



Stakeholders' meeting: Structuring rewards for environmental services in Sasumua

**Venue: Lundgren Auditorium,
World Agroforestry Centre (ICRAF) Headquarters, Nairobi—Kenya
Tuesday, February 22, 2011**

Stakeholders' meeting objective:

To explore different ways of having a payments for environmental services (PES) mechanism while working with Water Resource User Associations (WRUAs), the Water Resources Management Authority (WRMA), Water Services Trust Fund (WSTF), Community Based Organizations (CBOs) among other stakeholders.

Introductions

Sara Namirembe, PRESA Coordinator, opened the meeting at 10:40 am. Those present were asked to introduce themselves.

Presentation by Prof Mwangi Gathenya

The presentation was titled, '*Rewarding upland farmers for environmental services in Sasumua watershed.*'

The Sasumua watershed, whose surface area is approximately 107km² is densely populated. There is intensive commercial agriculture. Water yield from the catchment into the reservoir is highly seasonal. Problems experienced in the catchment are:

- Woodlots and wetlands converted to agriculture
- Forest encroachment: this is now under control
- Conversion of agricultural land into commercial plots
- Wetlands, river banks and drainage waterways are used for cultivation.

The impacts of these activities on the watershed are:

- Reduced dry season flows
- Increased wet season surface runoff
- High sediment load
- Presence of chemical and biological pollutants:
 - Heavy metal pollutants (lead) noticed in levels close to danger limits
 - High microbial pathogen counts in raw water especially near town centres

Agricultural Best Management Practices (BMPs) can enhance water quality and flow. These practices are: terraces, contour farming, grass filter strips and grass waterways.

Prof Gathenya gave the estimated costs for 1,000 farmers implementing the proposed best management practices. It came to Kshs88,000,000 (US\$1,100,000). During implementation,

the farmers could provide labour while the beneficiary (such as the water company) provides materials and technical staff costs. The implementation can be phased, for example, over 5 years so as not to burden the buyer of watershed services.

What is to be gained via a PES approach?

- Mutually beneficial partnerships between land owners and water service providers
- Sustainable watershed management
- Improved household wellbeing
- RES (Rewards for Environmental Services) is more than corporate social responsibility because it is conditional and based on binding contracts.

Prof Gathenya emphasized that the PES/RES approach should be about direct payments to farmers with funds from either or both the Nairobi City Water and Sewerage Company (NCWSC) and the Water Resources Management Authority (WRMA). However, like other water service providers, NCWSC faces several challenges including:

- Burdened with multiple levies – they may view RES as another burden
- Poor financial base
- Governance issues
- Water scarcity
- High rates of unaccounted for water
- Increasing water demand
- Poor infrastructure and high investment costs
- Inefficient service provision
- Inadequate management and technical capacity

PRESA could provide technical support to WRUA to develop a proposal for RES to WRMA and Water Services Trust Fund (WSTF). PRESA can provide scientific evidence and monitor the conditionality of RES. Meanwhile, CARE/WWF implementing PES in Naivasha can provide capacity support to WRUAs for developing and managing contracts with land owners. Issues generated from RES pilot sites to influence policy support for up-scaling RES

Discussion

Patrick Githinji (NCWSC) was concerned about the accuracy of data showing pollution levels and costs of water treatment. Gathenya explained that the data was from the company's own records.

Maria Notlay (Water Services Trust Fund) asked whether the data collected so far shows any trends in the relationship between land use change and variations in turbidity (sediment content in rivers). Prof Gathenya said that he and his colleagues had been collecting data for the previous six years and that this was not long enough to decipher trends.

On pollution of runoff water, Gathenya said that most of the pollutants seem to be coming from roadsides rather than farms. Githinji said that it is only the National Environment Management Authority that has the legal mandate to enforce laws regarding waste disposal by roadside garages, market centres, farms and so on. The NCWSC has no legal mandate to do the same. The Water Resources Management Authority (WRMA) regional head said that the problem of pollution was serious. He called on enhanced data collection specifically on organo-chlorines and pesticides. He also warned about the use of manure as part of sustainable land management practices, saying that excessive use of manure could be just as bad as using chemical fertilizers.

Robert Ndetei (WWF) brought up issues of land zoning due to the fact that a lot of land in the watershed is being converted from agricultural to commercial use (rental buildings, garages, petrol stations, etc) with no provision for urban waste disposal. Cities and towns change the geo-hydrological characteristics of an area. In terms of PES, it is easy to engage with farmers but how do you engage with urban land users? It is therefore important to involve town planners as well.

Githinji was asked if Nairobi Water has conservation activities. He confirmed this to be the case, saying that the company conserves reserve land around the dams. In 2010, the budget for this activity was Kshs6 million (US\$75,000) with more funding proposed for 2011. Conservation of areas outside the dams' reserve is the mandate of other agencies. Githinji proposed that a well-thought out document be written to the water company's chief executive and the board of directors in order to convince them on the case for PES at Sasumua. A copy of the same document should be sent to the Ministry of Environment.

Henry Kamunge (Ministry of Water and Irrigation) asked Githinji whether Nairobi Water carries out research activities. Githinji replied that there are no immediate plans for that.

During the discussion, it emerged from the data that the costs of sustainable land management practices are far lower than the cost of building or repairing water infrastructure. WSTF said that PES schemes that incentivize sustainable land management measures have been used in other parts of the world with varying degrees of success.

Githinji said that organizations that buy farm produce can put pressure on farmers to implement sustainable land use practices. He gave the example of the Kenya Tea Development Agency (KTDA) which said that it would stop buying tea from those farmers who have Eucalyptus trees close to riverine areas. The trees are said to consume large amounts of water. Farmers complied by removing the trees in order to continue selling their produce. Could milk processors employ such a tactic at Sasumua?

Isaac Muraguri, representing the Sasumua Water Resource User Association, said that local people at Sasumua need water for domestic use. Since Nairobi Water could not do it from the dam, the company could assist with rain water harvesting technologies to help alleviate water shortages. This could be by supplying plastic tanks, roofing gutters, etc.

Research studies by PRESA shows that 88% of water consumers surveyed in Nairobi are willing to pay more if they are assured of regular water supply. At the Sasumua catchment, majority of people interviewed are willing to participate in a watershed PES scheme.

Water Resource User Associations (WRUAs) should not be ignored as they are in close proximity to water sources and can monitor pollution and abstraction. These associations can help create employment if they are engaged in conservation activities. WRMA is working with and through WRUAs. In Sasumua, Nairobi Water company is expected to be a member of the local WRUA. However, since WRUA office holders are volunteers, issues of inclusion do arise. It has also been noted that many WRUAs have experienced conflict after they begin receiving funds meant for catchment conservation.

Who is responsible for PES in Kenya? Delia gave the example of Vietnam, which recently enacted a PES policy that has given a specific ministry the mandate to act as a pool for resources from the public and private sectors. This avoids duplication of efforts.

There is a danger that a PES scheme could change social behaviour, by creating an expectation of cash payments among people who were already engaging in sustainable land management practices by themselves. Mark Ellis-Jones said that PES should not

necessarily be about cash, but could also involve the provision of, for example, extension services.

Sustainable land management practices proposed in a PES scheme should be affordable to farmers. These practices should not demand heavy investment. PES scheme should include WRUAs, WRMA, Water Services Trust Fund, Community Based Organizations, and other relevant groups and organizations.

Action points

- Different types of PES mechanisms should be explored.
- Get from Sasumua a list of companies and institutions that are already working with Nairobi Water in conservation efforts.
- Gather more information regarding the proposed Water Towers Fund.

Closing

The meeting closed at about 12:45pm.

ANNEX

List of participants:

No.	Name	Organization	Email
1	Jaffer Wakhayanga	ICRAF	j.wakhayanga@cgiar.org
2	Eng. Rose Nyikuri	WSTF	rosewatty@yahoo.com
3	Hosea Mwangi	JKUAT	Pathosea2002@yahoo.com
4	Obadiah Ngigi	CARE (K)	obadiahngigi@yahoo.com
5	Delia Catacutan	ICRAF	d.c.catacutan@cgiar.org
6	Mark Ellis-Jones	Musoni	markellisjones@gmail.com
7	Isaac Karanja Muraguri	SWRUA	ismack58@yahoo.com
8	Patrick M. Githinji	NCWSC	pgithinji@nairobiwater.co.ke
9	John K. Mwangi	JKUAT	Joymwa86@yahoo.com
10	Robert Ndetei	WWF	rndetei@wwfesarpo.org
11	Maria Notlay	WSTF	Maria.notlay@wstfkenya.org
12	Sara Namirembe	ICRAF	s.namirembe@cgiar.org
13	Fred Nyongesa	WRMA	Fnyongesa05@yahoo.com
14	Henry N. Nyongesa	MWI	hkamunge@water.go.ke
15	Godfrey Mwaloma	ICRAF	gmwaloma@cgiar.org
16	Catherine Kimengu	ICRAF	ckimengu@cgiar.org
17	Gibson Mwangi Kiragu	MWI	gikiragu@yahoo.com

Rapporteur: Godfrey Mwaloma

Participants during the meeting

