



# **Pro-poor Rewards for Environmental Services in Africa (PRESA)**

**IFAD Grant No. 953**

**Second Semi-annual Project Progress Report  
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**30<sup>th</sup> September, 2009**



## 1. Introduction and grant background

The programme for *Pro-poor Rewards for Environmental Services in Africa (PRESA)* advances novel mechanisms for integrating environmental management with human use of the environment. It is an institutional mechanism for linking environmental service stewards to beneficiaries by developing negotiation support systems. This is premised upon the critical role of upstream stewards modifying environmental services and therefore leading to negative externalities because they are neither recognized nor rewarded. In East and West Africa highlands stringent application of the law has disempowered and disenfranchised rural communities despite their role in providing critical ecosystem services. PRESA adopts a multi-institutional approach aimed at recognizing and appropriately rewarding stewards of ecosystem services to pursue land uses that will have positive effects on ecosystem services available to the larger society.

The project's goal is to facilitate *'hundreds of thousands of smallholder farmers and residents living in the highlands of East and West Africa benefit from fair and effective agreements between stewards and beneficiaries of ecosystem services'*. The three specific project objectives and expected outputs are:

**Objective 1:** Foster the development, implementation and assessment of workable environmental service agreements in three core landscapes and four associate landscapes in the highlands of East and West Africa.

**Expected outcome 1:** A set of landscapes in the highlands of East and West Africa have workable environmental service agreements providing fair rewards to ecosystem stewards.

**Objective 2:** Catalyze policy support and private-sector participation in environmental service agreements in Kenya, Tanzania, Uganda and Guinea.

**Expected outcome 2:** Private companies become increasingly involved in a range of initiatives for ecosystem management in the highlands of Kenya, Tanzania, Uganda and Guinea, including policy dialog with public agencies and fair contracts for ecosystem management.

**Objective 3:** Provide proactive and responsive support to the dissemination and application of assessment tools, negotiation methodologies, prototype mechanisms and monitoring tools among a PRESA community of practice, including other IFAD projects, regional and national Katoomba networks, NGOs and national organizations active in the innovation of new approaches to pro-poor rewards for environmental services in the highlands of East and West Africa.

**Expected outcome 3:** Improved quality and increased number of environmental service reward mechanisms in place and operational in the highlands of East and West Africa.

PRESA project components are linked to the 3 objectives and include: **i) landscape-level engagement (L), ii) private sector and policy engagement (P), and iii) community of practice (C)**. Project activities undertaken during the year under review are linked to these 3 components as reported in the next section.

PRESA project is being implemented in associate and core sites. PRESA core landscapes include:

C1: Mount Kenya East/upper Tana River catchment in central Kenya;

C2: Ulugurus Mountains in the Eastern Arc of Tanzania

C3: Fouta Djallon upper catchment area in Guinea

The associate landscapes include:

A1: Usambaras Mountains (East and Western Usambaras in Tanzania);

A2: Upper Aberdares catchments in Central Kenya that provide water to Nairobi City;

A3: Nyando and Yala basins in Western Kenya; and

A4: Western highlands (Bushenyi District) of Uganda.

PRESA provides benefits to environmental service providers and external beneficiaries, particularly farmers and indigenous forest dwellers in upper watersheds who eke out their living within margins of protected forested ecosystems who tend to be poor relative to downstream utility companies and their customers. The project will have most direct benefits to farmers living in the PRESA landscapes, and by shaping policy and programme design, on other rural communities in the East and West African highlands. Incentives will be provided to farmers who adopt and sustain less degrading land uses, resulting in increased amounts of clean water for users. This is expected to reduce the time spent by children and women to access and treat their domestic water, improve sanitation and public health. Electricity and water provision to communities adjacent to reservoirs can increase incomes for the poor and reduce deforestation. Organizations relying on protected ecosystems for their raw materials will benefit from improved and sustainable supplies, compliance with environmental regulations and their Corporate Social Responsibilities (CSR).

During the year under review, East Usambaras Mountain was included as a PRESA associate site. This decision was taken during the 3<sup>rd</sup> meeting of the International Advisory Committee (IAC) held on March 23, 2009 at the World Agroforestry Centre (ICRAF), Nairobi.

In 2009 we have scaled out lessons and experiences learnt from the 2008 work. We have further developed water and carbon prototype mechanisms in Central Kenya and the Usambaras sites as well as finalized scoping studies in other sites. These activities are however ongoing and we envisage their completion before the end of the year under review.

The following is a summary of progress so far as per the 2009 annual work plan and budget.

## **2. Progress and Performance**

During the year under review, PRESA core team and site-level partners worked together in the implementation of project activities. PRESA continued to build the capacity of its partners through learning-by-doing. In 2009 we worked with consortia of Macaulay Land Use Research Institute, the University of Aberdeen, York University, the Centre for Environmental Economics and Policy in Africa (CEEPA) at the University of Pretoria, and Jomo Kenyatta University of Agriculture and Technology (JKUAT) to build ecosystem services research capacity in semi-arid Africa. PRESA site-level partners were supported to participate in a summer school on “Environmental Services in Forest Management (ESFM)” organized by the University of Helsinki. The foundations for carbon and water prototype mechanisms are being undertaken in Central Kenya Highlands in the East Usambaras sites. Scoping studies started in 2008 were completed and protocols developed and used in other sites to conduct scoping studies. PRESA provided technical advised and synthesized technical information for the articulation and harmonization of policies toward REDD (Reduced Emissions from Deforestation and forest Degradation) and AFOLU (Agriculture, forestry and other land uses) across Africa, including the 3 East African countries covered by PRESA. Much of this activity is supported by a new partnership between ICRAF and COMESA, under the banner of the Africa Bio-carbon Initiative. We deepened and built on communication successes of 2008.

### **2.1 Brief overview of progress and performance**

#### **A: Strengthening the PRESA core team**

In mid 2009, Dr. Brent Swallow, the then PRESA Project Leader left to join the Rural Economics Department, Alberta University, Canada. The other team members have taken up extra responsibilities and continue to work closely with Brent, especially in the supervision of graduate students. During the year under review we have one Associate from Finland (Heini Vihemaki), 1 research (Jaffer Wakhayanga) and 1 communication (Godfrey Mwaloma) assistants joining the PRESA Core team. We have also enhanced our scientific advising by bringing on board Prof. Fergus Sinclair, a seconded scientist from the Bangkok University. Meine van Noordwijk is still our Advisor and Fergus will be working closely with him. To improve the quality of our research outputs we have proposed to the IAC the formation of an IAC

sub-committee that will review our scientific outputs. The Proposed Scientific Review Committee is envisaged as a quality control mechanism for the PRESA project.

**B: Summary of key activities undertaken during the year under review**

During the year under review the Key project activities undertaken included inter alia:

- (1) Completed baseline studies started in 2008 in Nyando and Yala River basins, Mt. Kenya East, Aberdares, Western Uganda sites and shared protocols developed to guide baseline studies in Usambaras, and Fouta Djallon Highlands;
- (2) Finalized scoping and assessment activities in preparation for operational plans and reward mechanisms in Upper Aberdares (Sasumua) and Nyando and Yala Basins associate sites;
- (3) Held a successful two-weeks training course on *“Building Ecosystem Services Research Capacity in Semi-Arid Africa (BESSA)”*, involving more than 50 participants from Kenya, Uganda, Tanzania, Guinea, Malawi and South Africa;
- (4) Laid the foundations for a strong regional research network on ecosystem services and reward mechanisms, linked to UK and North American research institutions and universities;
- (5) Produced training manual on carbon assessment of forestry and agroforestry systems-this is linked to the BESSA-PRESA training held between March 24 to April 4, 2009;
- (6) Compiled inventories of promising technologies and PES and PES-like mechanisms for some sites while more work is ongoing in other sites;
- (7) Developed and tested prototype reward mechanisms with at least 100 farmers in 3 PRESA sites (Ulugurus, Nchitsi District in Central Malawi, and Mt. Kenya East). We deepened the reverse auctions which were started in 2008 in Ulugurus Mountains as well as applied lessons learnt from the Malawian Harvard-ICRAF work on using reverse auctions to contract farmers to plant trees for global benefits;
- (8) Provided targeted, responsive support to organizations involved in the development and implementation of environmental service rewards in all of the PRESA sites;
- (9) Engaged key business leaders and policy makers in dialogs on the business case for ecosystem management in at least three PRESA countries-a business-ecosystem service dialogue was organized on March 27, 2009 during the BESSA-PRESA training;
- (10) Provided technical advice and synthesized technical information for the articulation and harmonization of policies toward REDD (Reduced Emissions from Deforestation and forest Degradation) and AFOLU (Agriculture, forestry and other land uses) across Africa, including the 3 East African countries covered by PRESA-much of this activity is supported by a new partnership between ICRAF and COMESA, under the banner of the Africa Bio-carbon Initiative.
- (11) Held a successful and fruitful project’s third meeting of the International Advisory Committee in Nairobi, Kenya, on March 23, 2009; and
- (12) Deepened and build on successes made in 2008 with regards to internal and external communications as well as information management.

**C: Building Links and Partnerships:** In the build up to project initiation, the PRESA core team deepened partnerships with national and site-level organizations by directly supporting site-level activities. We facilitated our site-level partners by not only building their capacities but also allocated financial resources for the implementation of site-level activities. We operationalized a North-South collaborative arrangement between UK and African Institutions through the implementation of a capacity building project on *“Building Ecosystem Services Research Capacity in Semi-Arid Africa (BESSA)”*, which garnered support from the Ecosystem Services and Poverty Alleviation programme of the Natural Environment Research Council. The BESSA project will: i) strengthen the capacity of the PRESA core team, its partners and members of the PRESA network; ii) develop the evidence base for the PRESA project, iii) enhance links between PRESA community and UK research institutions; and iv) identify future research needs and explore alternative funding for those needs. Towards the end of 2009, we will be using BESSA and PRESA lessons and experiences to develop a PRESA co-finance project with Natural Environment Research Council and DFID.

We also continued with our partnerships developed in 2008 and strengthened site level partnerships with IFAD loan Portfolio Projects like the Mt. Kenya East Pilot Project. In Kenya we have worked closely with IFAD regional office to ensure that the PRESA grant links adequately with loan portfolio projects.

PRESA has also forged links with Lake Victoria Basin Commission of East Africa Community to build and support the case for using PES as an instrument for ecosystem restoration. Some of the partnerships that PRESA continue to benefit from are as summarized in table 1.

**Table 1: Summary of linkages with Universities, government departments and international organizations**

Universities and research institutions	Government Departments	Non-governmental organizations	Donors	International Organizations and Initiatives
<u>International:</u> Harvard University, Sustainability Science (USA); Michigan State University (USA); York University (UK); Aberdeen University (UK); Macaulay Institute (UK); ISRIC, the Netherlands  <u>Tanzania:</u> Sokoine University, Morogoro, Tz;  <u>Uganda:</u> Makerere University, Kampala, Uganda; <u>Kenya:</u> Jomo Kenyatta University of Agric and Technology, Nairobi, Kenya; Maseno University, Maseno, Kenya; Kenyatta University, Nairobi, Kenya <u>Guinea</u> Conakry University <u>Other Africa:</u> University of Pretoria, Pretoria, South Africa; African Highlands Initiative; COMESA	<u>Kenya:</u> National Environmental Management Authority; Water Resource Management Authority; Ministry of Water; Ministry of Agriculture  <u>Uganda:</u> National Environment Management Authority  <u>Tanzania:</u> Department of Forestry and Bee Keeping, Ministry of Natural Resources  <u>Guinea:</u> Forestry Department	Nature Harness Initiatives (Uganda), Ecotrust (Uganda), Care (Kenya, Tanzania, International), WWF (Tanzania), Katoomba Group,	<u>Established financial support for PRESA:</u> DFID – Support for ecosystem services capacity building and formation of a collaborative arrangement with UK and African institutions through the BESSA project EU – Research on international policy; Finland - Associate expert in spatial analysis World Bank - Sasumua project UNEP -- Lake Victoria project USAID- linkage funds used to support graduate students from US universities; supported Katoomba training of benefit to PRESA partners <u>Interest expressed:</u> Lake Victoria Basin Commission of the East Africa Community FAO IDRC	Katoomba Group / Forest Trends Eco-agriculture Partners UNEP World Bank FAO RUPES ISRIC and the Greenwater Credits project International Association of Ecological Economics FLEG process in Kenya

Linkages with universities site-and national-level partners has led to capacity building and research opportunities for graduate students whose research activities have been matched with those of the PRESA project. To ensure that the right research questions are being answered and that important missing gaps are being filled, the PRESA core team has formulated 5 clusters of hypotheses (dubbed the pentagon of hypotheses) on effectiveness, efficiency, acceptability, sustainability and poverty. The pentagon of hypotheses guides the project's research and is linked to the project's objectives. In 2009 research undertaken on prototype mechanisms are aimed at enhancing effectiveness, efficiency as well as reducing poverty through availing alternative income streams for the farmers. In some sites, for example, Mt. Kenya East, we are at the design stage of a RiverCare Program. Research on farmers' vulnerability to climate change and the potential of PES to improve resilience in Sasumua catchment through a PhD student is not only pro-poor but will explore several options for management environmental services.

Graduate students who have either finalized or joint the PRESA project in 2009 as well as the continuing students include the following:

### 1. Post-doctoral Scientist:

Delia Catacutan, a Philippine national, Postdoctoral Fellow in Sustainability Science at Harvard – undertook and finalized comparative work on the role of boundary organizations at RUPES sites in Southeast Asia, and Nyando and Yala River Basins in Kenya. She has since joined ICRAF as a social scientist and will be working closely with the PRESA project.

## 2. Finalized or almost complete graduate work

- i) Sheika Rakshi, Indian national, Syracuse University, Masters, Environmental Sciences – finalized her thesis on a review of PES-like activities in the Mount Kenya site;
- ii) Sylvia Wachira, Kenya national, Masters, Nairobi University – Sylvia's thesis on the adoption of improved land management practices in the Ena catchment, Mount Kenya East site is under examination;

## 3. New Graduate students

- i) Fredrick Mokuu-Msc. (Geoinformatics), Jomo Kenyatta University of Agriculture and Technology (JKUAT)-doing soil erosion risk modelling in Mt. East site (Kapingazi);
- ii) John Kimani Mwangi-PhD student, Jomo Kenyatta University and Technology-doing trade-off analysis among ecosystem services using the Soil and Water Assessment Tool (SWAT) model in Upper Aberdares;
- iii) Esther Mbugua-Msc (Geoinformatics), Jomo Kenyatta University of Agriculture and Technology (JKUAT)-doing soil erosion risk assessment so as to target the interventions of a river care prototype mechanism in Mt. Kenya East site;
- iv) Gody Sanga-joining PRESA as a follow-up of the BESSA-PRESA training and will be undertaking his studies on “**Mainstreaming Payment for Ecosystem Services Conservation Schemes under Uncertainty and Irreversibility Conditions**” in the Ulugurus Watershed in Tanzania;
- v) Sanjeeb Bhattarai-Bangkok University-doing graduate studies on ‘Incorporating GIS tools and local ecological knowledge to assess spatial explicit synergies and tradeoffs among key ecosystem services in Sasumua watershed, Kenya;
- vi) Hosea Mwangi, Jomo Kenyatta University of Agriculture and Technology -doing hydrological modelling in Sasumua Watershed;

## 3. Continuing Graduate students:

- iii) Rohit Jindal, Indian national, Michigan State University PhD, Agric. Economics – undertook research on the design of conservation contracts at the Ulugurus site in Tanzania and currently writing up his thesis;
- iv) Mamta Vardhan, Indian national, Michigan State University PhD, Rural Sociology – undertook research on alternative institutions for land and forest management at the Ulugurus site in Tanzania and currently writing up her thesis;
- v) Alexandra Peralta, Columbian national, Michigan State University, Masters, Agric. Economics – studied the economics of timber production at the Western Kenya site and currently writing up her work;
- vi) Janet Fisher from the University of East Anglia (Human Geography) is currently undertaking her research in the Albertine Rift with support from Ecotrust, A Ugandan Conservation Trust on socio-economic assessment of the trees for global benefits project with Ecotrust Uganda;
- vii) 1 staff member each from Kenya's WRMA and NEMA-WRMA and NEMA will be engaged in 2010 in the identification of the 2 individuals(World Bank funding)-this is linked to the World Bank funded activities in Upper Aberdares sites;

**D: Capacity Building Activities:** ICRAF has contributed to or led/organized capacity building initiatives on several topics related to rewards for environmental services. These are hereby summarized as:

- Jointly with Macaulay Land Use Research Institute, the University of Aberdeen, York University, the Centre for Environmental Economics and Policy in Africa (CEEPA) at the University of

Pretoria, and Jomo Kenyatta University of Agriculture and Technology (JKUAT), PRESA organized training on “*Building Ecosystem Services Research Capacity in Semi-Arid Africa (BESSA)*,” held between March 24 and April 4, 2009 in Nairobi and Embu Kenya with field work in Sasumua, Upper Aberdares site. Topics covered touched all environmental services and included assessment tools. We worked closely with the IFAD funded RUPES program;

- Gerald Kairu, Munishi Ndeshi and Miika Makela participated in a training on “Environmental Services in Forest Management (ESFM)” organized by the University of Helsinki. The training was co-sponsored by PRESA and the Embassy of Finland and topics covered included: Biological production, forest management and technology and valuation and policy;
- PRESA is part of a KAPP-SLM capacity building initiative that is linked to outputs from the Sasumua PES scoping study involving NEMA, Ministry of Environment and Natural Resources and at least two universities; .
- PRESA and RUPES core teams have developed tools and approaches as well as the capacity building needs for the PRESA project including training modules on rapid hydrologic and carbon assessment; behavioural economics as an input into the design of prototype mechanisms; economic valuation and trade-off studies. We are currently working with Macaulay Land Use Research Institute to further develop conjoint and contingent valuation methodologies for assessing farmers’ preferences of land use options as well as their willingness to co-invest in ecosystem management in Mt. Kenya East site.

**E: PRESA IAC meeting:** PRESA IAC meeting was held on March 23, 2009. This included a one-day meeting of the International Advisory Committee (IAC), a half-day dialogue on business and ecosystem management that was linked to the BESSA training on March 27, 2009, a one-day field trip to Upper Aberdares (Sasumua) and for both IAC and BESSA-PRESA training participant, and practicals in Embu, Mt. Kenya East site. The IAC meeting was held in conjunction with the BESSA-PRESA training conducted between March 24 and April 4, 2009.

**F: PRESA outreach activities:** The PRESA project has been introduced as part of more general presentations made at Lake Victoria Basin Commission, during the FORMAS (**Agroforestry for Climate change Adaptation in Vietnam and Kenya**) -PRESA workshops and during the CAFNET<sup>1</sup>-PRESA joint planning meetings. Meetings on PRESA were also held with the National Forest Resources and Research Institute (NaFFORI) of Uganda.

**G. Contracts:** Contracts were given to Nature Harness Initiatives (Uganda), Selian Agricultural Research Institute (Tanzania), African Highlands Initiative (Tanzania), and Ecotrust (Uganda) to support the development of baseline information on markets / payments for ecosystem services in the Uganda and Tanzania sites. Project activities in Upper Aberdares, Mt. Kenya East, Nyando and Yala River Basins, Ulugurus Mountains and Fouta Djallon Highlands are implemented by ICRAF staff with site-level partners. PRESA provide resources to ICRAF Tanzania and Guinea for the implementation of PRESA project activities.

## 2.2 Component-by-component summary of performance

This section provides detailed overview of any data, relevant information and consideration regarding progress towards component objectives as per the 2009 annual work plan. Table 2 provides detailed site-by-site and component-by-component information on the actual activities implemented in 2009 with site-level partners. It is however worth noting that most of the activities are ongoing and it is envisaged that these will be completed towards the end of this year.

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<sup>1</sup> CAFNET is Connecting, enhancing and sustaining environmental services and market values of coffee agroforestry in Central America, East Africa and India.

Table 2: 2009 actual achievements against specific activities in 2009 for landscape-level engagement by site

Outputs	Activities	Specific activities in 2009	Site-by-site and component-by-component Actual achievements implemented in 2009 as well as Remarks on courses of action						
			Ulugurus Tanzania	Mt Kenya East, Kenya	Fouta Djallon, Guinea	Usambaras, Tanzania	Upper Aberdare, Kenya	Nyando / Yala basins, Kenya	Albertine Rift, Uganda
Core or associate site			Core	Core	Core	Associate	Associate	Associate	Associate
Level of priority in 2009			High	High	Moderate	Moderate	Moderate	High	Moderate

Site-by-site Comments on the 2009 work plan			Agreed with CARE that PRESA should initially focus on the Kibungo sub-catchment and that Kinole sub-catchment be included in 2009 by deepening the reverse auction work	Developed in consultation with the GreenWater Credits project (GWC), also funded by IFAD. PRESA worked closely with MKEPP and kept GWC (ISRIC) aware of project activities	In 2009 PRESA forged collaborative links with Conakry University and linked activities to an ICRAF-Finland Project in the pipeline <sup>2</sup>	Building on a preliminary scoping study, we deepened our work on assessment of ecosystem services by undertaking a scoping study	Finalized scoping of PES in Sasumua. Currently we are working with Macaulay Land Use Research Institute, and Pretoria University to undertake further studies on poverty assessment to inform PES design	Good progress in this site in 2009	Ongoing baseline studies. Existing mechanisms are providing lessons for the PRESA project. PRESA was invited to expand the geographical scope of its activities to Central Uganda.
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<sup>2</sup> The project being developed with the Government of Finland is on “Responding to climate change challenges and opportunities: Fostering Sustainable Rural Development through High Biocarbon Landscapes in West and East Africa” will among other activities support the design and implementation of carbon prototype mechanisms. This would be an important co-finance for the PRESA project.

<p>L1. Baseline reports for all of the core and associate landscapes.</p>	<p>L11. Compile an inventory of baseline information, design and monitoring methods, and institutional innovation in all landscapes. Identify gaps in the information base and priorities.</p>	<p>Undertake baseline syntheses that will include documentation of pro-poor rewards and or incentives (existing &amp; potential), mapping &amp; analysing land use/land cover change, characterizing socio-economic-ecological situations/impact analysis, documenting experiences with carbon trading in the Ugandan site etc</p>	<p>Appraisal of different land use systems, monitoring and evaluation of tree planting for global benefits are ongoing and will be finalized at the end of this year.</p>	<p>Finalized technology adoption assessment and inventory of PES and PES-like initiatives.</p>	<p>Using protocols developed in other sites, a scoping study has been undertaken including an inventory of PES and PES-like mechanisms with the Conakry University</p>	<p>Scoping study is being undertaken and is building on a preliminary study undertaken in 2008. In East Usambaras, socio-economic assessment has been undertaken to lay foundation for the design of REDD prototype mechanism</p>	<p>Undertook socio-economic analysis as part of tradeoffs analysis using the Polyscape model. More work is ongoing under the BESSA-PRESA partnership on poverty assessment. Assessment of ecosystem services using hydrological modelling is ongoing</p>	<p>Finalized the inventories of PES and PES-like mechanisms and shared developed protocols for use in other sites.</p>	<p>Baseline studies led by Ecotrust and Nature Harness Initiatives were finalized and currently these are synthesized for the PRESA website.</p>
<p>L2. Project teams in all landscapes are introduced to and supported in the application of a toolkit of methods for scoping, negotiation support and assessment.</p>	<p>L21. Compile a set of scoping, negotiation support and prototype payment tools from RUPES, other PES projects, land degradation and poverty assessment methods from ICRAF in Kenya, and other tools used in PRESA landscapes.</p>	<p>PRESA and RUPES II core teams will finalize the suit of tools compiled in 2008, share and build the capacity of site level teams to test and apply them</p>	<p>A draft of the PRESA suite of tools developed. PRESA is currently working with RUPES to update the TULSEA (a kit of methodologies, approaches, tools and best practices for scoping, negotiation support and prototype mechanisms) and applying the same in PRESA sites to assess ecosystem services. This is a moving target for 2010.</p> <p>During the remaining months of 2009 and 2010, PRESA and RUPES II core teams will take lead on the finalization of the different tools with input from PRESA site-level teams, other organizations like the International Institute for Environment and Development (IIED), Forest Trends, and Katoomba Group and networks/organizations that form the PRESA community of practice. These tools will however continuously be refined and replicated.</p>						

	L22. Conduct training in the PRESA assessment, negotiation support, and prototype payment tools for project teams in all PRESA landscapes	In 2009 PRESA will jointly with Macaulay Institute, Pretoria University and Jomo Kenyatta University of Agriculture and Technology and RUPES will undertake a training on BESSA which will involve use of the different tools and approaches developed by RUPES as well as individual training of partners and students in specific types of analysis and is likely to include economic analysis and spatial analysis.	<p>Training on the different negotiation, scoping and prototype tools was undertaken with a consortia consisting of Macaulay land Use Research Institute, University of Aberdeen, CEEPA, York University, ICRAF-PRESA and the Jomo Kenyatta University of Agriculture and Technology. The BESSA project is aimed at contributing to objective 1 of the PRESA project and is aimed at: i) strengthening the capacity of research partners and research agenda for PRESA; ii) enhancing links between the PRESA community and UK research institutions, iii) further develop the evidence base for PRESA, iv) identify future research needs and gaps, and v) submit a journal article reviewing approaches and the limitations to capacity building in ecosystem services.</p> <p>Tools and approaches acquired and synthesized by the PRESA team that participated in the University of Helsinki-led training on ecosystem management will be refined, shared and applied in the different sites.</p>						
	L23. Support partners to use PRESA assessment and negotiation tools to fill in key knowledge gaps and frame dialog among stakeholders.	Targeted support to partners for the application of economic analysis, spatial analysis, and carbon accounting tools.	Ongoing support to spatial analysis in the Ulugurus site and capacity building for partners.	Ongoing mapping and support to the MKEPP and Green Water Credit Projects	The ICRAF (Guinea) and Conakry University teams are being supported with spatial analysis in the ongoing scoping study	This is ongoing and integrated as part of the scoping study	Watershed delineation, land degradation assessment, hydrological modelling, water quality assessment, environmental audit are finalized.	Spatial analysis already completed. Socio-economic analysis pushed to 2010.	Spatial analysis support to Ecotrust and Nature Harness Initiatives is being planned for November, 2009.

<p>L3. Technology targeting tool developed</p>	<p>L31. Review literature and interview experts to establish a portfolio of candidate land use options for the highlands of East and West Africa.</p>	<p>Three activities will be emphasized in 2009. <b>1.</b> A landscape-by-landscape description of existing technologies and land uses and identification of candidate land use options to be considered for greater promotion. <b>2.</b> Analyze the economic and ecological implications of some candidate land use options, particularly agroforestry options. <b>3.</b> Compilation of GIS and land cover data for the landscapes.</p>	<p>1. A draft of existing possible candidate technologies finalized 3. Completed compilation of GIS and land cover data.</p>	<p>1. Finalized 2. Analysis of the implications of the different technologies finalized 3. Provided support to MKEPP in the mapping of hotspots within Kapingazi River Basin. This is ongoing work.</p>	<p>1. Is ongoing and is integrated into the scoping studies 3. This is ongoing and envisaged to be completed before the end of 2009.</p>	<p>1. This is ongoing and will be completed by the end of the year. 3. Ongoing and integrated as part of the scoping study</p>	<p>1. Is ongoing and integrated in the different technical studies, including poverty assessment. 2. Work on the ecological impacts of land use options partly finalized 3. Completed and currently compiling of an electronic map database is ongoing.</p>	<p>1. Completed and established hotspots and recommended policy and land use options. 2. Finalized analysis of the economic and water use implications of tree systems. 3. Ongoing compilation of GIS and land cover data.</p>	<p>GIS and land cover data compilation is ongoing.</p>
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<p>L4. Prototype reward mechanisms developed and tested with at least 100 farmers in every core landscape.</p>	<p>L41. Conjoint analysis and experimental economics studies of farmers' preferences for the various elements of environmental service contracts.</p>	<p>Deepening and completing reverse auction experiment conducted in one site as well as exploring other prototypes mechanisms in at least 4 sites.</p>	<p>Follow-up activities to evaluate the ongoing reverse auctions through ICRAF Tanzania and a PhD student from Pretoria University (CEEPA)</p>	<p>Ongoing studies to lay the foundation for the design and piloting of the Rivercare program-the studies are land use mapping, erosion risk assessment, socio-economic assessment, participatory land use planning, conjoint analysis and contingent valuation</p>	<p>Ongoing scoping study to build the case for a biodiversity prototype mechanism in 2010.</p>	<p>Socio-economic analysis has been undertaken to lay the foundations for a REDD as well as biodiversity prototype mechanism-this has been undertaken through a PhD student and jointly with the Landscape Mosaics Project</p>	<p>Finalized on a framework for multi-institutional effort towards catchment conservation and the formulation of a catchment management plan. ICRAF is providing technical support to the members of Water Resource Users Association</p>	<p>Building a consortia to push for the case of a publicly funded PES in Nyando and Yala River Basins</p>	<p>Ongoing synthesis of lessons and experiences from trees for carbon project and replication in other sites, specifically Mabira Forest (Central Uganda) has been planned and will be undertaken in November 2009 with more work in 2010</p>
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<p>L5. Workable reward mechanisms operational in at least 4 of the project landscapes, with at least one ES demander, one intermediary and 300 households involved in each landscape.</p>	<p>L51. Engage with public agencies concerned with environmental services in the project landscapes.</p>	<p>Identify and engage with public agencies regarding interests and policy opportunities for environmental reward mechanisms.</p>	<p>Engagement is ongoing with DAWASCO and is led by Care.</p>	<p>PRESA is consolidating the evidence base and will be working with GWC and MKEPP to build the case for public agencies to be involved in the design and implementation of PES</p>	<p>This has been integrated in the scoping study and mining companies are showing interest to participate. A workshop on environmental services was held in the beginning of the scoping study and a draft report finalized.</p>	<p>Public and private agencies were engaged during the beginning of the scoping study</p>	<p>Ongoing engagement with Tanzanian Electricity Company, Pangani Water Authority and other partners interested in RES has been used to inform the process in Kenya and working with the Water Resources Management Authority to finalize a catchment Plan.</p>	<p>Individual and group engagement with public agencies was undertaken in 2008 and this is being deepened in the 2009 formation of consortia to push for a publicly funded PES.</p>	<p>Ecotrust and Nature Harness Initiatives are leading engagement with public agencies.</p>
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	L52. Engage with utilities, private firms and industry groups with interests in ecosystem services in the target landscapes	Initiate discussions with environmental service users who are yet to be involved in an environmental service transfer scheme.	Engagement with water users is ongoing and is led by Care with PRESA's support.	Engagement with private sector and utilities (e.g. Kengen) are led by ISRIC / GWC project	The ongoing scoping study started with engagement of public agencies	A scoping study is being finalized that has involved private and public sector institutions.	Begun some engagement with the Nairobi City Water and Sewerage Company, and Water Resource Management Authority (WARMA).	Some engagement with private sector and public utilities has begun.	Supported and worked with Ecotrust and Nature Harness Initiatives to build relations with private sector groups interested in the Albertine Rift and the trees for global benefits project.
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	L53. Support collective action and awareness raising among community groups	Support and facilitate awareness raising to promote collective learning and action among community groups	Engagement with communities is ongoing, led by Care.	Engagement with private sector and utilities (e.g. Kengen) are being led by ISRIC / GWC project are ongoing. GWC had start up workshops that involved Kengen.	Initial discussions started in conjunction with ongoing scoping study.	Initial discussions that were linked with a preliminary scoping study undertaken in 2008 has been deepened in 2009	The first engagement with community groups has focused on joint management planning for the control of sedimentation and pollution.	Greater involvement with communities will be delayed until we have more specific ideas about payment mechanisms and have formed consortia to push for use of PES in ecosystem restoration.	PRESA has interacted with communities through Ecotrust, Nature Harness Initiatives, Uganda Carbon Bureau and NaFFORI.
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	L54. Identify and mobilize changes in institutions or regulations (statutory or by-laws) necessary to support the establishment of mechanisms.	In some sites, work will begin to identify specific regulations or bylaws that affect the establishment and operations of specific reward mechanisms. This will include, for example, an analysis of how property rights to land, trees, forests and carbon affect the potential for voluntary carbon contracts.	Tanzania (Tanzania) and Care are have pushed this to 2010 and concentrate more on follow up activities for the reverse auctions work.	In building the foundation for a River care program, institutional assessment of PES is being undertaken.	A study on the institutional potential for REDD is in preliminary stages and will be finalized in 2010.	Selian Agricultural Research Institute is leading a synthesis of lessons for PES from previous work on by-laws. These will be disseminated in 2010.	The institutional and social-economic tracks of the phase I of the scoping study are ongoing and led by ICRAF, Macaulay Land Use Research Institute and JKUAT.	A study on the institutional and policy foundations shaping RES has been finalized	A study of the impacts of tree carbon projects on local institutions through a PhD student from the Univ. of East Anglia is ongoing and will be finalized in 2010.
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	L55. Support consultations, negotiations and agreements among stakeholders and the establishment of workable mechanisms	The type of negotiation, and the involvement of PRESA in the negotiations, will vary from landscape to landscape depending on the state of reward schemes for environmental services.	Consultations and negotiations are ongoing and are being led by Care.	PRESA is undertaking technical studies that will be used by ISRIC/GW C to support consultation and build the case for the engagement of utility companies like Kengen.	Through the scoping study and meetings of the Manor River Basin Authority, information on experience of ES rewards has been provided to stakeholders	Provision of information to stakeholders on potential and experience of ES rewards is ongoing through the scoping study which is currently being finalized.	Negotiations are ongoing using technical results of a scoping study.	Provision of information to stakeholders on potential and experience of ES rewards-this information is being used to inform the formation of consortia to push for a publicly funded PES.	Ecotrust and Nature Harness Initiatives (NAHI) are leading research aimed at supporting expansion and improvement of existing mechanisms
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**Table 3: 2009 actual achievements against specific activities in 2009 for P (private and public sector engagement) and C (community of practice)**

Expected Outcome	Outputs	Activities	Actual achievements in 2009	Specific outputs achieved in 2009
Expected outcome P: Private companies become increasingly involved in a range of initiatives for ecosystem management, including policy dialog with public agencies and fair contracts for ecosystem management.	P1. Technical reports and synthesis documents that clarify the business case for ecosystem management in the highlands of East and West Africa.	P11. Conduct a study of private and parastatal firms to determine factors motivating and constraining participation in contracts for ecosystem services through a PhD student.	This was postponed to 2010 but the student has developed a PhD proposal. This will be undertaken in early 2010 and linked to the River care program in Central Kenya Highlands.	Expected a progress report from the student. This will not be feasible in 2010.
		P12. Work with selected private sector groups to evaluate the business case for rewards for environmental services.	Continued to share information amongst a network of private sector groups interested in environmental service mechanisms across PRESA sites and the PRESA website.	Contacts list, reports.
	P2. Technical reports and synthesis documents identify policy and institutional options for enhancing environmental service reward mechanisms	P21. Identify policy and institutional factors constraining the business case for RES	1) Finalized the inventory of PES and PES-like mechanisms and policies and programmes affecting rewards for environmental services in Kenya. 2) In Kenya we identified specific policies and institutions that will potentially affect PES and have started working with Water Resources Management Authority (WARMA) as well as Care to address them.	Draft paper and 1 finalized thesis reporting inventory of PES mechanisms and policies and one paper manuscript on institutional context and how this will affect PES.
		P22 Facilitate consultative and planning meetings for exchange of good business practice and policy reform.	Conducted one dialog on business and ecosystem management on March 27, 2009.	Meeting reports.

		P23. Make presentations and convene side events in at least 3 international/regional fora that are considering how to embrace pro-poor RES including REDD.	i) Participated and provided consistent leadership in regional meetings on REDD through COMESA Bio-carbon Initiatives; ii) Made presentations on PRESA in Lake Victoria Basin Commission of East Africa; iii) Organized a technical session where PRESA was presented during the 2 <sup>nd</sup> World Congress on Agroforestry	Presentation materials
Expected Outcome C: Improved quality and increased number of environmental service reward mechanisms in place and operational in the highlands of East and West Africa.	C1. Technical advisory notes	C11. Adapt and disseminate selected RUPES Technical Advisory Notes (TANs)	RUPES synthesis notes and appraisal methods were shared within the PRESA networks and during the BESSA capacity building initiative.	Distribution lists
	C2. Field and Training manuals	C21. Identify best practices for transfer of experiences from existing and relatively successful RES schemes.	A manual on carbon measurements and monitoring at landscape level was developed out of the BESSA training and based on experiences from South East Asia.	Manuals, training materials.
		C22. Develop field and training manuals on key topics	Developed 1 manual and shared several tools and approaches during the BESSA-PRESA training course held from March 24 to April 4, 2009 that was aimed at building ecosystem services research capacity in Semi-Arid Africa.	Training report. Training manuals/materials.

	C3. PRESA website	C31 Establish and periodically update a PRESA web site building upon RUPES and CRES websites and actively promote it with other web sites and e-networks	<ul style="list-style-type: none"> <li>i) Finalized implementation of Phase 2 of the website including improved virtual link library, and option to subscribe to blog postings via email</li> <li>ii) Finalized, printed and shared site level stories which were finalized jointly with site level partners;</li> <li>iii) Worked on modalities for contributing and strengthening links with IFAD Africa Network for sharing information –build synergies between the IFAD Africa Network and the PRESA community of practice-PRESA discussed this with Miriam Cherogony of IFAD regional office here in Nairobi.</li> <li>iv) Finalized a policy brief on key activities and guiding principles for linking science and policy for PRESA</li> </ul>	<p>project website</p> <p>Site level profiles</p> <p>Contact lists and lists of information share across through this network</p>
	C4. Workshop summaries	C4. Organize at least one national and a final project workshop in conjunction with annual meetings of Katoomba Group Africa on key topics emerging from PRESA landscape-level and policy engagements	i) Held a successful IAC meeting in March 23, 2009.	IAC meeting report

In terms of deepening communication in 2009, the PRESA core team:

- i) Designed, produced and shared a coloured booklet with stories from site level and case studies for use at site level, particularly for prospective private sector partners, and investors;
- ii) Finalized 1-page flyer and captured brief unscripted video responses from BESSA training participants about their perspectives on PES;

## 1. Progress towards Grant's Purpose and Goal

The PRESA goal is: *hundreds of thousands of smallholder farmers and residents living in the highlands of East and West Africa benefit from fair and effective agreements between stewards and beneficiaries of ecosystem services.* Movement towards this goal will generally be more determined by things beyond the direct control of the PRESA project and collaborators.

Some of the positive developments in the external environment that can be said to be influencing realization of the project's goal include the following:

- PES is gaining momentum and governments in the countries PRESA is being implemented are appreciating its potential contributions;
- Continued implementation and advising of national governments on Reduced Emissions from Deforestation and forest Degradation under the Africa BioCarbon Initiative has provided the political will and leadership by COMESA;
- Expansion in the number, reach and participation in eco-labelling and fair trading schemes for sustainably produced coffee and tea in East Africa
- Expansion in the number and participation in community-based ecotourism projects in East Africa
- Continued operationalization of decentralized governance of natural resources and devolved authority for utilities such as water and electricity

Negative developments in the external environment included:

- the sharp spike in food, fiber and fuel prices that prompted a new scramble for Africa's tree and land resources; and
- Food and financial crises with implications on willingness to pay for eco-labelled commodities and eco-tourism;

The following is objective-by-objective summary of progress made towards realizing the project goal.

**Objective 1:** Foster the development, implementation and assessment of workable environmental service agreements in three core landscapes and four associate landscapes in the highlands of East and West Africa.

**Expected outcome 1:** A set of landscapes in the highlands of East and West Africa have workable environmental service agreements providing fair rewards to ecosystem stewards.

Given variations across the different sites (e.g. whether core or associate, partnerships built, existence of previous or ongoing PES work by other PES innovators, policy and institutional terrain etc) the degree of the achievement of the project's purpose and goal varies as well. In some sites the development of PES initiatives is more advanced and incipient in others. Despite these challenges the PRESA team made progress towards the projects purpose and goal.

In Sasumua, through funding support from the World Bank and in collaboration with communities, site-and national-level partners, PRESA finalized technical studies on watershed delineation, land degradation assessment, land tenure and land use mapping, hydrological modelling, water quality assessment and environmental auditing. Using these results ICRAF worked closely with partners and specifically Water Resources Management Authority (WARMA) to formulate a catchment management plan. This is ongoing and is led by the Sasumua Water Resource Users Association. Trade-offs analyses were undertaken using the polyscape model. Identified hotspots provided the basis for targeting interventions including the identification and adoption of sustainable land management practices. These are expected to benefit the

farmer in terms of improved production. The bringing together of farmers' groups will also enhance collective action and learning as well as social capital that is required for implementation, self monitoring and evaluation. The scoping of PES initiatives in Sasumua catchment is part of a larger World Bank-Government of Kenya project on sustainable land management project which is implemented by the Kenya Agricultural Productivity Project Secretariat (KAPP Secretariat). BESSA case studies on poverty assessment will ensure that the design and implementation of pro-poor PES will be based on solid scientific evidence.

In the Nyando and Yala River Basins, ICRAF and partners finalized and published one paper on trade-offs among ecosystem services. Ecosystem services assessment was undertaken in Nyando and Yala River basins to identify deficit areas as well as link these to land use change and sediment yield. Hotspots identified are expected to guide government and stakeholders' decisions on investments in Ecosystem restoration-PRESA project in this case has therefore provided scientific evidence to support decision making at the local, national and regional levels. The review and synthesis of PES and PES-like initiatives has provided lessons and experiences that can inform the design and implementation of reward schemes for environmental services. Ecosystem degradation in the Lake Victoria basin has been evidenced as determining the hotspots of hunger hotspots and we are currently building the case for a publicly funded PES for ecosystem restoration. This is based on the quick appraisal of PES and PES-like mechanisms. Publically-funded payments and markets for improved watershed management or ecosystem restoration would mean that farmers will potentially be rewarded but conditional upon providing a service and therefore would act as an alternative income stream for smallholders. In Mt. Kenya East site, the design of a River care program will ensure sustainable use of valley bottoms which are critical sources of both stocks and flows. The different land use options/scenarios will not only ensure improved livelihoods through adoption of less degrading land uses, but also sustain ecological functions. Since farmers will be working together social capital will be enhanced. This will promote collective action and learning amongst farmers.

Progress toward a working mechanism of payment for watershed services is relatively far advanced in the Ulugurus site in Tanzania where Care and WWF have been implementing the EPWS project for the last two years. In 2009 ICRAF focused on deepening the reverse auction work started in 2008 and ensuring that farmers sustain and plan more trees as per the contracts entered into with ICRAF. Trees planted with farmers are being monitored to ensure that they continue providing global benefits. In 2010 PRESA will explore the possibility of linking farmers to the carbon market based on experiences from Albertine Rift where Ecotrust is implementing a project on trees for global benefits. In the Ulugurus site Care is the leading institutions and PRESA continue to provide technical support and learn from the beneficiary interest on sustaining hydrological services.

In the Albertine Rift farmers who are planting trees for global benefits are already earning income from the sell of carbon stocks to buyers like Tetra Pack. PRESA is currently working with Nature Harness Initiatives (NAHI) to assess the carbon stocks in different agroforestry systems. This is expected to increase the carbon stocks available for sell and therefore lead to increased income to the farmers. However there are additionality issues that need to be addressed. PRESA is also exploring basketry as an income generating activity and exploring the use of rewards in sustaining the source of raw materials. Coffee certification is also another way of earning premiums and therefore leads to improved livelihood systems. In 2010 PRESA with Ecotrust Uganda and NAHI will expand the geographical scope of the trees for global benefits project to Central Uganda, specifically Mabira Forest and focus more on ecosystem services provided by coffee.

In the Fouta Djallon Highlands ongoing scoping study has had mining companies develop interest on ecosystem management. This is expected to inform the design and implementation of biodiversity prototype mechanisms. This will also enhance the values associated with biodiversity that will be available to the farmers.

**Objective 2:** Catalyze policy support and private-sector participation in environmental service agreements in Kenya, Tanzania, Uganda and Guinea.

**Expected outcome 2:** Private companies become increasingly involved in a range of initiatives for ecosystem management in the highlands of Kenya, Tanzania, Uganda and Guinea, including policy dialog with public agencies and fair contracts for ecosystem management.

PRESA's main contribution to policy formulation has been through informing national and regional-level debates about Reduced Emissions from Deforestation and forest Degradation through the COMESA Biocarbon initiative. Private sector engagement in Tanzania is more advanced than in any other site because of the interest developed by private sector institutions. In Kenya we have had 2 dialogs on the links between ecosystem management and business. This has improved appreciation of the critical role that ecosystems play in determining livelihood systems. In Kenya for example, PES is appreciated and government is interested in learning lessons from pilots. It is seen as offering solutions to policy failures and promoting sustenance of ecosystem services.

**Objective 3:** Provide proactive and responsive support to the dissemination and application of assessment tools, negotiation methodologies, prototype mechanisms and monitoring tools among a PRESA community of practice, including other IFAD projects, regional and national Katoomba networks, NGOs and national organizations active in the innovation of new approaches to pro-poor rewards for environmental services in the highlands of East and West Africa.

**Expected outcome 3:** Improved quality and increased number of environmental service reward mechanisms in place and operational in the highlands of East and West Africa.

Very good progress was made toward this objective in 2009. There has been very good involvement of graduate students, interns and research collaborators in the region. Securing funds from DFID for the BESSA project improved our focus on objective 1. Building on the momentum gained in 2008, the PRESA team has strengthened its communications with site-level partners and other PES innovators through a web site ([http://: presa/worldagroforestry.org](http://:presa/worldagroforestry.org)). The quarterly e-news continues to inform our stakeholders on ongoing project activities.

#### 4. Shortcomings and problems encountered in grant implementation and actions taken

Implementation of PRESA activities were delayed in some sites due to late disbursement of financial resources to our site-level partners. The contracting process started after approval of the 2009 annual work plan and budget. In 2010 we will remedy this by starting the planning process in early November of the year under review. This will ensure that the activities are discussed virtually by PRESA core team, site-level partners, IAC and IFAD. In Mt. Kenya East, GWC/ISRIC is the lead and we have worked closely with them and the MKEEP team. In the East Usambaras site, the PRESA core team with the Landscape mosaics project have undertaken a socio-economic analysis to inform the design of REDD prototype mechanism. We expected much more work but we will deepen this in 2010.

#### 5. Other events and relevant issues in the reporting period

The Africa Biocarbon Initiative has enabled the PRESA project to actively inform policy processes related to REDD. This project is implemented in conjunction with ASB and this therefore brings fund raising and research expertise to the PRESA project. All of the PRESA countries in East Africa are also COMESA member countries, hence direct collaboration with the Africa BioCarbon Initiative hold potential for significant policy impact at the regional and national levels. During the year under review, the project's coordinator also left ICRAF and the other members of the core team have taken more responsibilities in the Project. ICRAF is in the process of recruiting the Leader of the Global Research Project (GRP) 6 who will be expected to become the PRESA project Leader.

#### 6. Summary and recommendations for follow up

Overall the PRESA project is expected to realize the full implementation of project activities planned for 2009. In 3 months time, good progress will have been made in the implementation of project activities. Remedial measures are being put in place to ensure that the short comings listed in section 4 above are being overcome. The PRESA core team has proposed an IAC Scientific Review Sub-committee that will ensure

production of high quality international public goods (IPG). Thomas Yatich with the rest of the core team, site-level partners will work together to ensure early planning for the project and therefore early disbursement of resources and implementation of project activities.