SESSION DESCRIPTION

Session ID:
T10

Title of session:
Co-investment approaches at the landscape scale

Hosts:

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Abstract:

Realistic and sustainable improvement in ecosystem services provision requires moving from actions aimed at discrete ecosystem services to those that achieve integrated improvement of multiple functions. A landscape approach to socio-ecosystem systems and services presents such an opportunity where different stakeholders in discrete and often disjointed projects or enterprises agree on desirable land use change actions. These stakeholders who may include large and small enterprises, those managing government and privately owned lands, NGOs and local farmers come together to negotiate ways of managing synergies and tradeoffs involved in ecosystem services generation for overall improvement. Most landscapes in developing countries dominated by low resource smallholder farmers require ES provision enhancement. Negotiations therefore require payment or reward for ecosystem services (PES) to motivate desirable land use decisions. However, the objective of achieving improvement of multiple functions requires looking beyond PES as commodification of discrete ecosystem services, towards a co-investment approach. Co-investment for landscape multifunctionality involves various forms where exchanges between stakeholders are not just financial, but could include social, natural infrastructure and human capitals. However, implementing PES in the framework of achieving multi functional landscapes is easier said than done.

Four essential steps are: 1) diagnosis of current land use, 2) recognition of consequences and tradeoffs, 3) options for more ES–friendly forms of land use, integrated in scenarios and 4) negotiation of platforms for achieving change, often in a form of co-investment. There are a number of co-investment approaches that can be used towards this objective (e.g., round tables, management plans, certification, fund based mechanisms etc.), but these have not been tried in a combined way. This session looks at the various forms of such approaches. Discussions will seek to better understand the practicality and costs involved and
potential gains from combining multi-stakeholder co investment approaches for integrated overall improvement in ES provision, as opposed to simplistic focus on single ES. Discussions will also seek to identify solutions and possibly field examples for addressing challenges likely to occur from such an approach such as governance, financing and difficulty in establishing whether improvement is achieved in terms of ecosystem services delivery or socio-economic change. Using experiences from various parts of the world, discussions will seek to explore if using co-investment for such integrated objectives can result in efficiency over ordinary disjointed approaches.

Voluntary contributions accepted:
Yes

SPEAKERS

Oral presentations

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**Poster presentations**

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Action–based versus outcome–based payments for environmental services: An experimental auction for tree planting contracts at Mt. Kenya East

Presenting author: Lucie Andeltová
Other authors: Tobias Wünscher, Karin Holm–Müller, Elsa Cardona Santos
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Theory predicts that outcome–based payments for environmental services (PES), relative to action–based payments offer more flexibility in the choice of relevant conservation actions, enhance the development and use of innovative approaches, and can improve landholder’s intrinsic motivation for the actual conservation outcome. On the other hand, they are also associated with risk, which might prompt landholders to ask for higher payments. We assessed the various effects of the two payment types in a field experiment at Mount Kenya East, allocating tree planting contracts via a tender mechanism in two separate auctions for the action and outcome–based contracts. Conservation payments helped to overcome economic constraints of tree planting and did represent a direct incentive for better care taking. However, our results do not reveal significant differences between the two contract types in submitted bids, tree survival rates and the overall cost–effectiveness. Strategic bidding behavior avoided the translation of diverse contract features into detectible differences in bidding and had adverse effects on the cost–effectiveness. At the same time, participatory approach of the study lead to very strong intrinsic motivation of all participants, which explains high tree survival rates independent of the contract type. This was further confirmed under the aspect of continuity. Strategic bidding behavior resulting from information spillover within small communities is challenging and difficult to tackle by means of auction design. The largely positive effect of participatory approach on intrinsic motivation has great implications for PES designs and conservation efforts in general. Overall, the field experiment revealed the complexity of PES schemes to go beyond the contract type or auction design.

Keywords: Payments for environmental services, action–based, outcome–based, conservation auction, cost–effectiveness
South Africa’s communal rangelands are home to 76 percent of the poorest people in the country, yet they are situated in some of the country’s most important catchments and biodiversity hotspots. Poverty and disruption of traditional grazing regimes in communal rangelands have left a terrible legacy of overgrazed, eroded and alien plant-infested environments, yet a significant portion of the population depends upon these lands and the services they provide indirectly benefit millions. Fortunately, emerging opportunities for public and private sector investment, as well as a new government initiative to offer direct “land-user incentives” offer promise for addressing conservation and human livelihood needs through investments in restoring ecosystem services in these landscapes. This presentation will use the workshop’s framework of four essential steps (1) diagnosis of current land use, 2) recognition of consequences and tradeoffs, 3) options for more ES-friendly forms of land use, integrated in scenarios and 4) negotiation of platforms for achieving change) to describe two case studies and to share lessons learned on how a co-investment approach of working with government, farmers, and the private sector has helped improvement in ecosystem services delivery and socio-economic change.

*Keywords:* Rangelands, restoration, investments, social change
Valuing Ecosystem Services Together (VEST): a Multi-Sectoral Rewarding Mechanism in CDO River Basin, Philippines

Presenting author: Analyn Mejares
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The impact of Typhoon Washi in December 2011 with serious casualties revealed the high vulnerability of Cagayan de Oro City from natural catastrophe as the catchment area of the Cagayan de Oro (CDO) river basin in Northern Mindanao, Philippines. One of the critical components in the river basin is to establish green growth from the ridge to reef was established through valuing ecosystem services and promoting ecosystem-based adaptation (EbA). The inception of the Valuing Ecosystem Services Together (VEST) propelled various sectors to participate in a “rewarding mechanism,” known as Payments for Ecosystem Services (PES).

The PES project is implemented within the ancestral domain of the Indigenous Peoples in Talakag, Bukidnon where the headwater of CDO river basin stands, Mt. Kalatungan Range Natural Park. The VEST–PES operations includes, Environmental Services provided to reduce vulnerability from flooding and adequate supply of water to downstream communities in CDO City; Seller for the sustained services the Miarayon–Lapok–Lirongan–Tinaytayan Tribal Association (MILALITTRA) through its Comprehensive Development Plan (CDP); Buyers from downstream and floodplain-areas establishments, cooperatives, households, schools, students, also local government units (LGUs), water and light service providers, industries and agro-industries within the CDO River Basin; Fund Manager a third-party agent, Xavier Science Foundation, to ensure the collection, disbursement and activities are implemented; and, Monitoring Body comprised of the multi-sectoral CDO River Basin Management Council to ensure delivery of targets, transparency and accountability in managing the PES resource and implementation is aligned with the CDP, among others.

VEST–PES is a strategic way to restore, enhance and safeguard the river basin and provides economic incentives to local initiatives for the continuing and sustaining flow of ecosystem services.

Keywords: Payments for ecosystem services, climate change adaptation, river basin, sustainable development, ecosystem based–adaptation
Feasibility of Green Credit as an incentive for Ecosystem Management in Kenya

Presenting author: Ngigi Obadiah
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Any form of conservation or environmental management is typically seen as a cost centre, which is a substantial cause of ongoing environmental degradation in Kenya. Past attempts to restore and maintain the supply of ecosystem goods and services through command and control have not been successful. The innovative Payment for Ecosystem Services (PES) mechanism also lack sustainable finances to pay for the ecosystem supply. A Start-up microfinance is trialling a new sustainable financial model for transitioning farmers to climate smart agricultural practices and improved natural resource management. The new model is able to ensure positive financial returns and sustainable financing for conservation efforts. A micro finance approach is used where target farmers are provided with a progressively increasing credit with a condition to establish soil and water conservation measures on their farms. The credit attracts reducing interest rate with increasing credit amount and reducing erosion levels through conservation effort. Preliminary results of two years of an on-going participatory action research with 350 farmers in Nairobi watershed shows that credit is a strong incentive to induce behavior change towards natural resource management and livelihood improvement through climate smart agricultural practices. Results show that there is demand for green credit among farmers in Kenya with 100% adoption climate smart agricultural technologies and credit is an effective incentive for natural resource management.

Keywords: Farmers, ecosystem, conservation, sustainable finance, green credit, Kenya
Developing Payment for Ecosystem Services Mechanism: a choice experiment study in Sardukhola sub–watershed in Nepal

**Presenting author:** Rajesh Kumar Rai  
**Other authors:** Mani Nepal, Priya Shyamsundar, Laxmi Dutt Bhatta  
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This study illustrates how Payment for Ecosystem Services (PES) can be devised to make all participating parties better-off while improving watershed conditions. Choice experiments were carried out in the Sardukhola sub–watershed of eastern Nepal to determine preferences of upstream and downstream communities for watershed management. Our analysis indicates that water quality is the most important attribute to downstream households, whereas upstream households require incentives to stop domestic livestock grazing and to construct toilets that would reduce open defecation. The results suggest that developing a PES mechanism is socially acceptable and financially feasible and may result in a flow of USD 118,000 per year from downstream to the upstream communities. This is almost three times more than the government regular budget to upstream village development committee. Downstream dwellers are willingness–to–pay up to 2.04 times more than the estimated amount upstream households are willing–to–accept to change their behaviors. However, implementing a PES type mechanism will require a viable institutional set–up.

**Keywords:** Downstream, upstream, watershed management, willingness–to–pay, willingness–to–accept
Type of submission: Voluntary contribution

T10 Co-investment approaches at the landscape scale

Valuing Ecosystem Services Together (VEST): a DRR–CCA in CDO River Basin, Philippines

Presenting author: Hilly Ann Roa–Quiaoit
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The wrath and damage wrought about by Typhoon Washi in December 2011 and thereafter revealed the high vulnerability of Cagayan de Oro City as the floodplain catchment area of the entire 37,000 hectares of the Cagayan de Oro (CDO) river basin in Northern Mindanao, Philippines. The limited remaining natural forest, unsustainable land use, watershed degradation and climate change are factors that had caused the area to become vulnerable and prone to more serious casualties from natural catastrophe.

In response to these growing concerns, a) the 90–organizational multi–sectoral Cagayan de Oro River Basin Management Council (CDORBMC) was strengthened; b) the Integrated Masterplan for Rehabilitation and Development of the river basin revised to ensure ecosystem–based approach to management, reduction of disaster risk and climate proofing; c) established green growth from the ridge to reef through valuing ecosystem services promoting Payments for Ecosystem Services (PES); d) inception of Valuing Ecosystem Services Together (VEST) to increase awareness and participate in a “rewarding mechanism of ecosystem services,” to safeguard the continuing flow of flood control and adequate water supply; coaching of riverside barangays on DRR from planning to simulations.

Catalyzing the imperative of interconnectivity, this paper discusses the multi–sectoral green synergy implemented, the PES modality used, the social marketing programs employed and the opportunities for replication. Ultimately, it documents the actions undertaken by different groups on environmental stewardship as part of the program’s multi–sectoral and inter–generational facets toward climate change adaptation, reduction of disaster risks at the local level and sustainable management of resources in the CDO river basin.

Keywords: Climate change adaptation, disaster risk reduction, sustainable development, ecosystem based–adaptation, payments for ecosystem services
Potential Incentives for Private Sector Investment in Ecosystem Services Conservation in Tanzania: The Case of Climate Change Adaptation Programmes in Tanzania

**Presenting author:** Riziki Shemdoe  
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The paper highlights existing and potential incentives for private sector especially small and medium enterprises (SME) to invest in ecosystem services conservation in Tanzania using climate change adaptation programmes as a case. Interviews with various representatives from SMEs as well as literature review show existence and potential incentives which can facilitate SMEs to invest in climate change adaptation as one of the ways in conserving ecosystem services in Tanzania. The mentioned incentives include awareness in the importance of impacts of climate change on their business is one of the incentives that the companies need, insurance schemes for climate change adaptation, incentivising the agriculture sector, improving the link between science, policy makers and private sector. The paper further draws on the best practices for the involvement of SMEs in climate change adaptation in other developing countries i.e. drip irrigation that helped smallholder farmers to adapt to the impact of drought and special loans to farmers which assisted small businesses to invest in adaptation activities. Barriers mentioned to hinder investment by SMEs on climate change adaptation include un–conducive taxation system; excessive taxes and their inconsistency by local governments; low financial capacity; inadequate banks’ climate change knowledge and limited long–term financing at affordable interest rate. Other identified barriers include low human resource capacity, limited involvement of private sector in policy and planning process, lack of integration between private sector, scientific organization and academia, poor availability of climate change data and poor flow of such information, lack of collaborations as well as lack of mechanism to recognize the innovator. Addressing these barriers could stimulate private sector to invest in climate adaptation projects as a way to better involve private sector in decision making as well as in the implementation of mitigation and adaptation programmes in the country.

**Keywords:** Best practices, small and medium enterprises, Tanzania
Payments for ecosystem services in Brazil: an analysis of the sub-national initiatives for the conservation of watersheds

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Payments for ecosystem services (PES) have been increasingly considered in the proposal of environmental policies. In an "ideal system", the polluter-user pays so the protector-provider receives. The assumption is that economic agents change their behavior according to incentives or sanctions, so those who benefit from ecosystem services are willing to pay for their conservation.

However, there is strong resistance against PES, even when conservation benefits are evident. Public policies are implemented to avoid this problem, and governments induce PES through many different ways. Also, implementing PES introduces other public policy objectives, such as poverty alleviation. Consequently, coordination problems of public policies become an important obstacle for PES implementation.

In Brazil, there are an increasing number of PES experiences introducing economic instruments in environmental policies. But there is no central coordination for PES schemes in the country: some are managed and financed with funds from businesses and NGOs, but most are promoted and funded by governments at various levels (local, state and federal). There is an ongoing debate on the creation of the National Law on PES, but many states and municipalities are far ahead with specific legislation already established or pending, and several policy initiatives implemented.

This study analyzes the state of the art of public policies aimed at the creation of PES in Brazil for watershed conservation, emphasizing the role of sub-national governments and their poverty alleviation objectives. The methodology is based on desk research and literature review of the most relevant experiences for watershed conservation in Brazil subnational PES. The main hypothesis is that there are problems of coordination between policies, making it difficult to implement as a national project. Other issues discussed include the lack of funding and of compulsory mechanisms for the "user pays" principle. These obstacles restrict policy initiatives to pilot projects, without overall effectiveness.

Keywords: Payments for ecosystem services, policy coordination, poverty alleviation, Brazil
Gender aspects of a tree planting PES scheme: Field trial in Kapingazi River catchment, Mt. Kenya East

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Other authors: Delia Catacutan, Tobias Wünscher, Karin Holm–Müller
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We conducted field trials to assess the potential gendered impacts of action and outcome-based tree planting payment for environmental services (PES) schemes, in Kapingazi River catchment, at Mt. Kenya East. Using a gender sensitive approach, we revealed that PES contracts impact the intra-household decision-making and labor division (including child labor and decisions on off-farm labor) and that the commonly recognized gendered roles play a crucial role. Gendered opportunity costs, risk preferences, and labor constrains impacted the conservation auctions budget efficiency and the PES contracts compliance when women (i) submitted significantly lower bids in the conservation auctions; (ii) reacted with higher risk aversion to the inherent outcome risks; (iii) preferred action-based PES contracts than men, despite recognizing it as more labor intensive, (iv) invested labor in the tree planting contracts of their spouses; and finally (v) subsistence farmers requested higher bids in the action-based auction as result of labor constrains. These findings confirm many of the concerns raised in the PES literature that tree planting, tree care, and conservation in general, might expose women to additional costs without gaining corresponding benefits if gender is not considered specifically in contract allocation and generally, in PES designs. Moreover, our experimental study showed that the cost–effectiveness of the action and outcome–based PES schemes is sensitive to gender and labor availability.

Keywords: Payments for environmental services, gender, labor division, cost–effectiveness, labor constrains