The Malewa-Naivasha Sub-basin Watershed Project represents a small-scale PES project in watershed management where payments may serve as a vehicle for change in the region, offering small-scale farmers new economic opportunities, provided that they embrace sustainable agricultural practices and thus contribute to less silt load in the rivers that feed Lake Naivasha, to increase its storage capacity and reduce eutrophication.

Engaging local business in PES
Lessons from Lake Naivasha, Kenya

Overview

Environmental Services (ES) stewards in the scheme are small-scale farmers in the identified hot spots. The buyers of ES are important large-scale water users in the private sector around Lake Naivasha. The main driver of the initiative is WWF.
Together with CARE, WWF designed a holistic PES approach called 'Equitable Payments for Watershed Services' (EPWS) that explicitly aims to balance poverty reduction with watershed conservation and to do so with social justice and equity. Since 2006, The Dutch, Canada and US governments supported WWF and CARE in the implementation of EPWS project in Kenya.

The PES project in Naivasha contributes to the improvement of water quality, the slowdown of on-farm soil erosion, the reverse of forest loss, and the improvement of livelihoods through various forms of compensation and an increase in agricultural productivity thanks to the adoption of sustainable agricultural practices. In this context, it is the yield increase rather than the annual payment for environmental services that represents the main incentives for farmers to join. So far only 4% of the farmers upstream (within the two PES sites) are involved in the scheme. This challenge to upscale the project has been due to limited resources from the facilitating organizations as well limited incentives from buyers to reach out to many farmers. The low buy-in of the buyers downstream has been attributed to the fact that the watershed service is yet to be seen and upstream farmers and downstream buyers are working in trust and anticipation of availability of the adequate clean water services in future. However, as time goes, there has been massive demand from farmers to participate in PES initiative.

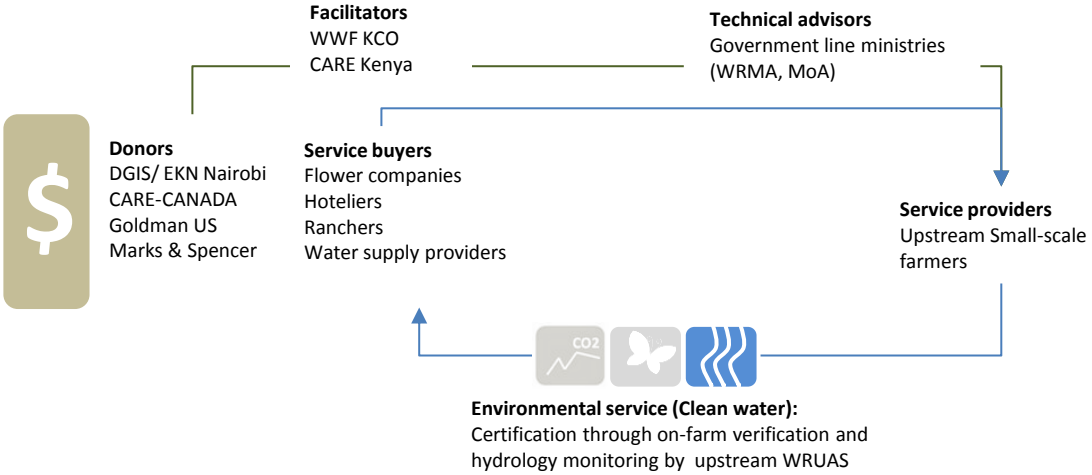

Figure 1: Schematic diagram of the key roles

Background

Negotiation

A major constraint to enhance the PES *scheme further by reaching out to all farmers in the hot spot areas of the upstream region is the fact that the WRUAs, which are providing the assistance to farmers and represent them as intermediaries in the PES scheme, are underfunded. They also have a limited capacity in terms of providing technical services as well as negotiations.*

Major specific challenges of the project *are (1) the complex and dynamic land ownership due to inheritance and land-use change, (2) the fact that degraded public lands that influence the water quality are not yet under the scheme, and (3) the absence of a specific PES policy in Kenya. Even though the Water Act (2002) obliges large-scale water users, consuming 1000 m3 or more per day, to acquire water permits and pay water use fees to Water Resource Management Authority, only a small share of these revenues can be invested to promote soil and water conservation measures catchment. The average farm size in the upstream of L. Naivasha is 0.8 hectares.*

The joint WWF-CARE project was developed in three phases. It started in 2006 with scoping and in 2007 initiated feasibility studies including a hydrological survey, a cost-benefit analysis, a livelihood analysis, a business case analysis and a legal policy framework analysis. The piloting phase started in 2008 and ended in 2011. The first payments were paid in 2010 to 470 farmers in the form of vouchers to purchase input. In 2012, the project entered its third and final phase – the scaling up phase. One of the main purposes of this phase is to enhance the participation rate of upstream farmers so that the improvements of the river water quality become measureable.

The project is part of the global WWF/CARE initiative to promote Equitable Payments for Watershed Services (EPWS) supported by The Dutch and Canada, and US governments (DGIS CIDA, Goldman-US and Mark & Spencer-UK). CARE moved out of the project in 2011 but WWF continues to support it. The WWF recognition certificate for actors in the private sector that participate in the PES scheme as buyers has been a valuable additional incentive. The project support since 2007 amounts to roughly 16.5 million Kenyan Shilling (US$ 220,000).

Two critical sub-basins were selected from five upper catchment sub-basins as pilot sites: Upper Turasha (639 hectares) and Wanjohi (4680 hectares), based on the hydrological significance to the lake, magnitude of sediment loads, population size and socioeconomic characteristics that influence the small-scale farmers' capacity to sustainably manage their lands. They are both situated in the Malewa Basin (Figure 2).

The users

The water users downstream are the buyers of the environmental service. They remunerate the farmers upstream for the adopted measures to improve soil and water conservation and thus for contributing to the improvement of the quality and quantity of water in the region. The buyers comprise water companies, horticultural growers, ranchers and hotel/tourism industry. They are all member of the Lake Naivasha Water Resource Users Association (LANAWRUA) that represents the buyers in the PES negotiations. The first payment in 2010 by downstream water users amounted to US$10,000 (Njenga & Nyongesa, 2010). Since then, three new large-scale horticulture farms (Van de berg, Flower Business Park, Beauty line), and one ranching company joined the scheme while the hoteliers proposed to participate by offering to purchase horticultural produce directly from the upstream farmers involved in the PES project, a proposal being considered for the coming years. Currently, the annual payment per farmer is US$17/year. The payment is a flat rate that applies to all PES farmers irrespective of the farm size. It was based on the amount that the involved buyers were willing to pay at that time i.e. US $ 10,000 per year.

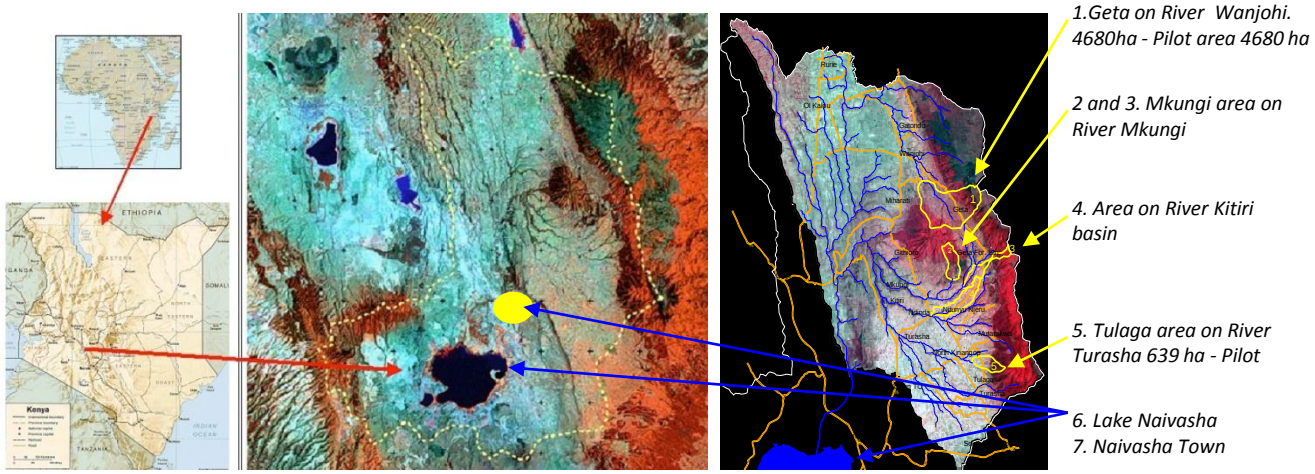

Figure 2 : Map of the PES pilot sites within the L. Naivasha basin

The PES agreement

The seller WRUAs engage in contractual agreement with the LANAWRUA on annual basis after which the payments are transfered by the buyers through LANAWRUA to the upstream WRUAs. Payments are delivered to farm households in the form of vouchers which are only redeemed through purchases of agricultural inputs in selected agro-dealer shops within the WRUAs. The decision was reached through a consultative process involving the WRUAs, communities and the project staff. The project is looking towards engaging the buyers and seller to have a long-term commitment (contract) that will incorporate market linkages for farm produce thereby enhancing livelihoods of the small-scale farmers upstream.

The providers

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In 2012, 785 farmer households in the upper catchment have become sellers of the environmental service. They make up roughly 4% of the total number of farm households in the upper catchment PES sites. With the support of WWF/CARE in collaboration with MoA, WRMA, KFS and MoLD, they implemented the following measures to improve soil and water conservation on their farm:

- Grass strips- to check soil erosion and act as filter materials
- Agro forestry along the grass strips to reinforce the grass strips and improve the effectiveness in erosion control.
- River bank/riparian rehabilitation- by planting grass and trees along the riparian areas to act as a buffer.
- Good land management practices such as cultivating along the contours as opposed to across the contours
- The involved farmers are members of the local Water Resource Users Association (WRUA). The WRUA represents them as the seller vehicle in the PES scheme.

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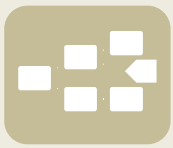
Certification of the environmental service is done locally and involves on-farm verification by the WRUAs and further by the buyers. Only the farmers who are found to have implemented the soil conservation measures (as per the recommendation of the Officers of the Ministry of Agiculture, MoA) qualify for the incentives. Hydrology monitoring mechanisms have been set up to establish trends in changes in water quality and river flow levels as the intervention measures continue. However, to date there is no significant change in hydrology that has been observed as it requires long time and consistent data to derive significant trends. The major observable change is the soil build-up on farms along the grass strips using marked soil monitoring rods. Currently, PES has built trust that has been build amongst the downstream users and the upstream farmers to deliver in future water that is of good quality to the lake and thus the businesses will reduce water related operational costs.



Ownership

The upstream farmers that provide the environmental service (sellers) have benefited from the payments of the downstream private sector since 2009 and improved their agricultural productivity thanks to the adoption of sustainable agricultural practices.

Interviews with buyers and sellers involved in the scheme indicated that all parties seem to be generally be satisfied with the way the PES scheme evolved over the past three years. They generally agree that the scheme works in Naivasha because of the presence of a strong private sector that is committed to sustainable environmental management by complying with strict market standards, creates high-needed off-farm employment and participates as buyer in the PES scheme.

Eventually, more farm land in the upper catchment has to be conserved and more buyers need to be brought on board in order to ensure the effective delivery of the environmental service.

Future outlook

The PES scheme has the potential to be used as a vehicle to create a local market for environmental goods. For the past 4 years, high value fodder crops and fruit trees have been acquired outside the PES pilot WRUAs geographical areas, thus loosing revenue that would have otherwise enhanced the livelihoods of the WRUAs and farmers in these areas. In order to maximize on the retention of revenue generated from these nurseries, WRUAs are establishing high value fodder and fruit trees nurseries business that will provide the high value conservation and livelihood materials for farmers and earn additional revenues. As milk production increases from the PES farmers due to increased fodder production on the farms, plans are underway to organize them to form dairy farming groups. These groups will form platforms with which dairy cooperatives could offer discounts on inputs in return for complying with sustainable land management practices.

Other revenues will be generated from market linkages between upstream PES farmers' and downstream hoteliers and large scale farmers to supply horticultural produce (e.g. direct purchase of the horticulture produce for staff canteen and hotels' supplies). In addition, the downstream horticulture farms could facilitate the small-scale farmers access improved production technology and information (e.g. drip irrigation kits, quality seeds) at a cheaper price thus increasing their year-round production capacity.

This would create additional incentives for the service providers to realize maximum benefits as a result of their conservation efforts. The other critical aspect in up-scaling of the scheme is a policy framework that will support such initiatives not just in Naivasha but also in other basins in Kenya. Development of the PES policy will provide a legal framework through which public lands would be conserved addressing the current degradation concerns. Finally, there is critical need to collect consistent and quality data on water quality and river flow levels for a long time to demonstrate the impact of conservation initiatives in delivering the watershed ecosystem services.

There is however a risk that off-farm employment opportunities in the region will not catch up with rural population growth rates. As a result, a large share of the offspring may decide to stay on the farm, leading to further subdivision of land. If the size of a farm falls however below the threshold where a farm household is still able to generate sufficient food and revenues to maintain a family, it will cease to be sustainable, independent of what kind of sustainable agricultural practices have been adopted. In this context, a PES scheme needs to ensure that it does not slow down structural change but rather facilitate it through more off-farm employment opportunities especially within the horticultural and dairy produce market chain (e.g. value addition projects).

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