



CASE STUDY

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Case Study

HEALTHY SOILS, HEALTHY RIVERS; FARMERS REAP REWARDS IN THE MARA

Since 2012, WWF has been working with farmers and businesses along the Mara River through an environmental initiative to benefit communities, businesses and the environment



The Mara is an important river connecting Kenya's famous Masai Mara with Tanzania's Serengeti, fusing them into one ecosystem.

© Kate Holt / WWF

Introduction

Payment for Environmental services (PES) is a scheme that sees downstream businesses support upstream farmers through economic incentives to improve the management of their farms to benefit the quality and quantity of water in the lower regions of the Mara River.

With support from the HSBC Water Programme, WWF-Kenya has been piloting a PES scheme in three villages of the Nyangores sub-catchment of the Mara River basin. To date, 42km of the Mara's riverbank has been restored with the aim to further expand the PES scheme across the basin supporting farmers and businesses.

Why is WWF working with these farmers?

At the start of the PES pilot in June 2014, 314 farmers were selected by WWF to take part in the scheme having identified their farms as being in areas most at risk to erosion due to the steep slopes along the riverbank.

On average, each farmer's household has three acres of land, of which only half is available to produce food to sustain an average family of seven. Yet due to the farm being susceptible to soil erosion, the availability of fertile soil needed for their farms to raise crops is threatened. If their farms are not maintained properly, the farmers can only produce a certain amount of food, leading to food insecurity. Downstream, users receive less water due to the soil erosion affecting the flow of the river.



Two PES farmers inspecting their plantation. Sweet potatoes are an additional crop being grown by the farmers to improve the management of the soil, their harvest and ultimately their income too.

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Through its studies, WWF identified three key businesses located downstream that rely on the resource of the Mara River - two tea factories that use the water in their tea production and a Mission Hospital, which harnesses the river to generate hydroelectric power previously being effected by the blockage of soil in the river. These businesses acted as 'the buyers' within the scheme, providing support to 'the sellers' (farmers) who would carry out the service of better managing their farms.



Napier grass strips are planted to stop surface run off

© WWF-Kenya

With training from WWF, the 314 farmers have been planting strips of Napier grass and sweet potato vines to stabilize the soil and act as ground cover. The crop also increases the yield of the farm. Steep slopes were also terraced to prevent soil erosion. In addition to this, each of the villages has a trained local committee to help sustain the initiative, providing farmers with technical support and monitoring the progress of their farms.

With the reduced soil erosion from the farms being better managed, water quality in the streams leading to the Mara River has been improved. Previously the streams were intermittent and would even disappear completely during the dry season due to the excess sediment affecting its flow.

Stories of Success

One farmer who has benefitted from the PES scheme is Mr. John Maritim, who for over 20 years has been unable to harvest anything more than two bags of beans and five bags of maize because his plantation has been wilting each year. In total, his harvest returned 20,000 Kenyan shillings on average.

“I almost gave up farming because I could barely harvest anything. The very low yields were a result of loss of soil nutrients due to perennial soil erosion.” said Mr. Maritim. His farm is one of the many areas in the upper catchment of the Nyangores River that was identified by WWF to be involved in the PES initiative.



Mr. Maritim (center), a PES farmer, inspecting his farm

© WWF-Kenya

After the first planting season after being involved in the PES scheme, Mr. Maritim was able to harvest five bags of beans and 12 bags of maize, which has returned 50,000 Kenyan shillings - a change in seasons that he will never forget. He attributes this to less fertile soil being lost through soil erosion. With Mr. Maritim's increase in yield, his household income has more than doubled with the sale of fodder (food for livestock) and this year, he expects to harvest even more.



Mr Katam installing soil monitoring boards to help measure soil runoff from his farm that would have previously found its way into the river

© WWF-Kenya

Not far from Mr. Maritim's farm, the Area Chief, Mr. Katam, reported that milk production from his two cows had doubled from four litres a day to eight litres because he has access to more fodder for his cows. As a result, his income has doubled and he is confident that milk sales from his cows will provide him with a stable income stream.

For the businesses, the Mission Hospital is benefitting in saving money that was previously costing £17k each year to unblock the sediment in its hydro-dam and improvements in river flow is also helping sustain the production of the tea factories.

Looking ahead

Through WWF's persistent progress under the HSBC Water Programme the PES scheme has since been scaled up to include 200 more farmers, now totaling 514 people spanning more than 945 acres of land.

The 514 farmers now involved in PES hope to encourage others in the upper catchment to also adopt the training led by WWF and hope to diversify their income streams through the increase in yield. Additionally, their plans include planting fruit trees, avocado and banana trees, in addition to their other crops.

Economic benefits aside, the farmers are excited about their new fertile agricultural landscape and are more committed to conserving their own farms to benefit themselves, the environment and other water users downstream. Their efforts have not been without challenges such as dry weather, but they have seen they can truly make a difference as individuals and collectively create lasting conservation change.

The HSBC Water Programme is a five-year partnership with WWF, WaterAid and Earthwatch. Launched in 2012, the Water Programme aims to benefit communities in need and provides a powerful combination of freshwater provision, protection and education. It also funds 58 local projects around the world, proposed by HSBC employees. For more information visit www.thewaterhub.org

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FOR MORE INFORMATION

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Why we are here

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature.

wwf.org.uk

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