

# **THE EAST & SOUTHERN AFRICA KATOOMBA GROUP**

## **PAYMENTS FOR ECOSYSTEM SERVICES (PES) IN EAST AND SOUTHERN AFRICA: ASSESSING PROSPECTS & PATHWAYS FORWARD**

*Consultant:*  
**Samuel Mwangi,**  
*CBD, National Museums of Kenya,  
P. O. Box 40658-00100,  
Nairobi, Kenya*

*Email: [smmwangi@gmail.com](mailto:smmwangi@gmail.com)*

# **PAYMENTS FOR ECOSYSTEM SERVICES (PES) IN EAST AND SOUTHERN AFRICA: ASSESSING PROSPECTS & PATHWAYS FORWARD**

## **Introduction**

The Kenyan demographic profile, as with other less developed countries, shows a preponderance of a population highly dependent on ecosystem services. Most of the people live in the rural areas, with most barely eking out a living as subsistence farmers or pastoralists. Although clear and up to date information is not available, there has been a continuing decline in land cover brought about by desert creep, land and forest degradation, changes in land use and rapid urbanisation.

These changes in the environment have wrought tremendous pressure on resource dependent communities. Among a myriad of issues, these people face water stress (less than 1500m<sup>3</sup>/capita/year), and this is further threatened by pollution from agricultural runoff, sewage and industrial discharge into existing water bodies. Considering that about 80% of water extraction in Kenya (FAO) is for agricultural purposes means that these communities often have to resort to other sources of livelihood, which frequently means that their reliance on non-agricultural ecosystem resources increases, often in unsustainable ways.

Payments for Ecosystem Services (PES) offer a possibility for addressing some of these environmental concerns. Although the profiles of many of these projects do not indicate characteristics of classic PES models from other regions of the world, they nevertheless show elements that constitute what could arguably be payments, whether in cash or in kind. In general, some of the problems realised during the inventory include:

- Scanty market information;
- Lack/poor technical and scientific information;
- Limited capacity and institutional experience in PES;
- Inadequate/lack of enabling legal frameworks; and
- Lack of existing business models.

## **The Forest Act (2005): opportunities and prospects**

The Kenyan forests have been under the management of the Forest Department under the Ministry of Environment and Natural Resources. This was reviewed and in 2005 the Kenya Forest Service was formed under the new Forest Act (2005). This was done with the recognition that approximately 10% of the entire population (approximately 3 million people) live within a 5km radius of a forest in the country, which makes them primary stakeholders in the management of the forests and hence the need for their involvement in management.

The Forest Act (2005) makes it mandatory that all forests in the country be managed under an approved management plan. As a result, the Forest Service has developed a manual for the development of participatory forest management plans, which are meant to enhance the effectiveness and sustainability in forest management. The stated vision is

to improve forest management, conservation and livelihoods of forest adjacent communities and other stakeholders. The vision encapsulates an ambitious desire by numerous stakeholders in the forest sector that “..... *ensure forests are conserved and managed in a way that meets the needs of the present generation without compromising the rights of the future generations by safeguarding forest biodiversity and environmental benefits from them*” (Manual on Preparation of Participatory Forest Management Plans).

A Strategic Environmental Assessment (SEA-Forest Act) carried out on the Forest Act by the World Bank indicated that since the population living adjacent to forests (sometimes inside forests) is rapidly increasing, there is a great strain on scarce resources leading to local unrest and attempts to provide short-term political solutions that do not address the underlying causes of poverty (SEA-Forest Act). The SEA highlights three areas where priority for action exists:

1. Strategic management and planning of the Kenya Forest Service
2. Enabling community participation and benefit sharing
3. Enhancing both public and private investment to enable sustainable forest management.

The underlying elements that must be included in ensuring these three areas are successfully accomplished include:

- Enabling transparency and accountability in environmental governance;
- Ensuring proper strategic planning of the environmental resources, and
- Realising the economic value of these resources.

In order to enhance investment in the sector (the third pillar in the list of priorities), the right mix of private/public partnerships ought to be sought so as to enable sustainable management. This will involve creating an enabling environment for

- Individual, community and corporate investment
- Citizen, civil society and corporate participation in forest management
- Creating or enhancing institutional partnerships
- Strengthening participatory governance

The SEA-Forest Act resulted in a policy action matrix that summarised the key findings, and breaks down these priority areas into specific actionable issues. Of note is issue number 24, copied here in full:

Policy & Action	Milestone (including time-based milestone)	Indicative list of stakeholders to be involved	Expected outcome	Status
<b>24: Arrange payment for environmental services and valuation of ecosystem service</b>				
<b>24.1</b> Undertake a study to quantify the nature & value of environmental services, establish what is practical to be achieved and approve a design and best practice methodology	<b>24.1.1</b> case study to be completed by December 2009	KFS, NEMA, Ministries of Finance & Water, local & municipal authorities, research bodies, private sector, bureau of statistics.	Environmental services costed	-o-
<b>24.2</b> Set up pilot study to build on existing experience & establish appropriate scales of charges. Decide who should pay the costs and how the revenue is to be collected & shared.	<b>24.2.1</b> Undertake pilot study on valuation, revenue collection and benefit sharing	KFS, NEMA, Ministries of Finance & Water, local & municipal authorities, research bodies, private sector, bureau of statistics.	Pilot study completed and findings disseminated	-o-

The willingness by the Forest Service in carrying out pilot studies in carbon and biodiversity payments offers a good opportunity for the country and the region in possible partnerships between a public agency and the private sector. It is envisaged that by 2009 the Service will be ready to implement large scale projects in carbon and biodiversity, and work in partnership with others in water conservation.

### **Water**

The Water Act 2002 is the legal framework that guides the development water sector. Under the Act a Water Services Trust Fund was established in Kenya. The Fund derives its formal mandate from Section 83 of the Act and it aims to harness financial resources for the sector.

In the face of a mainly ambivalent and unresponsive water management system in the country, the Trust Fund offers the possibility for stakeholder to implement innovative programmes that can bring on board the central government. Through this the opportunity for inclusion of Payments for Water Services (PWS) can be devised and implemented. This is especially important to note since Kenya has not had a successful PWS in the past, and the current ongoing projects are mainly funded by donors to certain extents.

<b>CURRENT PES SCHEMES IN KENYA</b>		
	<i>Name of Project</i>	<i>Market Type</i>
1	Bamburi-Lafarge Fuel Conversion	Carbon
2	Arabuko Sokoke Forest management and Conservation Project	Biodiversity
3	Kwale Forestry Project	Carbon, Biodiversity
4	Machakos & Kitui Local Community Forest Initiative	Carbon
5	Amboseli project	Biodiversity
6	Narok Conservation and Drought Recovery Programme (NCDRP). Water Kikuyian Water Project Water Narasha Iseneto Water Pipeline Project Water Ewasso Nyiro South Development Authority (ENSDA)/ Mau Forests Project (COMEFOM) Biodiversity	
7	Shompole Ecotourism Development Project	Biodiversity
8	Reto-o-Reto (Help me, I help you project) or the Kitengela Wildlife Lease Programme	Biodiversity
9	Mount Kenya & Tana Basin Payments for Water Services	Water
10	Lake Naivasha Watershed Management Project	Water
11	Sasumua Water Treatment Plant project	Water
12	Kinangop Grassland Project	Biodiversity
13	Kikopey Water and Conservation Project	Water
14	Il Ngwesi Group Ranch In Partnership with Lewa Wildlife Conservancy	Biodiversity
15	Lake Bogoria Catchments Management Programme	Water
16	Western Kenya Integrated Ecosystem Project	Water

Notes

- 1) Projects listed under number 6 above fall within one district, Narok, Rift Valley Province, and hence are put in one box.
- 2) Some projects have a wide coverage, and hence their location cannot be marked onto a map. These include the Protected Areas Project, various projects by ICRAF such as PRESA and the Ecosystem Services of Shade Coffee project.

<b>CURRENT ECOSYSTEM SERVICE PAYMENT OR MARKET</b>  <i>List specific in-country ecosystem service projects under each of the categories below.</i>	<b>WHO IS THE BUYER?</b>  <i>List name(s) of both key contact people and government agencies, companies, etc.</i>	<b>WHO IS THE SELLER?</b>  <i>List both name(s) of people and/or community organizations</i>	<b>(A) WHERE IS THE PROJECT LOCATED?</b>  <b>(B) HOW MUCH AREA INVOLVED IN AGREED DEAL (HECTARES)?</b> <i>Include name of village and/or province</i>	<b>(A) HOW IS THE DEAL STRUCTURED?</b>  IS THE DEAL: <i>(A) A gov't payment?</i> <i>(B) A private deal?</i> <i>(C) open trading?</i>  <b>(B) WHAT CONSERVATION MANAGEMENT PRACTICES REQUIRED?</b>	<b>(A) WHAT IS THE VALUE / AMOUNT OF THE DEAL?</b>  <b>(B) HOW DO PAYMENTS FLOW FROM THE BUYER TO THE SELLER?</b>  <i>Provide a brief explanation.</i>	<b>WHAT ARE THE ROLES OF THE INSTITUTIONS ENGAGED IN PAYMENT SCHEME?</b>  <i>List all institutions involved (including intermediaries ) and briefly explain roles.</i>	<b>DATE DEAL AGREED?</b>  <i>List date contract or agreement signed.</i>	<b>STATUS IN 2005 OR 2006?</b>  <i>State if in operation, planning phase, etc., and whether payments made.</i>
<b>MATRIX 1 (PROJECTS REVISITED)</b>								
<b>Machakos &amp; Kitui Local Community Forest Initiative</b> <i>Carbon</i>	Bureau of Environmental Analysis International.	Local communities , community based organisations	Not available	Not available  Measures: Forestation projects	Not available	BEA International: facilitator and	Not available	Ongoing
<b>Kwale Forestry Project</b> <i>Carbon, Biodiversity</i>	Not available	Not available	Not available	Not available	Not available	-	-	Planning
<b>Arabuko</b>	KNH-NABU,	Local communities	Arabuko Sokoke	Government deal,	Total value is not	The project is	2002	ongoing

<p><b>Sokoke Forest management and Conservation Project</b>  (Biodiversity)</p>	<p>USAID, Birdlife International, WorldWide Fund for Nature and Nature Kenya</p>	<p>adjacent to the forest, local authorities.</p>	<p>Forest, Kilifi.</p>	<p>with support from partners (there are several sub-projects with different outputs within the overall project framework).  Measures include afforestation, reforestation, forest management, Agroforestry and biodiversity conservation.</p>	<p>available.</p>	<p>being implemented by a consortium of agencies such as the national Museums of Kenya, Kenya Forest Service, Kenya Forestry Research Centre and local community groups under the aegis of the Project Implementation Team.</p>		
<p><b>Reto-o-Reto (Help me, I help you project) or the Kitengela Wildlife Lease Programme</b> <i>Biodiversity</i></p>	<p>International Livestock Research Institute (ILRI), The Wildlife Foundation, Friends of Nairobi National Park, African Wildlife Fund, GEF, USAID, Belgian Govt.</p>	<p>Kitengela Landowners Association (KILA), Kenya Wildlife Services, Olkejuado County Council.</p>	<p>The location is in Kajiado District, Rift Valley Province.  Total area covered by project is approx 2456 sq km, but the actual lease is aimed at 60000 acres of land.</p>	<p>Private deal, between the amalgamation of wildlife conservation organisations under The Wildlife Foundation and the individual farmers, local and national governments.  The Conservation measures include: Identifying and isolating approx 60000 acres of land,</p>	<p>Initial funding of US\$ 480000, based on US\$8 per acre of land per year.  The funds are paid to the members who volunteer into the scheme, who become members of the KILA.</p>	<p>The implementing agencies have linked up to form the Wildlife Foundations, which offers payments to the farmers involved in the lease programme.</p>	<p>November 2000</p>	<p>Ongoing</p>

				and removing fences to provide corridors for wildlife.				
<b>Kinangop Grassland Project</b> <i>Biodiversity</i>	Nature Kenya, Darwin Foundation, Community Development Trust Fund (CDTF)	Friends of Kinangop, Local community	Northern Kinangop, Nyandarua District, Central Province, Kenya. Approximate area = 72000 ha	Private deal, individuals' own land.	Conservation management practice is to leave land uncultivated, and encourage growth of grassland and shrubs to support nesting sites of birds ( <i>Sharpes Longclaw</i> ) endemic to the area, and also support sheep rearing. Overall objective is to increase land cover suitable for forages by both the birds and sheep, by reducing land under cultivation. Community is	The agencies provide support in terms of capacity building, provide money for sheep buying and also assist in marketing for wool shorn from the sheep. Darwin Initiative: providing support for monitoring of the IBA. BCP (Biodiversity Conservation Programme) of the Community Devt Trust Fund supports the community in income generating activities, such as wool production,	2003	Ongoing

						beekeeping etc. Nature Kenya: conducting the technical work, management, monitoring, etc, April 2003 Project in operation, payments (in kind) have been ongoing since inception. Part of this is in supporting the community in access to water by digging boreholes.		
<b>Western Kenya Integrated Ecosystem Project</b> <i>(water)</i>	Kenya Government, ICRAF, Kenya Agricultural research Institute	Local communities	Western Kenya, in the Nyando, Nzoia and Yala Basins (largely the Lake Victoria Basin).	The deal is both a government and donor deal.  Measures include soil and water management. The aim is to reduce erosion and agricultural pollutant runoff into the Lake Victoria.	Total value is unavailable.  Communities receive support to implement lessons obtained in the work.	Funding is by the World Bank, directly to the implementing bodies (ICRAF & KARI). Various government bodies provide thematic leadership, with research components	2006	Planning

						developing evidence on soil and water management both on-farm and off farm.		
<p><b>Shompole Ecotourism Development Project</b></p> <p><i>Biodiversity</i></p>	<p>Shompole Community Trust) Kenya Wildlife Service, African Conservation center, Art of Ventures</p> <p>Contact person: Yusuf Ole Petenya</p>	<p>Shompole Community Trust board of Trustees, Shompole Group Ranch and the general community, Maa Oleng Ltd.</p>	<p>Shompole Location of Magadi Division – Kajiado District – Rift-Valley Province.</p> <p>Acreage; 62,689 ha.</p>	<p>Private deal</p> <p>Joint partnership between a private investor and the Community</p> <p>Measures include setting up of an exclusive conservation area – 10000 ha, planning of grazing patterns and security patrols for wildlife / people, Conservation of biodiversity in general is being undertaken in the area.</p>	<p>Total value is unavailable.</p> <p>In exchange for payment, the community provides services to clients who visit to view game, scenic landscapes, and spend their nights at the lodge.</p>	<p>African Conservation Center – offers technical assistance on conservation issues to the project; Kenya wildlife service – advises on matters of policy and law; Art of Ventures – markets, manages the business operations on behalf of Maa Oleng Ltd. Shompole community Trust – manages the conservation area, receives all the funds from the tourism facilities and</p>	<p>Agreed; 2001 for a period of 15 yrs Very operational and payments are done on monthly basis.</p>	<p>Ongoing</p>

						undertake all social development projects on behalf of the community; Ford Foundation, EUBCP, TTF – are donors (offers financial aid)		
<b>Amboseli project</b> ( <i>biodiversity</i> )	UNEP/ UNDP, FAO	Amboseli Park, Group Ranches, Local Community	Amboseli, Southern Rift in Kenya and Northern Tanzania.  Exact acreage unavailable	Private deal between agencies and local Community organizations. Agencies support local community groups and group ranches in Kenya and Tanzania to reforest their landscapes and improve biodiversity, including watersheds. Biodiversity targets developed with consultation with communities.	Total amount of the deal unavailable.	UNEP/UNDP are the project facilitators (GEF), whereas FAO is the implementing agency.	2005	Planning
<b>Protected Areas Project</b>	UNEP/UNDP	Local Communities in Kenya, Uganda, Philippines and Thailand	Protected areas in Kenya, Uganda, Thailand and Philippines.	Private deal.  Support vulnerable	The total value of the deal is unavailable.	The deal has not been effected. PES the scale of the deal is very large.		framework developed bu

<i>Biodiversity</i>				local communities in terms of assessment of biodiversity costs versus benefits, especially in terms of costs of conservation	The deal has not been effected yet		
<b>Il Ngwesi Group Ranch In Partnership with Lewa Wildlife Conservancy</b> <i>Biodiversity</i>	Kenya Wildlife Service (KWS), Lewa Downs conservancy, group ranch (community), Equator Initiative.	Il Ngwesi group Ranch and its partners	Laikipia, Rift Valley Province in Kenya.  16,500 hectares	The deal is a private deal.  Measures include Conservation Management: control of grazing and fire regimes.	Total value of the deal is unavailable. Direct benefits to the community through jobs, and bonus income from the lodge.	Il Ngwesi manage the project in partnership with Lewa Wildlife Conservancy. Funds come from the Equator Initiative which is a partnership between the United Nations Development Programme and BrasilConnect s, the Government of Canada, the International Development Research Center (IDRC), Television trust for	It has been in operation since the early 1990s.  Ongoing

						Environment (TVE), and the United Nations Foundation (UNF).		
			<b>MATRIX 2 (NEW AND UNDOCUMENTED PROJECTS)</b>					
<b>Osentu Agroforestry &amp; Ecotourism Project</b>  <i>Carbon</i>	Olosho Onyok Association, Kenya Forest Service & GreenBelt Movement. Contact: Joseph ole Mpoe, P. O. Box 34 Narok	Local communities through three community based organisations	Narok River Basin, Narok District, Rift Valley Province	Government Payment for reforestation and carbon credits (funded through the CDM office).  Measures include: 1)tree planting along river basin 2)control of over exploitation of natural resources by provision of seedling and community forestry 3)promote eco-tourism through demarcation of conservation zone	Funds are distributed directly to the implementing groups: they purchase seedlings and distribute to the people for free, keeping records, providing oversight and rewarding the best efforts.	Olosho Onyok: provides funding; Kenya Forest Service: provides technical leadership, materials and capacity building; GreenBelt Movement: funding, seedlings, capacity building and training.	22 May 2008 for Olosho Onyok funds, Oct 2007 for Kenya Forest Service	-
<b>Bamburi-Lafarge Fuel Conversion</b>  <i>Carbon</i>	Lafarge International, Bamburi Cement Company Ltd. Contact person Ms. Sabine Bear.	Manufacturing Plant, local communities.	Kenyan Coast (Mombasa and outlying districts)	1) The manufacturing plant is implementing conversion to coal to reduce carbon emissions. The fuel to be used will be firewood. 2) the company is implementing a project to support	Ksh 100 million (Approx US\$ 1.5 million).  The local communities are getting seedlings and getting educated on tree husbandry. When full conversion is	Lafarge company is bearing carrying out the project.	2007	-

				local communities to grow tree stands on their farms, which it will purchase at premium prices for use as fuel for its plants.	done the tree will be paid for at commercial rates.			
<b>World Agroforestry Centre (ICRAF)</b> <i>(bundled)</i>	Various (mainly study projects in technical areas of Carbon, few instances of actual implementation.  Lou Verchot, P. O. Box 30677-00100, Nairobi, Kenya.	Local communities and collaborating organisations (usually CBOs)	Various	Electronic guides for land/carbon surveillance, project targeting, measurement and monitoring of soil, vegetation & socio-economics in landscapes, capacity building.	Not available.	ICRAF leads multi-disciplinary teams in research in this full ecosystem accounting (including for soil carbon, trees outside the target area. The ICRAF also hosts the ASB partnership which working along various themes (Dr. Brent Swallows is the Global ASB coordinator).	-	-
<b>Ewasso Nyiro South Development Authority (ENSDA)/ Mau</b>	Spanish Govt, GEF (UNEP), GreenBelt Movement, Kenya Forest	Local Communities (thru 12 environmental committees),	In Narok District, Rift Valley District  Total Area	Conservation measures required include reforestation, increasing forest	The total amount of the deal is KSh 90 million (US\$ 1.45m).	Narok County Council: Marking the forest boundary &	October 2007	-

<b>Forests Project (COMEFOM)</b> <i>Biodiversity</i>	Working Group, Narok County Council		covered is 46278 hectares	cover on people's land adjacent the forest, regeneration of indigenous forest, briquette making from wood by-products, bee keeping and keeping of dairy goats.	Payments flow directly from the project donors to the implementing agencies and committees.	Capacity Building Friends of Mau: Mobilising communities, liaison; Kenya Wildlife Services-management of wildlife and protected areas; Kenya Forest Working Group: Capacity building of the project implementation committees; ENSDA: technical support and project management		
<b>Ecosystem Services of Shade Coffee</b> <i>Biodiversity</i>	ICRAF, Starbucks and African Wildlife Foundation.	Local communities in Central Kenya Highlands.	Central Province, Kenya.	Private Deal.  Measures are targeted towards developing a system for coffee certification	Not available	To be updated (tbu)	-tbu-	-tbu-
<b>Subukia Garden Biodiversity</b>	WWF through, LBICMP	Subukia Garden-Subukia location	Subukia escapement forest, Subukia Nakuru	A private deal Measures include;	Not available.	WWF Funded and offered technical	2002	Ongoing

<b>project</b> <i>Biodiversity</i>	Contact person Musila Musonye Fabian WWF LBICMP Box 33-20100 Nakuru	Contacts Rev Philip Kinuthia Ngugi Subukia garden Box 114 Subukia Tel; 0725 8822111	District, R. Valley province in Kenya.  The covers <b>30 Acres</b> , remnants of the Subukia escarpment forest	Planting of more indigenous tree species in the park  Protection of endangered plants and animals in the park/garden.		support, capacity building and training, Market Subukia garden to tourists through brochures and media, also find market for artifacts and materials.		
<b>Lake Naivasha Watershed Managemet Project</b>  <i>Water</i>	Upstream Water Users, WRMA, WRUAs  Contacts: R. Ndetei, WWF, <a href="mailto:RNdetei@malewa.wwfearpo.org">RNdetei@malewa.wwfearpo.org</a>	Downstream water users, Others		Private Deal.  Influence land use changes for quality water management, market access and credit.	US\$ 450000  Payments are made by downstream users and targeted to upstream users to meet particular objectives.	WWF & CARE:  Provide funds, facilitate the discussions and negotiations between upstream and downstream users, water resource management authorities.	2006	Ongoing
<b>Narok Conservation and Drought Recovery Programme (NCDRP).</b>  <i>Water</i>	Church World Services (CWS)  Contact Mary Obiero, Tel: 0728 606481, E-mail:	28 women self help groups and 10 youth groups.  Contact Person <b>Joseph Ole Pareyio</b> NCDRP, Box 940-20500	In Narok District, Rift Valley Province.  Total area covered approx 2603 sq km.	Private deal between the CWS and the local community groups.  Management measures include 1)Tree planting	Total Value is Ksh 33.7 million (US\$ 480000)  Funds are directly sent to CWS	1)Arid lands office, Narok- They offer technical support such as Hydrological surveys	Date deal was agreed 2008 for the next four years  Project status NCDRP has been operational	Non- operational

	<a href="mailto:mobiero@cwsea.org">mobiero@cwsea.org</a>	Narok E mail: globdicom@kenyaweb.com		around some water points 2)Establishment of tree & reforestation in degraded areas. 3)Dams construction to collect water from runoff during rainy season. 4)Protection of Oloosokon River Basin (Wuaso Nyiro River).	regional office in Nairobi, the CBO therein receives program funds in a quarterly basis (3 months) depending on the work plan and activities.	2)Farming system-Community capacity building and training on agro-forestry 3)District Forest Office, Narok-Afforestation activities	since 2002.	
<b>Kikuyian Water Project</b>  <i>Water</i>	The World Bank (thru the National Arid Lands Resource Programme); Contact Dr. J. L. Langat, P. O. Box 554-20500, Narok.	Local community thru their community based organisations; contact: Chairman, Peter Kasimoto, Tel: 0724110628	Nairage Enkaare in Narok District, in Valley Province.  Total Area covered is approx 10 ha, catchments for 4 sq km of land.	The deal is a government deal.  Measures include: tree planting; piping to user points; perimeter fencing around the 10 ha of land; gantry; rehabilitation of degraded areas	The total value of the project is KSh 1.4 m, approx US\$ 22600 (he use for this money was for drilling borehole, purchase of generator and installation	The Arid Lands Office manages the funds from the World Bank and passes the same to the local community. Payments are in kind, basically the provision of water, for which the community plants trees and rehabilitates the land.	September 2006 (for the first phase, the other two phases later)	Ongoing
<b>Narasha Iseneto Water Pipeline</b>	The World Bank (thru the National Arid	Narasha Iseneto Water Pipeline Project	Suswa in Narok District, Rift Valley Province.	Govt deal	The total is valued of the project is Ksh 781,220	KenGen-supplied materials for	2006	Operational

<b>Project Water</b>	Lands Resource Programme); Contact Dr. J. L. Langat, P. O. Box 554-20500, Narok.			Measures include: tree planting; piping to user points; perimeter fencing	towards trenching, piping and labor. KenGen supplied pipes worth Ksh 2million.	water piping, Water department-offered advice, design & planning Arid Lands office- Funded the project Community and local administration offered labor and land.		
<b>Sasumua Water Treatment Plant project Water</b>	World Bank and ICRAF (contact person Spagiola Stefano (WB) and Brent Swallows (ICRAF), Nairobi Water Services and Sewerage Company and Athi River Water Services Board.	Local Communities in the catchment area of Sasumua River.	Sasumua in Murang'a District, Nairobi, Kenya.	Private deal (in process of scoping before being implemented).  Measures include reduction of contamination (which accounts for approximately US\$ 100000/yr to clean up) and sedimentation (which accounts for approx US\$ 50000 to clean up per year).	Not available	World Bank : funds, ICRAF: technical evaluation and scoping; Athi River and Nairobi Water Services Companies: payments for water services through the users, National Water Services Boards: regulation and policy.	-	-
<b>Kikopey Water and Conservation Project Water</b>	The project is funded by the Naivasha constituency development funds.	Maji moto self help group through Kikopey water project.  Contact Person,	The project is located in Naivasha District, Rift Valley Province in Kenya	Gov't deal  Measures include; Protecting the water catchments. Protection and	The total valued of the project is Ksh 350,000 (US\$ 5000)  Payments are	Roles unclear as implementation is by a committee	2003-2004	Non operational

	Contact person, Mr Anthony Muhui DDO- Naivasha District Tel: 0721 644 824	Former CDC Secretary 0720341617	The area covered is 100 hectares.	conserving biodiversity around the protected area, ensure water flow downstream to stem water resource conflicts, create an ecotourism infrastructure.	made in kind, through provision of water and sometimes, in cash for labour.			
<b>Lake Bogoria Catchments Management Programme</b>  <i>(water)</i>	W.W.F  Contact person Musila Musonye Fabian Project executant WWF LBICMP Box 33-20100 Nakuru  Email ebogoria@wana nchi.com	Lake Bogoria Environmental Committee, (CBO) and local residents.	The project is located in Nakuru District of Rift Valley Province in Kenya.  The project covers entire Lake Bogoria. The lake covers an area of 34 km <sup>2</sup> . Lake and its catchments basin is about 1200km <sup>2</sup>	Measures include Tree planting around the catchments area, establishment of pan dams, Protection of the water catchments area.	Not available	County Council of Koibatek to build capacity among grass root environmental management committees within Lake Bogoria and its environs Lake Bogoria Water Resource Users Associations that coordinates the activities of the grassroots environmental management activities.	July 2007	Operational
				<b>Matrix 3: Future Projects</b>				
<b>Mount Kenya &amp; Tana Basin</b>	GreenWater Credits	Local Communities, downstream users of	Mt Kenya, Tana Basin.	This is a private deal, with	Total amount of deal is unclear	To be updated (tbu)	(tbu)	(tbu)

<b>Payments for Water Services</b> <i>Water</i>	IFAD	River Tana and local institutions	The Area to be covered is unclear.	opportunity for government and other players to enter.  Measures to be effected are unclear.				
--	------	-----------------------------------	------------------------------------	--	--	--	--	--

## **CONCLUSIONS**

Although the PES effort has mainly been concentrated on a few players with the technical know-how and the willingness to forge ahead in the absence of suitable vehicles (such as for transfer of benefits, poor market information and the difficulty of making a business case), there is a growing awareness and willingness by government officers to adopt the PES model, especially as pilots. Many of the existing initiatives are studies funded by donors or research bodies, and it is envisaged that successful modelling can offer lessons for scaling up of PES in the country.

This willingness can only be effective only when implementation by the few experts in the area carry out parallel activities aimed at building capacities in institutions charged with biodiversity management in the country. Considering the growing expertise in the sciences needed to provide rationale for interventions or conservation, it is imperative also to educate these individuals about the need for an alternative view of payments for ecosystem services. An appreciation about this could engender more experimentation and action-by-learning models, which would create a diversity of examples to provide possible business models for replication.

## ***REFERENCES:***

Avishi, J., Mutie, J.M. & Walubengo, D. 2006. Economic Potential of Forests in Kenya. Forest Action Network.

Draft Forest Policy (Sessional Paper No. 1 of 2007), Kenya Forest Service. Government of Kenya.

Ferraro, J. USAID/SANREM CRSP Working Paper No. 08-07. Regional Review of Payments for Water Services: Sub Saharan Africa.

Forest Act 2005. Kenya Forest Service, Government Printer, Nairobi, Kenya

Manual on Preparation of Participatory Forest Management Plans (PFMPs), Kenya Forest Service & Kenya Forest Working Group. 2007.

Strategic Environmental Assessment of the Kenya Forests Act 2005. The World Bank, 2007.