently being designed (focus on examples from Africa)	Project designers, participating farmers (see list of PES)

	<ul style="list-style-type: none"> • Present challenges and opportunities for PES in the Kagera region 	project below) NPM / NPC
4. CDM under UNFCCC	<ul style="list-style-type: none"> • Explain the origin and functioning of the CDM • Particularities that have to be taken into account when designing a CDM project in the Kagera region • Examples of CDM projects in the countries 	CDM expert (FAO-Heiner von Luepke) national experts DNA (UG, TZ, RW) (see list in annex) Project designer, participating ,farmer

Other ideas for the workshop programme and other related activities

- Invite involvement in organisation by the Uganda Environmental Conservation Trust (Ecotrust), a body established to seek funding for the protection of Uganda's environment
- Propose and support the build up of local capacity to Designed Operational Entities (DOE) that can evaluate a CDM based proposal with less costs
- Explain how to use the results from the Kagera TAMP field assessment and GIS/RS reports as baselines for the development of a PES scheme
- Maybe start with PES in general and continue for an additional day with CDM, only for interested participants.
- Organise a workshop among stakeholders (land users and those requiring the ES) to identify potential ES and potential buyers of PES in watersheds.

Market access and small enterprise development

To link products derived through sustainable land use, biodiversity conservation or sustainable tourism directly to the market is the most direct way for giving economic incentives to poor farmers. However, past experiences have shown that it is not always the easiest way and from the methodological side there are two schools that have to be unified for successfully establishing market linkages. On the one hand side, most participatory R&D methods focus on agricultural contexts and do not explicitly involve other market chain actors. In addition, many relevant diagnostic approaches such as Participatory Rural Appraisal (PRA) and Rapid (or Relaxed) Appraisal of Agricultural Knowledge Systems (RAAKS) stop with the elaboration of a work plan and do not move to implementation of development activities. On the other hand, much marketing chain analysis is very theoretical and lacks practical advice on how to implement a functional exchange of information and build trust, to make price-competing market chain actors collaborate.

Improving market access for the rural poor

Moving toward a market and enterprise orientation means that the skills of front-line field facilitators have to be upgraded and complemented. An increasing minority have the required characteristics, but to make a real dent in the magnitude of the challenge requires a very large investment in capacity development. Understanding market and business principles, placing emphasis on profitability (US\$/ha) rather than levels of production (t/ha), and quality rather than quantity are important elements. In addition, skills are required for identifying stakeholders, understanding their motivations and facilitating interactions between them.

These are the first steps in a trust-building process that can lead to a reorganized market chain with improved market access for the rural poor.

This calls for interventions that integrate the two things such as for example the Market Map of Albu and Griffith (2005) or the Participatory Market Chain Approach by Bernet et al. (2005). These approaches emphasise on the importance to involve all market chain actors (producers, traders, processors, whole sellers, shop keepers, consumers) as well as indirect stakeholders (policy makers, researchers, extension workers, government representatives...). The goals of these new approaches are:

- To improve the quality of market and marketing related decisions made by rural agro-enterprises and organizations that support them.
- To integrate smallholder farmers and rural agro-enterprises into value-adding supply chains serving growth markets.
- To strengthen SMEs by improving the development and uptake of innovative post-harvest technologies and techniques for smallholder rural produce.
- To contribute to the equitable and sustainable integration of SMEs into value-adding supply chains serving growth markets.

Another very interesting approach that proposes very concrete steps to be taken for small enterprise development is the method Market Analysis and Development (Lecup and Nicholson, 2003).

Capacity building workshop for project team and district staff

Aim of the workshop and possible participants

New approaches particularly those that are integrating several disciplines always show a need for training of local facilitators that will be able to apply them. To build the capacity of facilitators that would be able to conduct multi-stakeholder meetings on specific products, markets or regions this proposed training workshop will be indispensable. The first goal of such a workshop will be to build the facilitator skills to enable the participants to successfully organise and facilitate multi-stakeholder meetings that are in the centre of these integrated market development approaches. To create a clear link to what is happening in the field, case studies and particularly success stories that have used different methodologies will be presented.

As for the capacity building workshop on PES the participants of this workshop should be the project team and the district staff and other persons from the region that are likely to play a key role in facilitating a multi-stakeholder process for a better market access of the resource poor. Ideally the participants already have some facilitator skills as building trust among the different stakeholders will be a very important part in this process.

Possible programme

Session	Topics	Possible people to be involved
1. Introductions	<ul style="list-style-type: none"> • Welcome addresses • Introduction of the participants • Explanation of the organisation of the workshop 	Organizer of the meeting (Sally, NCP, RO, NPM)
2. Case studies (Examples from the region)	<ul style="list-style-type: none"> • Present minimum 2 success stories of projects that improved the market access or reorganized the market chain for the benefit of smallholders 	Project designer, participating farmer (see list of project below)

3. Major issues in market chain development	<ul style="list-style-type: none"> • Market information systems • Farmers' organisation • Multi-stakeholder workshops for building trust among market chain actors 	resource persons (Sophie Grouwels)
4. Project ideas	<ul style="list-style-type: none"> • Which products in the region do have a market potential and how to identify them? • Present extracts from sector reports • Prepare a way forward for activities of the TAMP (Use a group work session to prepare one concrete sub-project per country; each group should be followed by a resource person) 	NPM / NPC resource persons

Other ideas for the workshop programme and other related activities

- Have a guest speaker from AFRICARE and its Uganda Food Security Initiative on: Agricultural Production, Post-Harvest Handling and Marketing
- Invite a farmer from a FFS that is successfully participating in the AFRICARE project
- Probably involve Thomas Bernet, Ex CIP, to introduce the Participatory Market Chain Approach (PMCA) as a methodology to build trust among different market chain actors and to reorganize the market chain
- Sophie Grouwels (FONP) can assist and give inputs for capacity building for the application of the Market Analysis and Development method (Lecup and Nicholson, 2003) used to develop small enterprises to market forest products
- Draw on experience from Rupert Best; FAO-SDRD and/or Andrew Shepherd FAO-AGSF

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Annex 1

Projects in the region

1. Projects with a PES component

Tanzania – Danida-funded MEMA project in Tanzania (mainly Eco-tourism)¹

MEMA is a Swahili abbreviation for sustainable management of natural resources and protection of nature values. The project was initiated in 1999 and operates in the northern part of the Iringa region, a part of Tanzania's central highlands extending from the northern tip of Lake Malawi to approximately 100 km south of Morogoro and Dodoma.

Overall MEMA objectives include the following:

- (a) to develop, test, and implement replicable community-based forest management models for environmentally sustainable management of natural forests and woodlands in pilot areas;
- (b) to support capacity development in natural forest, woodlands, and biodiversity resource management in Iringa District; and
- (c) to support the marketing of products from the resources handed over to the villages. Ownership and the ability to generate income are crucial to the partnership.

Tanzania - Uluguru Mountains Catchment

The WWF-CARE-IIED project aims to help mountain communities stabilize and improve the productivity of their farms as well as prevent further forest loss. The water authorities of Dar es Salaam and Morogoro will be approached as buyers for the environmental services being provided by the mountain communities.

See <http://www.africanconservation.org/uluguru/>

Uganda – Mgahinga and Bwindi Impenetrable Forest Conservation Trust

The Bwindi Trust is overseen by a board of trustees consisting of members of national government institutions; local community representatives; members of CARE (an international NGO), a local NGO, and a local research institute; and representatives of the private sector.

See http://www.conservationfinance.org/WPC/WPC_documents/Apps_02_Dutki_v4.pdf

Uganda: Nile Basin Reforestation (BioCarbon Fund)

The project will establish a plantation of pine and mixed native species in grassland areas within Rwoho Central Forest Reserve. The project area of around 2,137 ha will be covered with 75% *Pinus caribaea*, which has been already introduced and tested in the area. In addition 20% *Maesopsis eminii* and 5% *Prunus africana* will be planted.

See <http://carbonfinance.org/Router.cfm?Page=Projport&ProjID=9644>

¹ project contact: DFE's Karsten Raae (info@dfextension.dk); Iringa District Council's Jumanne Hanti (memairinga@twiga.com); FBD Iringa's John Massao (memairinga@twiga.com); MEMA/Danida's Henrik Lerdorf (memairinga@twiga.com); and JGST's Zabron Luvinga (mrhotels@hotmail.com).

Uganda: Small Group and Tree Planting (TIST) of Tanzania, Kenya, Uganda and India

The TIST Program has been conducted as a "pilot" and is in Phase III of its four Phase commercialization process. The TIST Program empowers and pays Small Groups of subsistence farmers in East Africa to restore local deforested areas and to adopt sustainable agricultural practices. It consists of two main components: the carbon sequestration "GhG credit" component for tree planting and the sustainable development component, which implements mostly sustainable agriculture practices and provides training. This innovative project that already has several years of experience links grassroots communities to the international carbon market through cost-effective contracting mechanisms and modern information flows.

See <http://www.tist.org/>

Uganda: ENCOFOR: ENvironment and COmmunity based framework for designing afforestation, reforestation and revegetation projects in the CDM: methodology development and case studies.

ENCOFOR aims at maximizing synergies between the sequestration of carbon (and thus withdrawal of CO₂ from the atmosphere) and the creation of benefits for the local environment and local stakeholders. Target groups are governments, local communities and NGOs in developing countries, as well as project planners, managers, investors and certifiers. The project will incorporate recent decisions by the Conferences of the Parties to the UN Framework Convention on Climate Change concerning afforestation and reforestation in the CDM, and existing experience in project development, funding and execution of afforestation and reforestation projects. By establishing an internet-based "ENCOFOR community" and through site visits and workshops the project will closely interact with stakeholders.

See <http://www.joanneum.at/encofor/index.html>

Funding agency: [EuropeAID](#); Project duration: October 2003 - July 2007

Project coordinators: Face Foundation and Laboratory for Forest, Nature and Landscape Research, Katholieke Universiteit Leuven²

2. Projects with a market access component

AFRICARE in Kabale District (in cooperation with CIAT)

The Nyabyumba Group is located in Kamuganguzi sub-county of Kabale District. Kabale District lies in South Western Uganda, where over 90% of the population is engaged in agriculture. Farmers work on average plots of 0.5 hectares and the district receives an average rainfall of 1000 mm yr⁻¹. The farmer group was formed in 1998 as a Farmer Field School (FFS) with the aim of producing seed potato to improve overall production quality. Group dynamic support was provided by Africare, an international NGO which had previously provided the farmers with other seed materials including beans and hybrid maize seed.

Higher urban incomes allow consumers to shift from small shops and street food stalls to more formalized markets and modern food restaurants. These more formal market outlets provide both food safety and greater choice of produce. Supplying these outlets offers both higher income and improved business relations for farmers but accessing these markets also

² Contacts: Dr. Igino Emmer - igino.emmer@facefoundation.nl) and Prof. Bart Muys - bart.muys@agr.kuleuven.ac.be

requires significant upgrading in terms of product quality, quantities and business management. To meet these conditions farmers need to become more organized and build or strengthen partnerships with service providers and market chain actors to engage with these higher value markets in a long term manner. One farmers' association in a remote rural area in south-western Uganda has successfully sustained market links through sales of high quality Irish potatoes to a fast food outlet in Kampala. To meet the volumes, frequency of supply, and quality parameters demanded by their client, the farmers have had to learn a series of new skills and integrate multiple innovations at the technical, organization, financial and marketing levels.

Annex 2

Designated National Authorities (DNA) of the CDM Executive Board

Burundi

No DNA has been approved by the CDM Executive Board by the end of October 2006.

Rwanda

Unité Environnement au Ministère des Terres, de l'Environnement, des Forêts, de l'Eau et des Mines (MINITERE) rema@minitere.gov.rw

B.P. 3502 Kigali, Rwanda

Phone: (250) 582 628 Fax: (250) 582 629

Uganda

Ministry of Lands, Water and Environment

P. O. Box 7025, Kampala, Uganda

Minister of Water and Environment

Hon. Maria Mutagamba minister@mwle.com

Phone: (256-41) 504 374 Fax: (256-41) 251 797

National Climate Change Steering Committee (NCCSC)

Ministry of Water and Environment,

P. O. Box 7025, Kampala, Uganda

Secretary

Philip M. Gwage nccs@infocom.co.ug, pgwage@hotmail.com

Phone: (256-41) 251 798 Fax: (256-41) 251 797

United Republic of Tanzania

Division of Environment, Vice-President's Office

P.O.Box 5380, IBS Building, Dar Es Salaam, United Republic of Tanzania

Assistant Director

Mr. Richard S. MUYUNGI tanzania37@hotmail.com

Phone: (255-222)11-3983 Fax: (255-222)11-3856/211 3082

Annex 3

Abbreviations

Agricultural and Development Economics Division	ESA
Certified Emission Reductions	CER
Clean Development Mechanism	CDM
Designated National Authority	DNA
Designated Operational Entity	DOE
Environmental Services	ES
Federal Office for the Environment of Switzerland	FOEN
Food and Agricultural Organisation of the United Nations	FAO
Geographical Information System	GIS
Headquarter	HQ
Land and Water Development Division of the FAO	AGL
Millennium Development Goals	MDG
Non-Governmental Organisation	NGO
National Project Coordinator	NPC
National Project Manager	NPM
Payments for Environmental Services	PES
Regional Office	RO
Remote Sensing	RS
Rwanda	RW
Sustainable Land Management	SLM
Tanzania	TZ
Transboundary Agro-ecosystem Management	TAMP
Uganda	UG
United Nations Educational, Scientific and Cultural Organization	UNESCO
United Nations Framework Convention on Climate Change	UNFCCC